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THE COVER — An artistic representation of noise exploding in the ear. To provide guidance on reducing the adverse effect of noise on the human system, the Indian Standards Institution has brought out a number of standards on noise abatement, noise exposure, noise assessment and equipment for noise measurement (see also page 5).



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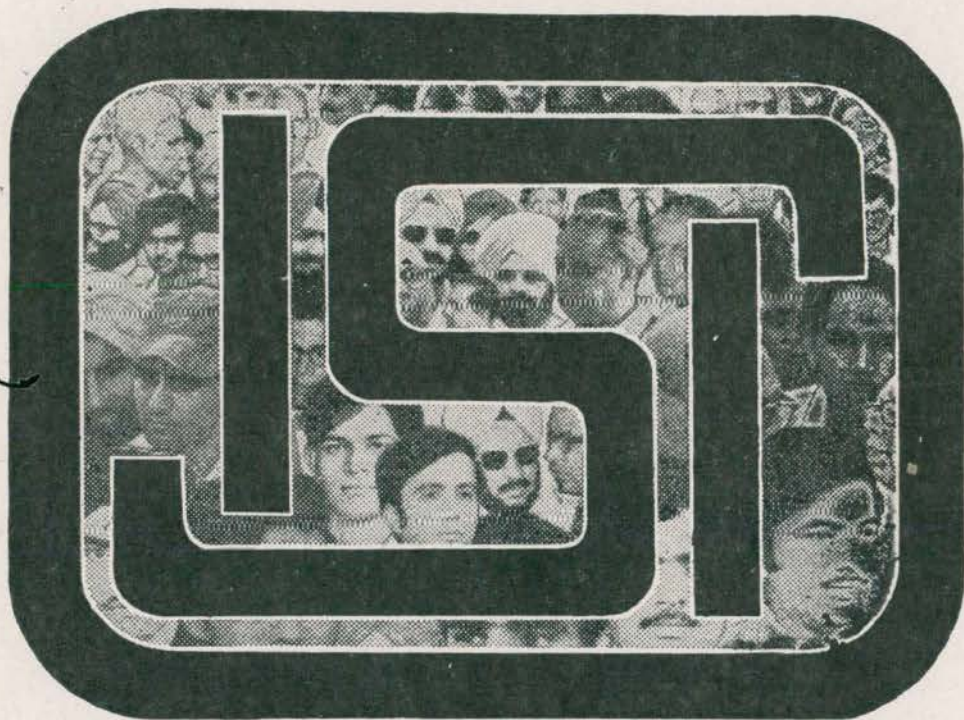
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**Felicitations
to
Shri Rajiv Gandhi**

OUR HEARTY FELICITATIONS to Shri Rajiv Gandhi who took over as Prime Minister of India on 31 October 1984 in tragic circumstances after the cruel assassination of Shrimati Indira Gandhi. Subsequently, he received a massive mandate from the people of India to guide the destiny of the nation.

YOUNG AND DYNAMIC, Shri Rajiv Gandhi is a man of progressive ideas and has a clear vision of what needs to be done to make India strong and prosperous. In his very first broadcast to the nation

after taking over as Prime Minister of India, he said: 'Improvement in productivity, absorption of modern technology and fuller utilization of capacity must acquire the status of a national campaign.' In this, standardization can play an important role.

The Institution will continue to provide the necessary support for accelerated industrial development through its standardization and certification activities, making available the requisite guidelines and a streamlined mechanism for the production of quality goods.

Our New President

We felicitate Rao Birendra Singh on taking over as President of ISI on 1 January 1985 consequent upon his appointment as Union Minister for Food and Civil Supplies. Earlier also, he was President of ISI during March 1981-September 1982 when he was Minister for Agriculture, Rural Construction and Civil Supplies in the Union Government.

We look to Rao Birendra Singh for inspiration and guidance in harnessing the techniques of standardization and quality control for the protection of consumer interests and orderly industrial growth in the country.



Standards Development

Role of Experts, Novices, Scientists*

■ Anyone who has ever attempted to learn to use even the friendliest of computers by reading the users' manual is aware of the shortcomings of instructions written by experts alone. Data generated in the course of scientific research are obtained by well-trained, experienced individuals. Data for compliance monitoring are frequently collected by individuals with little scientific experience, little understanding of the principles underlying the measurement or test methods, and little appreciation of the consequences of changing conditions or steps in the test. Methods written solely by experts for experts will rest on assumptions of understanding and experience not available to the majority of individuals who will use those methods. The research scientist relies upon a host of clues and signals from past experience to indicate that tests are proceeding as expected or that something is amiss. The experienced scientist can discern a nonsensical result from a reasonable result. The community of scientific peers can judge through review of published literature which individuals are to be believed and which are to be viewed with some scepticism. The inexperienced or untrained individual will miss the clues and signals and will report the absurd along with the reasonable. Recognition of this fact coupled with the certainty that no research scientist will be found who will devote his or her career to compliance monitoring leads to the development of rigidly detailed standards.

One of the benefits of the consensus development of standards is that it involves the participation of both novices and experts. It may be the only forum in which both can debate, with mutual respect and understanding, their common experience. The involvement of novices in the development of standards not only provides those individuals with some of the fundamental knowledge they need to perform their analyses more intelligently, it also keeps the experts aware of what information must be contained in a written standard to make that standard effective and intelligible.

Before the standardization process begins, little attention is paid to the comparability of data generated and

reported in the scientific literature. The generators of conflicting data seldom sit down to sort out the sources of their discord and jointly report their findings in the literature. It does happen, but the normal course is to battle out differences in the literature until one or the other concedes defeat by changing fields. Thoughts of standardization, if not provoked by impending regulation, are usually provoked when incompatibility of data is discovered to be embarrassingly rampant.

The details of the testing process are debated in earnest only when its practitioners strive to write down the specific steps followed in the testing process. And it is only when the details are discussed that the sources of discrepancy can be discerned. The best process for standards development always includes some form of inter-laboratory evaluation of interim or final written protocols. Again, it is usually only in the standards development process that an inter-laboratory evaluation is conducted. Inter-laboratory evaluations without some sort of uniform protocol are not too productive. Though such evaluations may demonstrate that test results are even less comparable than most feared, they offer little insight and guidance into what must be done to improve comparability and veracity of interpretation. A collaborative study designed to test and challenge particular aspects of a well-documented protocol can lead to understanding and eventual control of those factors that distort the test results.

The need for standard methods is perceived sooner by those who need data from a particular class of tests than by those whose research leads to the development of those same tests. The danger, therefore, exists that standards could be developed by those whose need outstrips their experience. All scientists bear the responsibility of providing their sponsor—society—with an intelligible and useful product, yet research scientists resist and distrust the standardization of their procedures and methods. Those who need and develop standards should recognize and understand this resistance and should not be daunted by the rebuffs of those whose knowledge and expertise are so greatly needed.

*Excerpted from an article 'Resistance to standards development' by Mr William H. Kirchhoff published in *ASTM Standardization News* (Vol 12, No. 6; June 1984).

NORMS AND VALUES

Noise: Sound Gone Wrong

Noise, it is said, is sound gone wrong. Persistent noise, which has come to be accepted as one of the evils of industrial civilization, seriously affects the capacity of human sensitivity in responding to external stimuli. And hence, more often the rustling of leaves, the chime of bells and the natural chirp of birds fail to arouse the same emotions as they did in bygone days. Noise not only poses a threat to man's nervous system, but may also affect the faculty of hearing — a damage that is difficult to repair. Noise stress can also result in high blood pressure, cardio-vascular problem and ulcers. Some studies also point to noise-related learning difficulties, irritability, fatigue, reduced work efficiency, increased accidents and errors, and socially undesirable behaviour.

Among the major contributors of noise are industrial units which, in the absence of proper enforcement of city/zonal regulations, are being located anywhere and everywhere including residential areas. Other important contributing sources are heavy vehicles, automobiles, and air and sea transport.

Under modern conditions, a certain degree of environmental pollution including noise may have to be tolerated because of the dependence of residential zones over commercial and industrial zones and vice-versa. Attempts are, however, made to reduce such irritants to the minimum to control any adverse impact on human health and safety, if not altogether eliminate them.

To ensure that the various aspects of noise receive the requisite attention at different stages of planning a town, the Functional Requirements in Buildings Sectional Committee (BDC 12) of ISI has formulated 'Indian Standard recommendations for noise abatement in town planning (IS : 4954 - 1968)'. The Standard lays down basic principles for achieving optimum conditions for noise reduction and suggests suitable locations for aerodromes, rail tracks, industrial and residential areas, and community service stations. Two other standards prescribe the practices for noise reduction in industrial buildings (IS : 3483-1965) and insulation of non-industrial buildings (IS : 1950-1962). Another comprehensive ISI publication — the National Building Code of India — specifies permissible exposure limits for noise and prescribes zoning regulations which take into account, among other things, noise levels from different occupancies.

The technique of measurement of noise plays an important role in formulating the strategy for noise abatement. The Acoustics Sectional Committee (LTDC 5) of ISI, which is responsible for standards on acoustical instruments and measurements, has established a number of objective methods of measuring noise including that emitted by moving road vehicles (IS : 3028-1980), ballasts for gaseous discharge lamps (IS : 4242-1967), machines (IS : 4758-1968), current in fixed resistors (IS : 5027-1969), rotating electrical machinery (IS : 6098-1971), stationary road vehicles (IS : 10399-1982) and gas turbine installations (IS : 10534-1983) besides a guide for the measurement of airborne acoustical noise and evaluation of its effect on man (IS : 9876-1981). Two other Indian Standards relate to assessment of noise with respect to community response (IS : 9989-1981) and noise exposure during work for hearing conservation purposes (IS : 7194-1973).



Ring them Bells

A current trend among urban cyclists in the USA is to ride with whistle in mouth to warn pedestrians, car drivers and other cyclists of their approach. It may be a fashion all right (the whistles are often brilliantly coloured!), but the cyclists themselves say that some bells provided on bicycles are often inadequate in performance and subject to rusting and deterioration of loudness over a period.

An International Standard aimed at harmonizing specification methods for bicycle and moped bells has been drawn up at the request of manufacturers by the International Organization for

Standardization (ISO): 'ISO 7636 Bells for bicycles and mopeds — Technical specifications' prescribes 75 decibels for bicycle bells and 85 decibels for moped bells when tested in accordance with the conditions specified in the Standard.

The Standard indicates the close control required in the conditions of test to establish repeatable results for the determination of performance. The apparatus for measuring the sound level has to be standard and a device for wind protection of the instrument has to be taken into account. The test site has to be such that no bystander other than the observer is in the vicinity of the bell or microphone and there are 'no go' levels for ambient noise, wind speed and temperature. The bell has to be mounted as specified by the manufacturer and has to be positioned in an agreed way in relation to the microphone.



Safety of Balancing Machines

Balancing is a fundamental requirement for all rotating machines and many rotating components. The equipment used for balancing — the balancing machine — is, in fact, a vital component of manufacturing industries, such as those engaged in the production of machine tools, automotive products and turbines. It consists of a device which is connected to a turning component (or 'rotor') along the axis of rotation and detects oscillations perpendicular to the axis.

While designing balancing machines, efforts are also made to minimize hazards arising from the use of machines themselves. The source of hazards is mainly the rotor under test. Danger to the operator or people in the surrounding workshop area lies in coming into contact with the machine components or the rotor, flying off of rotor components or unbalanced masses or lifting of the rotor from the supports or its being disintegrated.

The International Organization for Standardization (ISO) has recently published a standard (ISO 7475) which summarizes the requirements for enclosures for balancing machines and defines different classes of protection and their applicability besides prescribing other safety measures. The International Standard also includes a section dealing with accident probability and its effect on safety measures.



Putting Waste to Profitable Use: Courtesy Earthworms

Man has always been on the look out for newer resources for his use and, in an effort to make the best of those already available, he has been exploiting them to the maximum extent possible. In this context, recycling of industrial wastes is not an unheard of phenomenon. Re-utilization of plastics and chemical by-products in chemical plants are just two of the many examples in this regard. Now comes the news from Great Britain

that life cycle of the common earthworm can be exploited to convert agricultural and industrial wastes into rich soil composts.

Developed by a British firm specializing in the commercial application of organic waste treatment, the technique consists of introducing earthworms into the waste being processed. As the worms feed on its micro-organisms, the waste is ground up and decomposes. The worms' burrowing activity brings oxygen into the waste and their excreta causes a physical and organic breakdown. This accelerates the microbial decomposition of the waste, resulting in agricultural and horticultural composts. The worms themselves can be extracted from the compost and re-used for processing further batches of waste or preserved by freezing, drying and other processes and used as a natural high-protein foodstuff for fish, poultry or pigs. Worm-processed composts are claimed to give growth results which are at least as good as — and in some cases even better than — peat in a number of horticultural applications.

The system is said to have the special advantage of improving the quality of animal manures by increasing plant nutrients and microbial activity while deodorizing and improving the physical texture of the manure. In addition, animal wastes can be utilized to set up on-or-off-site earthworm breeding units as such wastes convert very efficiently into earthworms. Tests have established that up to 100 kg of worms can be produced from only one tonne of suitable animal waste.



Designing Nuclear Power Plants Against Seismic Hazards

It has long been recognized that seismic disturbances have the potential of causing enough damage to jeopardize the safety of nuclear power plants. This problem is generally taken care of in national regulations which ensure adequacy of nuclear design by specifying a risk level and a known set of free field ground motions derived for design purposes known as 'design basis earthquake'.

The International Organization for Standardization has now published 'ISO 6258 Nuclear power plants — Design against seismic hazards' which aims at standardizing internationally the requirements to be taken into consideration. ISO 6258 specifies the data required and the way in which this should be used for design purposes. It also specifies the way in which the proof of seismic design adequacy should be established and documented for the various parts of the plant (foundation material, buildings, systems and components).

This International Standard takes into account existing national standards and codes of practice and is compatible, in the main, with relevant requirements of the International Atomic Energy Agency. It thus represents a very wide consensus on the safety considerations which are becoming particularly important with the need for transferring experience to regions of high seismic activity moving into nuclear power development.

CONSUMER NEWS

DRAFTING INSTRUCTIONS FOR USE OF CONSUMER PRODUCTS

Safe and correct use of a product is as important as designing it and manufacturing it in full conformity with the design. This is all the more important in respect of products of interest to ordinary consumers who may not have the necessary expertise about installation, operation and maintenance of a product or dangers inherent in its improper use. Instructions for the use of products of consumer interest should, therefore, form an integral part of delivery of a product to the consumer.

To ensure that essentials are not left out of the instructions, considerable thought has to be given at the time of drafting the relevant 'Instruction Clause' in a standard. Noteworthy in this context is the 'ISO/IEC Guide 37-1983 Instructions for use of products of consumer interest' drawn up by Council Committee on Consumer Policy (COPOLCO) of the International Organization for Standardization (ISO). The Guide recommends a series of principles to technical committees preparing standards of consumer interest that require instructions for use, or to any other party drafting such instructions. It also provides guidance on their text and location on the product itself, packaging or in the accompanying documents. A checklist given at the end of the Guide will be found useful by standards

engineers in ensuring that all that needs to be given has been incorporated in the concerned standard.

MACHINES THAT WASH

With inflation becoming a universal phenomenon, many women have started working to supplement the income of their husbands. Thus, with less time on hand for doing household chores — some husbands helping them — they have started looking for time-saving gadgets for doing their work with lesser effort. A washing machine is one such gadget. Its use avoids the application of soap or detergent by hand and beating of clothes by a wooden flat which is harmful for the life of the clothes.

To ensure the production of safe and efficient washing machines, the Indian Standards Institution brought out an Indian Standard for domestic electric clothes washing machines (IS : 6390) way back in 1971. The Standard, which has been revised recently, requires the machine to be so constructed and enclosed that there is adequate protection against electric shock from accidental contact with live parts. Nor should it be possible to touch bare live parts with a test finger of specific dimensions if openings have been provided in the machine, where necessary. It also specifies that leakage current, which is a measure of the quality of insulation, shall not be more

than the stipulated value even when 1.06 times the rated voltage is applied. Besides, spillage of liquid in normal use shall not affect the electrical insulation. The Standard also requires the washing machine to be so designed that the risk of fire or mechanical damage impairing safety is obviated as far as possible, even in cases of abnormal or careless operation of the appliance. The agitator shall be made of non-corrosive material and should not damage, scrub or tear the textile materials during rotation/reciprocation at the designed speed. Also, the heating unit, when provided, shall be so located as to prevent damage to the washing tub, clothes, heating element, or the machine as a whole, in case of accidental switching without water.

The Standard also prescribes a test to check the performance of the machine. The test requires soiling of the test fabric in a standard soiling solution (which contains dust from an air conditioner or sweepings from a vacuum cleaner, olive oil and water), rinsing it in water and air-drying. The fabric is then washed using a standard detergent solution, rinsed and air-dried. The washed fabric, when compared, shall be as clean as the pre-soiled fabric.

There is also provision for granting ISI Mark for washing machines manufactured in accordance with the specifications laid down in the Standard.

WHITEWASHING TIPS

Whitewashing is a must for all buildings — old and new — to give them an aesthetic look. But an indifferent job may leave pits and patches which may act as eyesores for all discerning viewers. Adoption of standard practices is the answer to this problem and an Indian Standard (IS : 6278-1971) codifies just these by laying down methods for the preparation of surfaces as well as whitewash and colourwash and their application over concrete, masonry and plaster surfaces in buildings. Here are some of the tips given in the Standard for surface preparation:

- In the case of new surfaces, the surface shall be thoroughly cleaned of all dirt, dust, mortar drops and other foreign matter.
- In the case of old surfaces, all loose scales of lime wash and other foreign matter shall be removed; where heavy scaling has taken place the entire surface shall be scraped clean.
- Where different colourwash is to be applied, old colourwash on the surface shall be entirely removed before whitewash or different colourwash is applied.
- Where old surfaces are spoiled by smoke soot, they shall be scraped with steel wire-brushes or steel scrapers.
- Oil and grease spots shall be removed by a suitable chemical and smooth surfaces rubbed with wire-brushes.

ISI General Council

— Greater Role for Standardization and Quality Control to Meet the Demands of Increased Consumer-Consciousness

■ The fortieth meeting of the ISI General Council held in New Delhi on 21 November 1984 reviewed the progress of work of the Institution during the previous year and considered ways and means for inducting greater efficiency into its operations. The meeting commenced with tributes to the late Prime Minister Shrimati Indira Gandhi, who was brutally assassinated on 31 October 1984. Stating that she had laid down her life for preserving the unity and integrity of the nation, the Council passed a resolution rededicating the Institution to the cherished ideals of the late Prime Minister and resolving to work assiduously for the completion of the unfinished tasks undertaken by her in building up a strong and secular modern India free from poverty and communal discord.

The Council also mourned the sad demise of Dr A. K. Gupta, Director General ISI, who had passed away on 12 November 1984. The resolution passed at the meeting described Dr Gupta as an eminent administrator and standards engineer who would be remembered for his abiding contribution to the growth and development of standardization and quality control not only in India but also in the developing world.

Presiding over the meeting, Shri Bhagwat Jha Azad*, then Union Minister for Food and Civil Supplies and President ISI, said that standardization played an important role in the process of modernization by providing the requisite technological support for an orderly and accelerated agricultural, industrial and economic growth. This came in the form of standards, over 12 000 of which were available in India covering a wide range of materials, products and processes.

Referring to increased consciousness about the quality and price of

goods among consumers in India and abroad, the Minister said that urgent steps were needed to induce and encourage producers to take increasingly to programmes of standardization and quality certification. He added that assuring quality by inspection alone was an out-moded approach; it had to be built into a product right from the design stage through raw materials, in-process controls and finished product testing. This approach was the basis for the operation of the ISI Certification Marks Scheme. In this context, he was happy to note that over 7 600 ISI licences were in operation in the country covering more than 1 100 products whose annual production value was of the order of Rs 27 000 million.

The Minister said that the Government had been providing the necessary encouragement to industry in adopting and maintaining the stipulated standards. Goods bearing the ISI Mark were accorded preference in the purchase programmes of various official indenting authorities, including price preference to ISI-marked goods by certain State Governments. Besides, a number of State Governments were giving subsidies to small scale units by reimbursing a part of the expenses incurred by them for joining the ISI Certification Marks Scheme and financial institutions were extending credit facilities on softer terms for purchasing testing equipment required for quality certification. The Minister added that the Scheme had been made obligatory for a number of products where use of substandard goods could pose a possible hazard to the health and safety of people.

Highlighting the importance of suitably aligning and harmonizing standards of different countries, the Minister was happy to note that ISI was playing an active role in technical and administrative work of the International Organization for Standardization (ISO) as well as International Electrotechnical Commission (IEC), and was taking advantage of the latest

developments in the fields of standardization and technology. He was glad that, under the General Agreement on Tariffs and Trade (GATT) which aimed at eliminating or reducing the technical barriers to world trade, ISI had been designated as the Central Enquiry Point for India for answering all related enquiries about standards, technical regulations and certification systems adopted and in force in the concerned country. He hoped that, with the existing facilities as well as those proposed to be added, the Institution would serve effectively the needs of the users and act as a catalyst in the growth and diversification of exports emanating from India.

Shri Azad highlighted the active role being played by India in the Non-aligned Movement (NAM) in the sphere of standardization, metrology and quality control and said that the main aim of this cooperation was formulation of a common strategy for non-aligned countries for the purpose of effective participation in the work of ISO and exchange of scientific and technical information and experience. India was not only represented on the four functional groups constituted by the coordinating countries of the Non-aligned Movement for furtherance of standardization, metrology and quality control in NAM countries, but had also been elected Convener for two of them.

Referring to Indo-Soviet cooperation in the fields of standardization, quality control and metrology, which was now a decade old, the Minister said that the objective of cooperation between India and the USSR in these fields was harmonization of national systems in these areas to ensure promotion of bilateral economic and trade cooperation. He added that work on a number of themes of mutual interest had been completed and that on some others was at different stages of implementation.

A beginning had also been made in Sino-Indian cooperation in the field of standardization with an Indian

*Rao Birendra Singh, Union Minister of Food and Civil Supplies, has since taken over as President, ISI.

delegation's visit to China during the year under an intergovernmental agreement for technical cooperation between the two countries. This had resulted in a bilateral agreement between ISI and the China Association for Standardization for cooperation between the two organizations.

Referring to recommendations of the Indian Institute of Management, which had been examined by the Executive Committee of ISI and accepted in principle by the Government, the Minister hoped that their implementation would result in a harmonious development of the Institution's standards development activity as well as its certification scheme. To achieve accuracy and efficiency in standards formulation, certification and testing activities, ISI would have to make use of a comprehensive computer-based management information system. The use of computer in the fields of certification and testing was bound to reduce the time taken in processing the applications and minimize the human element in these activities.

ANNUAL REPORT

Prof S. Sampath, Chairman, Finance Committee (FC), presented the Annual Report of the Institution for 1983-84 on behalf of Dr D. C. Kothari, Chairman, Executive Committee (EC), who could not attend the meeting.

Highlighting the Institution's activities during the period under report, Prof Sampath said that ISI had made significant contributions in several areas of activity, such as formulation of standards, testing and certification, assistance to developing countries and establishment of international linkages for the promotion of standards and quality control. An indication of the Institution's improved performance was increased revenue earned from different sources including sale of publications and collection of certification marking fee and membership subscription, which was 23 percent higher than that in the preceding year. The Institution had formulated as many as 855 new and revised Indian Standards and reprinted a record number of 1 610 standards. A total of 260 new licences were granted under the ISI Certification Marks Scheme, during the year, bringing the total number of operative licences to over 7 600. A significant development during the year was compulsory ISI certification of cement as a result of implementation of the *Cement (Quality Control) Amendment Order, 1983*.

During the period under report,

sustained efforts were made to increase the subscribing membership of the Institution, the number of ISI members going up from 6 620 to 6 723.

Construction of the service block of the Central Laboratory at Sahibabad was completed during the year and put to regular use. Work on the water treatment plant was also completed and a 250 kVA generating set installed to augment the power supply requirements. Besides, considerable progress had been made in the construction of the laboratory-cum-administrative office at Bangalore.

To augment testing facilities, equipment worth over Rs 7 million was added to the Institution's laboratories. Six new outside laboratories were registered to undertake testing under the aegis of the ISI Certification Marks Scheme, bringing the total number of such laboratories registered with the Institution to 210.

As part of its standards promotion activity, the Institution organized Implementation Conferences at Panaji and Ahmadabad besides a Conference on the Implementation of Indian Standards Relating to Fire Fighting Equipment at Nagpur. Four Company Standardization Training Programmes and nine SQC Programmes were organized to assist the Indian industry in streamlining its production and quality control operations. A workshop was jointly organized with the Indian Institute of Technology (IIT), Kanpur, to foster standardization activity at the grassroot level by encouraging its utilization in the domain of technical education.

At the international level, the Institution continued to participate actively in the work of ISO and IEC and strengthened the pattern of bilateral relations with other countries in the field of standardization and quality control. In pursuance of the Agreement between India and USSR on Cooperation in the field of Applied Science and Technology, two Indian delegations visited the USSR for discussions and exchange of information and a delegation from the USSR came to India for discussions with Indian experts on issues relating to collaboration in the quality attestation system in vogue in the USSR and the certification system being practised in India. Under the framework of intergovernmental agreement for technical cooperation between India and China, a three-member Indian delegation visited China at the invitation of the China Association for Standardization. The Institution has also agreed to assist the Algerian standards body, Institut algérien de

normalisation et de propriété industrielle (INAPI), in augmenting its operations in the fields of standardization and quality control for a period of three years.

Besides, the Institution was designated as the Central Enquiry Point for India by the Union Government after signing the Multilateral Agreement on Technical Barriers to Trade, popularly known as GATT Standards Code. It was also made the National Agency for Implementation of the Action Programme for cooperation among countries of the Non-aligned Movement in the sphere of standardization, metrology and quality control.

BUDGET

The revised budget estimates for 1984-85 and budget estimates for 1985-86 as agreed to by the Executive Committee at its meeting held on 27 August 1984 on the recommendation of the Finance Committee were approved by the General Council as presented. The budget comprises three parts, namely, recurring income and expenditure, capital projects (plan) and loans.

The revised budget estimates for recurring income and expenditure for 1984-85 had been increased to Rs 75.0 million comprising the Institution's income of Rs 65.76 million and Government grant of Rs 9.24 million. The budget estimates for 1985-86 under this head are Rs 85.0 million with the Institution's own income of Rs 75.0 million and Government grant of Rs 10.0 million.

For capital projects, an outlay of Rs 16.0 million with a Government grant of Rs 15.8 million was approved in the revised estimates for 1984-85 while an outlay of Rs 20.0 million with Government grant of Rs 19.7 million was sanctioned in the budget estimates for 1985-86.

For loans to employees for the purchase of conveyance and house-building, a total provision of Rs 1.75 million each has been made in the revised estimates for 1984-85 and budget estimates for 1985-86.

ELECTION OF VICE-PRESIDENTS

The Council unanimously re-elected Prof S. Sampath and elected Shri V. P. Punj as Vice-Presidents for the year 1985. The Council placed on record its appreciation of the services rendered by the out-going Vice-President, Dr D. C. Kothari, during his tenure with the Institution.

Chinese Delegation in ISI,

— Proposal for Five-Year Agreement on Bilateral Cooperation — Major Areas Identified

■ A three-member Chinese delegation from the China State Bureau of Standardization (SBS) visited India during 10-19 December 1984 for discussions on closer cooperation and mutual assistance between ISI and SBS. This was a sequel to an Indian delegation's visit to China during 12-22 March 1984 at the invitation of SBS for strengthening relations and mutual cooperation in the fields of standardization and quality control. SBS had then proposed signing of an agreement between ISI and SBS for establishing a mechanism for mutual cooperation and assistance. The visits are in pursuance of the exchange programme agreed to between China and India in the field of science and technology.

The Chinese delegation was led by Mr Zhong Ming, Deputy Director General, SBS, and included Mr Liu Zaosheng, Deputy Chief, Planning Division of SBS, and Mr Zhao Youhua of International Liaison Department of the China Association for Standardization (CAS). The Indian team for discussions with the Chinese delegation comprised Shri B. K. Sinha, Director General, ISI (leader); Prof S. Sampath, Director, IIT, Kanpur and Vice-President of ISI; Shri V. P. Punj of Punj Sons Pvt Ltd and Vice-President of ISI; Shri A. S. Cheema and Dr B. N. Singh, Additional Directors General; Shri D. Ajitha Simha, Shri S. Subrahmanyam and Shri S. M. Chakraborty, Deputy Directors General; and Dr G. M. Saxena, Director (International Relations), ISI.

During their visit to India, members of the Chinese delegation exchanged information with their Indian counterparts on the present status of standardization, quality control and certification activities in the two countries in the context of the prevailing technoeconomic conditions. The Chinese delegation was also apprised of the activities of ISI through discussions



Members of the Chinese delegation and the Indian team discussing matters of common interest. From right: Mr Liu Zaosheng, Deputy Chief, Planning Division, China State Bureau of Standardization (SBS); Mr Zhong Ming, Deputy Director General, SBS, and leader of the Chinese delegation; Shri B. K. Sinha, Director General, ISI; and Shri A. S. Cheema and Dr B. N. Singh, Additional Directors General, ISI.

led by Shri Sinha and with the help of exhibits and charts on display in the Standards Exposition at the Institution's headquarters in New Delhi. It also visited the ISI Central Laboratory at Sahibabad where its members were acquainted with the testing facilities available with ISI for the operation of its Certification Marks Scheme. A set of documents and brochures explaining the activities of ISI were also handed over to the Chinese delegation.

TALKS BY CHINESE DELEGATION

The members of the Chinese delegation delivered talks at Delhi, Bangalore and Bombay on standardization in China, product quality supervision and inspection in China, and technical exchanges and international cooperation in the field of standardization between China and foreign countries. While dealing with the Chinese system of standardization, quality control and certification, the

Chinese delegation stated that a three-tier system of standardization having national, ministerial (or specialized) and enterprise standards existed in China. Also brought out during the talks were salient features of compulsory certification in that country. Under the system, it was pointed out, a producer was not allowed to manufacture a product which did not conform to the relevant standards. The mechanics of supervision over the manufacturers to ensure compliance with the prescribed standards was also explained. As for China's involvement in international standardization, it was stated that, though it was a relatively late comer in the field of international standardization, yet it had taken active interest in international standardization work being done both by the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC). China had also entered into bilateral agreements with countries like the United Kingdom, the USA, Sweden,

Canada and Brazil in the field of standardization. The Chinese delegation reiterated its desire to establish similar cooperation arrangements with India.

AREAS OF BILATERAL COOPERATION

The two teams discussed possible areas of cooperation between the two countries in the fields of standardization and quality control. These included exchange of experts, study tours and lectures, training of personnel, storage and retrieval of information, exchange of national standards, exchange of information on methods of quality assurance and certification, laboratory training, exchange of experience on metrological standards and calibration, and exchange of information on laboratory and metrological equipment. Experts from both sides also stressed the need for prior consultations on major issues to be discussed in the various forums of international

organizations dealing with standardization.

In the light of the discussions, the Chinese delegation agreed to revise the draft agreement handed over to the Indian delegation which had visited China earlier and send it to ISI in the modified form for further consideration. The two sides agreed in principle to evolve a five-year agreement with a provision for annual review. During each review, specific areas of cooperation could be identified and progress of implementation in the areas already identified discussed.

The Indian side offered training facilities to Chinese standards engineers in China as well as India. The Chinese delegation appreciated this offer from ISI.

TECHNICAL VISITS

During their stay in India, members of the Chinese delegation visited the

National Physical Laboratory (NPL) to acquaint themselves with the work being done in India in the field of scientific metrology, particularly in regard to maintenance of primary standards and calibration of scientific instruments and equipment. Besides, they visited Escorts Limited, Faridabad; HMT Limited, Bangalore; and Century Mills, Bombay.

FURTHER DISCUSSIONS

The leader of the Chinese delegation extended an invitation to Director General, ISI, for a visit to China in 1985 along with Indian experts for further discussions on the proposed agreement between ISI and SBS in the field of standardization, quality control and certification. The Indian side thanked the Chinese delegation for the invitation. It was agreed that the dates for the visit would be decided mutually between the two organizations.



SHRI V. P. PUNJ ELECTED VICE-PRESIDENT, ISI

■ Shri V. P. Punj, Director, Fedders Lloyd Corporation Pvt Ltd and Punj Sons Pvt Ltd, has been elected Vice-President of ISI for 1985 at the fortieth meeting of the ISI General Council held in New Delhi on 21 November 1984. Prof S. Sampath, Director, Indian Institute of Technology, Kanpur, is the other Vice-President who has been re-elected by the Council for the next one-year term. The outgoing Vice-President, Dr D. C. Kothari, has rendered useful service to the Institution since 1971.

An enterprising industrialist, Shri Punj is also Director of Frick India Limited, Pibco Limited, Universal Steel & Alloys Limited, Victor Cables Limited, Kamla Dials & Devices Limited, Lloyd Insulations (India) Pvt Ltd, Eurocoustic Pvt Ltd, and Punjstar Industries Pvt Ltd.

Shri Punj has been taking keen interest in the progress of standardization movement in the country. He has been Chairman of the ISI Certification Marks Advisory Committee (CMAC) since 1980 besides being a member of the General Council, Executive Committee (EC) and Structural and Metals Division Council (SMDC) of ISI. Shri Punj is also Chairman of the Institution's Sectional Committee for Refrigeration and Airconditioning (EDC 66), Convener of the Airconditioning and Refrigeration Appliances and Commercial Refrigerators Subcommittee (EDC 66:1) and a member of the Packaging of Engineering Goods Sectional Committee (MCPD 19).

Shri Punj is closely associated with a number of official agencies and trade and industry associations. He is Chairman of the Federation of Indian Export Organizations as well as All India Refrigeration Equipment Manufacturers Association. Some other organizations he has headed in the past include the Engineering Export Promotion Council, PHD Chamber of Commerce & Industry and All India Airconditioning & Refrigeration Association.

Implementation of Indian Standards

Second Kerala State Conference

■ The Second Kerala State Conference on Implementation of Indian Standards held in Trivandrum on 5 December 1984 reviewed the progress of implementation of recommendations of the first conference held over two decades ago and called for greater emphasis on standardization and quality control activities in the State. For the purpose, it recommended establishment of 'Standards Cells' in different Government departments and agencies and a Standards Monitoring Committee (SMOC) for reviewing the position of implementation of orders issued by the Government of Kerala in relation to Indian Standards and recognition of the ISI Certification Marks Scheme by State purchasing departments. It also stressed the need for providing preference to ISI-marked goods in purchase programmes of the State Government. The Conference felt that raw materials supplied to small scale units should be accompanied by test certificates indicating their conformity to the relevant Indian Standards.

Jointly organized by the Department of Industries, Government of Kerala, and the Indian Standards Institution, the Conference was attended by some 300 delegates representing organized purchasing and inspection agencies, industrial houses in public and private sectors, and authorities connected with industrial development programmes in the State besides ISI subscribing members and licensees in Kerala.

INAUGURAL ADDRESS

Inaugurating the Conference, Shri E. Ahamed, Minister for Industries, Government of Kerala, highlighted the importance of implementation of Indian Standards and said that an orderly development of industries in the State could be brought about only through strict adherence to quality control techniques. He added that adoption of Indian Standards would certainly help the manufacturers in the production of goods of acceptable quality as they laid down requirements in clear and unambiguous terms. He called upon bulk purchasing departments to adhere to standards as this would result in healthy competition among manufacturers, thereby avoiding limitation of choice within the



Shri E. Ahamed, Minister for Industries, Government of Kerala, addressing the Conference. Others on the dais are (from left): Dr B. N. Singh, Additional Director General, ISI; Shri B. K. Sinha, Director General, ISI; Shri P. G. Muralidharan, Commissioner and Secretary (Industries), Government of Kerala; and Shri C. Rama Rao, Deputy Director General (Southern Region), ISI.

available brand names or proprietary marks. Shri Ahamed then explained the various incentive schemes introduced by the Government to encourage the small-scale sector to join the ISI Certification Marks Scheme. He, however, regretted that only 165 ISI licences were in operation in the State compared to over 7 600 throughout the country. He urged the entrepreneurs to join the ISI Certification Marks Scheme in increasing numbers to enhance the marketability of their products besides reaping other benefits, such as economies in production and streamlining of production processes.

Regretting lack of testing facilities in the State, Shri Ahamed said that every help would be extended to ISI in opening a testing laboratory in Kerala for the benefit of all concerned. He also assured the participants that the recommendations of the Conference would receive serious consideration of the Government of Kerala.

PRESIDENTIAL ADDRESS

Delivering the Presidential address, Shri P. G. Muralidharan, Commissioner and Secretary (Industries), Government of Kerala, noted that this conference was being held after 25 years and hoped that in future such

deliberations would be held more frequently and a suitable mechanism evolved for the purpose. He said that if industrialists of Kerala felt that the incentives offered by the Government were not adequate, it could consider any new proposals in this regard to increase quality-consciousness in the State.

Shri Muralidharan then read out the message sent by the Chief Minister, Shri K. Karunakaran. Shri Karunakaran called upon the manufacturers and purchasers to implement the Indian Standards as they constituted ideal solutions to various problems and acted as technical basis of contracts, manufacture, purchase, supply and testing. As thousands of experts extended cooperation in terms of advice, technical knowledge, experience, investigation, etc, in the preparation of these standards, it was appropriate that they should be taken advantage of to the extent possible. Assuring that the State Government would give the utmost consideration to the recommendations of the Conference, he hoped that it would evolve a suitable mechanism for regularly monitoring the implementation of Indian Standards.

Earlier, welcoming the delegates, Shri B. K. Sinha, Director General, ISI, expressed concern at the slow

growth of standardization and quality control activities in Kerala as compared to the rest of the country and said that there was a wide scope for accelerating the pace of ISI activities in view of the industrial culture and potential existing in the State. For this, he counted on the cooperation and closer involvement of the State Government which should make every effort to adopt Indian Standards in its purchase programmes.

Explaining the various incentives offered by the Government of Kerala and the specific orders issued by major purchase organizations, Shri Sinha said that the industry had not fully utilized the opportunities offered to it for getting its products certified by ISI. Though some 36 000 experts from all over the country were engaged in the formulation of standards which contained a wealth of information, manufacturers and purchasers were not taking full advantage of these consensus documents.

Shri Sinha regretted that adequate testing facilities did not exist in the State which caused delay in the testing of samples. He, therefore, called upon the Government of Kerala to assist ISI in setting up an office-cum-testing laboratory complex in the State.

To ensure continuous monitoring of the degree of implementation of national standards both at the State level and in the Government departments engaged in bulk purchases, Shri Sinha proposed that a permanent mechanism should be set up by the State Government.

Dr B. N. Singh, Additional Director General, ISI, proposed a hearty vote of thanks at the conclusion of the inaugural function.

TECHNICAL SESSIONS

The inaugural function was followed by two Technical Sessions. The first Technical Session, which was devoted to the theme 'Manufacturing to Indian Standards — Problems and Prospects', was chaired by Shri S. Peer Mohammed, Managing Director, Aluminium Industries Ltd and Chairman, Trivandrum Office Advisory Committee of ISI. Shri M. Raghupathy, Director (Standards Promotion), ISI, acted as Rapporteur. The Session received 10 technical papers presented by Shri M. A. Hameed (Kerala State Small Industries Association), Shri C. Kesavan (Hindustan Machine Tools Ltd), Shri D. Sivasubramanian (Aluminium Industries Ltd), Shri N. K. Debnath (Kerala State Electronics Development Corporation Ltd), Shri M. Balan (Directorate of Industries, Government of Kerala), Shri P. R. R.



Shri K. Karunakaran, Chief Minister of Kerala

Nair (Kerala Cooperative Milk Marketing Federation Ltd), Shri P. Vinod Kumar (Ganesh Electricals), Shri M. Achuthan (Electronics Testing and Development Centre), Shri Om P. Dhamija (Export Inspection Agency) and Shri C. Ravindran (Transformers and Electricals Kerala Limited). Besides, a keynote paper from ISI was presented by Shri M. Raghupathy. The papers presented at the Session highlighted the importance of Indian Standards in manufacturing activities including the problems faced in their implementation.

The second Technical Session, which dealt with 'Procurement to Indian Standards — Policies and Practices', was presided over by Shri M. K. Ravindranathan, Director of Industries and Commerce, Government of Kerala. Shri A. Govindan, Head, Trivandrum Branch Office, ISI,

acted as Rapporteur. The Session received four technical papers presented by Shri R. Jayaram Padikkal (Kerala State Road Transport Corporation), Shri K. S. Vijayaraghavan (Cochin Shipyard Ltd), Shri P. K. Govindankutty (Kerala State Electricity Board) and Shrimati A. Saradamma (Controller of Stationery, Government of Kerala). Besides, a keynote paper from ISI was presented by Shri Govindan. The papers presented at the Session highlighted the importance of Indian Standards in the activities of different departments of the Government of Kerala and their significance to the policies being followed by these departments in implementing Indian Standards in their purchase programmes.

The concluding session of the Conference was presided over by Shri Arun Kumar, Secretary, Industries Department, Government of Kerala. Shri C. R. Rama Rao, Deputy Director General (Southern Region), ISI, acted as Rapporteur. Summing up the proceedings, Shri Arun Kumar said that standardization pervaded all spheres of life. Standards played an important role even in the case of small items like toys and gas stoves in which human safety was involved to a considerable extent. He mentioned some areas where ISI was still to make an appreciable dent, for instance, textile where standards were not available for the mixing and blending of fibres. He advocated a strong consumer movement in the country for controlling both quality and price of products and called upon ISI to encourage and support it.



A section of audience

RECOMMENDATIONS

The Conference adopted the following recommendations for the promotion of standardization and quality control in Kerala:

a) A Standards Monitoring Committee (SMOC) should be established by the Government of Kerala to review the position of implementation of orders issued by the Government of Kerala in connection with the implementation of Indian Standards and recognition of the ISI Certification Marks Scheme by State purchasing departments, suggest measures to overcome problems in the way of effective implementation of these orders, make specific recommendations for encouraging local industries through avoidance of duplicate inspection by the departments procuring such ISI-certified products and review periodically the operation of supporting measures including price preference and financial assistance by various State Government departments and agencies;

b) Standards Cells should be

established in the various department and agencies needing standards, such as Irrigation and Projects Department, Buildings and Roads Departments, State Electricity Board, Stores Purchasing Organizations and State Road Transport Corporation to ensure effective participation of their representatives on the various councils and committees of ISI, keep up-to-date sets of Indian Standards and other ISI publications, and provide feedback to ISI on problems relating to use of standards by the various departments of the State Government;

c) The State Government should issue necessary directives to the heads of various departments connected with bulk purchase of items so that those for which the ISI Certification Marks Scheme is already operative within the State are purchased with ISI Mark only;

d) It should be ensured that critical raw materials supplied to small scale units are accompanied by test certificates indicating their conformity to the relevant Indian Standards so that

raw materials of assured quality are made available to them;

e) ISI should take up with the concerned authorities at the Centre and in the State the question of compulsory certification of various items involving human safety;

f) The Government of Kerala should provide the necessary financial and other assistance for setting up an ISI office-cum-testing laboratory to meet the demands of increasing certification marks activity in the State and provide expeditious testing facilities for licensees;

g) Standards promotion activity should be augmented in all industrial sectors and various training programmes being organized in the State should draw upon the expertise of institutions like ISI, the Institute of Standards Engineers and the National Productivity Council; and

h) ISI and the State Government should evolve a suitable mechanism for meeting the initial expenses of small scale industries for acquiring testing facilities with the help of financial institutions.

THIRTYSEVENTH ANNUAL REPORT OF ISI

■ Copies of the thirtyseventh Annual Report of ISI for 1983-84 are now available in Hindi-English bilingual form. The Report records the progress made by the Institution during the year in all spheres of activity — standards preparation; testing and certification; application of standards in industry, agriculture, trade and commerce; assistance to developing countries; promotional activities; and international collaboration.

The Institution formulated during the year 855 new and revised standards covering product specifications, codes of practice and basic engineering aspects, bringing the tally of Indian Standards in force as on 31 March 1984 to over 12 000. Besides, it met the growing demand for existing standards by reprinting a record number of 1 610 standards. Some of the important standards formulated during the year relate to construction of underground rural foodgrain storage structures; *Vanaspati* and blow moulded HDPE containers for its packing, cadmium button type rechargeable cells, electronic type fan regulators, receivers for colour television broadcast transmission, rims for automotive vehicles, wooden sleepers for railway tracks, sterile hypodermic needles, limits for emission of particulate matter from cement plant kilns, safety in the construction of river valley projects, stainless steel for welding electrode core wire and nylon air mail bags. An important document finalized during the year is the National Electrical Code, which brings together essential good practices and safety requirements for different types of electrical installations. Another significant project undertaken during the year concerns the Packaging Code which is designed to provide guidance on the selection and use of different methods and materials for packaging.

The number of operative licences under the ISI Certification Marks Scheme went up to 7 628 with 1 260 new licences being granted during the year. The number of Indian Standards against which products were certified rose to 1 150 of which 48 had come under the Scheme for the first time. Among the products brought under ISI certification for the first time are canvas shoes, vacuum flasks, sewing machines, staples, plastic moulded brief cases, non-metal helmets for police force, 15-kg square tins for *Vanaspati* and edible oils, V-belts for industrial purposes, hand-operated chain pulley blocks, high density polyethylene materials for moulding and extrusion, and cotton spindle tapes. Besides, cement was brought under compulsory ISI certification with effect from 1 July 1983 as a result of implementation of the *Cement (Quality Control) Amendment Order, 1983*.

Subscribing members can have free copies of the Annual Report from the Distribution Service, Indian Standards Institution, 9 Bahadur Shah Zafar Marg, New Delhi 110002. Others can procure them at Rs 40.00 per copy from the Sales Service at ISI Headquarters as well as its Regional and Branch Offices.

STANDARDS NEWS

TECHNICAL GET-TOGETHER, CHANDIGARH

The Northern Regional Office of ISI organized a Technical Get-Together on the theme 'Why set standards and stick to them' on 12 October 1984 to mark the World Standards Day celebrations. The Get-Together was attended by some 100 technical and administrative personnel from Punjab, Haryana and the Union Territory of Chandigarh.

Presenting the keynote address, Shri K. Banarji, Chief Commissioner, Union Territory of Chandigarh, pleaded for producing engineering and consumer goods which would be accepted not only by consumers in India but also by customers in the overseas markets. He urged all the concerned agencies, especially those in the Union Territory of Chandigarh, to fall in line with other States in the country and lend full support to the programmes of standardization and quality improvement. His appeal was specially directed to the young entrepreneurs who were advised to start on the right note from the very beginning and make quality-consciousness and fair dealings as the hall mark of their enterprises. Shri Banarji appreciated the role of ISI in making available standards which provided the basic framework for the production and marketing of goods of well-defined quality. He attached particular significance to the contribution of standards to the establishment of harmony in the production programmes which was essential under the current system whereby a unit was dependent on a number of ancillaries for the supply of different parts and components. By eliminating needless variety in goods of everyday use, Shri Banarji said, standards were helpful in the consolidation of production runs which led to lower costs because of the economy of scale. In most

cases, this helped replace imported materials and goods by those produced indigenously. Another important aspect of standards was elimination of ambiguity among trading partners. Based on standards, the task of inviting quotations and tendering for goods became much simpler, leading to precision in expression and certainty of intention. Shri Banarji appreciated the services rendered by ISI through its Certification Marks Scheme which provided a useful means for in-house quality control. He, however, cautioned that care should be taken to see that the Institution retained public confidence and credibility. To prevent misuse of the ISI Mark, mere replacement of defective goods was not enough; cases of intentional non-conformance or misuse should attract strong disincentives. Shri Banarji also stressed the importance of periodical review and revision of standards to remain in step with the latest state of progress in technology. In this context, it was imperative to strive for alignment with International Standards which were crucial for developing countries like India. Internationally accepted norms not only helped promote exports but also led to reduction of inventory because of the facility they afforded for ordering equipment to a single specification.

Speaking on the occasion, Shri G. S. Cheema, Director of Industries, Government of Punjab, informed the participants that a vast network of Quality Marking Centres and 17 laboratories had been established in the State to provide the needed R&D services in different areas and help the manufacturers produce goods of improved quality and performance. The laboratories at the Quality Marking Centres in Ludhiana, Mandi Gobindgarh, Moga and Patiala had been recognized by ISI in 1984 for the purpose of testing samples under the ISI Certification Marks Scheme.

Besides, the Quality Marking Centre for sports goods at Jalandhar had been declared by ISI as competent authority for operating the ISI Certification Marks Scheme for such articles. Shri Cheema added that the State Government was also extending financial assistance to entrepreneurs to enable them to institute and sustain the quality improvement programmes. Only recently, the Government of Punjab had introduced a scheme for reimbursing expenditure to the extent of Rs 2 000 per product incurred by a small scale unit for operating the ISI Certification Marks Scheme.

Shri Pradeep Kumar, Director of Industries, Government of Haryana, highlighted the measures being taken by the State Government for encouraging the production of quality goods bearing the ISI Mark. In this context, he said that the State had introduced a scheme for providing annual subsidy to entrepreneurs in the small scale sector according to which a part of the expenditure for operating recognized quality control schemes like the ISI Certification Marks Scheme was reimbursed. The quantum of subsidy, which was earlier limited to Rs 1 000 per unit per annum, was sought to be increased to Rs 2 000 per product per unit per annum up to a maximum of three products. The District Industries Centres and State Quality Marking Centres were being advised to take the necessary action for persuading the industrial units to join ISI Certification Marks Scheme in large numbers.

Earlier, welcoming the participants, Shri Gurcharan Singh, Director, Northern Regional Office, reviewed the activities of ISI and said that it maintained a close association with the International Organization for Standardization. This association, he said, had proved useful in reflecting India's viewpoint in the standards established internationally.

GET-TOGETHER OF INDUSTRIES, BELGAUM

A Get-Together of Industries was organized on 15 October 1984 at Belgaum by the Bangalore Branch Office of ISI in collaboration with the Belgaum Chamber of Commerce and Industries; District Industries Centre, Belgaum; and Small Industries Service Institute (SISI), Hubli. Attended by representatives of some 100 industries in and around Belgaum, Dharwar and Hubli as well as ISI subscribing members and licensees, the Get-Together was designed to highlight the benefits that could be derived by industries and consumer organizations from Indian Standards.

Inaugurating the Seminar, Shri B. D. Sungar, President, Belgaum Chamber of Commerce and Industries, said that standardization was helpful not only to producers but also to consumers at large. He commended the work of ISI in the field of quality certification and said that it enhanced the quality of products at a reasonable cost. Standardization, he added, had proved beneficial to large scale industries and should be taken advantage of by small scale units as well.

Speaking on the occasion, Shri Madhav B. Kulhally, an industrialist from Belgaum, highlighted the benefits of standardization to industry and said that formulation of standards for equipment should be taken up on a priority basis. He wanted standards to be made compulsory in as many areas as possible and called upon Government departments to purchase only ISI-marked goods. He also urged the Government departments to provide incentives to ISI licensees.

Presenting the keynote paper on 'Development of industry through standardization and ISI Certification Marks Scheme', Shri C. R. Rama Rao, Deputy Director General (Southern Region), ISI, reviewed the work of the Institution and its association with the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) and explained the procedure for the formulation of Indian Standards as well as details of the ISI Certification Marks Scheme. He added that every licence included a well-defined Scheme of Testing and Inspection (STI) which had to be followed strictly by the licensees. The STI prescribed specific tests and frequency of conducting them. Shri Rama Rao also detailed the reasons for deferring the renewal of a licence or allowing it to lapse. Reviewing the progress of ISI Certification Marks Scheme in Karnataka,



Shri B. D. Sungar, President, Belgaum Chamber of Commerce (third from right), addressing the participants at the Get-Together of Industries at Belgaum. Others on the dais are (from left): Shri L. Ramachandra Rao, Director, Bangalore Branch Office, ISI; Shri M.B. Kulhally, an industrialist of Belgaum; Shri C. R. Rama Rao, Deputy Director General (Southern Region), ISI; Shri K. Ramanna Naik, General Manager, District Industries Centre, Belgaum; and Shri T. K. Subramanyam, Deputy Director, Small Industries Service Institute, Hubli.

Shri Rama Rao said that 337 ISI licences had been granted in the State covering engineering and non-engineering goods as well as steel and steel products. He added that only 30 licences were in operation in Belgaum and felt that there was plenty of scope in this region for a large number of units to cover their products under the ISI Certification Marks Scheme. Thanking the Government of Karnataka for the initiative taken by it for the construction of the ISI Testing Laboratory, he said that the Laboratory would be helpful in operating the Scheme as also in the development of industry.

Shri K. Ramanna Naik, General Manager, District Industries Centre, Belgaum, highlighted the facilities provided to the industries by the Central Government and the Government of Karnataka for the operation of the ISI Certification Marks Scheme and called upon them to make use of these in an adequate measure. He also offered the cooperation of the District Industries Centre to small scale units for getting them ISI Certification Mark.

Shri T. K. Subramanyam, Deputy Director, Small Industries Service Institute, Hubli, pointed out that India held the seventh place on the industrial map of the world and felt that standardization should be utilized in a greater measure for the benefit of industries. He highlighted some of the basic problems faced by small scale manufacturers with particular reference to procurement of raw materials of the requisite quality and said that the Small Industries Service Institute had

established 12 testing centres whose facilities could be made use of by small scale units. To facilitate the availability of and accessibility Indian Standard specifications in the northern part of Karnataka, Shri Subramanyam said that efforts should be made to have a sales agency in one of the commercial centres of North Karnataka. Alternatively, a copy each of specifications relevant to the area could be kept in the libraries of SISI and/or other promotional agencies for easy reference by small scale industrial units. He also wanted the opinion of the small scale units and their associations to be taken into account at the time of formulation of standards.

The following recommendations emerged from the discussions at the technical session which followed:

a) A closer liaison should be established between the various District Industries Centres (DICs) and ISI, particularly with reference to certification marking and implementation of Indian Standards. For this purpose, it was suggested that DICs should keep small scale industries in their areas informed of the availability of Indian Standards for the products manufactured by them and encourage them to take up ISI Certification Mark for the various products wherever Indian Standards were available. It would be worthwhile if the DICs kept the Indian Standards needed by them and updated the stock periodically. Funds for the purpose could be provided by the Directorate of Industries of the Government of Karnataka;

b) The Small Industries Service

Institute, Hubli, should keep a close liaison with the Bangalore Branch Office of ISI so that the area covered by SISI, Hubli, is served effectively by ISI. The testing facilities available at the SISI should also be augmented to cater to the needs of various industrial units in the area. The SISI should also disseminate information on Indian Standards whenever it organized technical seminars and lectures;

c) The Office of the District Commissioner should advise the purchase department and offices under its control to quote the relevant Indian Standards while floating tenders for procuring their requirements;

d) A closer liaison should be maintained with educational institutions and their libraries should be kept up-to-date with information on Indian Standards;

e) The Chamber of Commerce and Industries, Association of Industries and Small Scale Industries Association in the districts should actively participate in the work of ISI by enrolling themselves as Subscribing Members; and

f) The District Industries Centres should persuade all industries in the region to become members of ISI and take advantage of the services offered by it.

An exhibition of ISI-certified products was also organized on the occasion. The products displayed at the Exhibition, which was inaugurated by Shri B. D. Sungar, included PVC conductors, grey cotton yarn, CI manhole covers, LPG gas stoves and leaf springs for automobile suspension.

STANDARDIZATION OF PUMPSETS, DIESEL ENGINES AND ELECTRICAL MOTORS USED IN AGRICULTURAL SECTOR — Bangalore Seminar

The Department of Industries and Commerce, Government of Karnataka, and Technical Consultancy Services Organization of Karnataka (TECSO) organized a Seminar on 'Need for Standardization of Pumpsets, Diesel Engines and Electric Motors used in Agricultural Sector' on 30 November 1984 at Bangalore. The Seminar was a prelude to the proposal of the Union Irrigation Ministry to enforce ISI Certification Mark for pumping sets, diesel engines and electric motors used in the agricultural sector with effect from 1 July 1985. It was also designed to focus attention on the need for efficient working of equipment in this field and ensure conservation of energy.

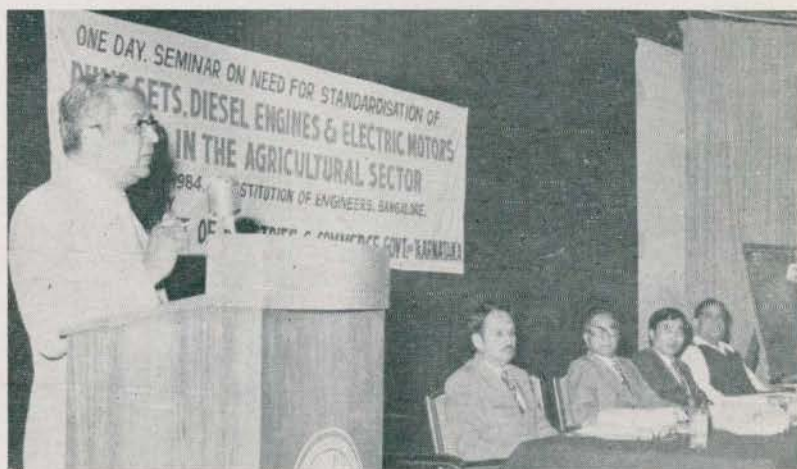
Inaugurating the Seminar, Shri A. S. Cheema, Additional Director General,

ISI, said that the proposed legislation of the Union Government was to save energy and make available standard agricultural pumpsets to the users. He mentioned in this context the various actions taken by ISI for the conservation of energy, giving specific examples in relation to pumps, motors and diesel engines. Shri Cheema added that the ISI Certification Marks Scheme could be taken as technical audit providing a total quality package to the manufacturers for improving and maintaining their quality control system. As Indian farmers were not well equipped to test the products they buy, the proposed legislation regarding compulsory ISI marking on pumpsets would go a long way in helping them.

Presiding, Shri P. Padmanabha, Commissioner and Secretary, Department of Industries and Commerce, Government of Karnataka, underlined the relevance of standards to attaining conservation of energy and highlighted the implications of certification of agricultural pumpsets from the viewpoint of manufacturers and users. Stressing the need for educating the user, he said that extension role should be played by various departments, particularly the Karnataka Small Scale Industries Development Corporation. As for producers, they should build quality into a product for which it was necessary to have testing facilities. Referring to the cost element, he said that this could be brought down by establishing group testing facilities. However, testing charges for small scale industrial units should not be very high.

Earlier, welcoming the participants, Shri N. Viswanathan, Commissioner for Industrial Development and Director of Industries, Government of Karnataka, said that, according to a study conducted by the Rural Electrification Corporation, most of the agricultural pumps were being operated at a low efficiency because users did not have adequate knowledge in regard to their selection, operation and maintenance. He felt that the proposed legislation of the Union Government making ISI Mark compulsory for agricultural pumpsets with effect from 1 July 1985 should be given wide publicity to facilitate grant of subsidy from financial institutions. He added that incentives and training should be provided to the manufacturers of pumpsets to help them produce goods conforming to the relevant Indian Standard. Manufacturers, dealers and other agencies like banking and agricultural institutions should be made aware of the proposed legislation and advantages of using efficient pumping systems which would result in savings in energy and other benefits. Shri Viswanathan wanted the small scale industries in Karnataka to take the lead in the country in regard to standardization of agricultural pumpsets. In this context, he pointed out that the Government of Karnataka proposed to energize 40 000 to 50 000 irrigation pumpsets every year.

The Seminar had two technical sessions presided over by Shri S. G. Ramachandra, Chairman, Energy Panel (Karnataka), Association of Indian Engineering Industries (Southern



Shri S. G. Ramachandra, Chairman, Energy Panel (Karnataka), Association of Indian Engineering Industries (Southern Region), presiding over one of the technical sessions at the Seminar on Need for Standardization of Pumpsets, Diesel Engines and Electric Motors Used in the Agricultural Sector. On the dais are (from left): Shri L. Ramachandra Rao, Director, Bangalore Branch Office, ISI; Shri A. S. Cheema, Additional Director General, ISI; Shri Rin Sanga, Additional Director of Industries, Government of Karnataka; and Shri M. Ramakrishnan, Assistant Director, Field Testing Station, Bangalore

Region), and Shri T. Appaswamy, General Manager (R&D), NGEF, Bangalore, respectively. In his opening remarks at the first technical session, Shri S. G. Ramachandra said that, according to a market survey, over 65 percent of motors came from small scale industries and there was a wide variation in the efficiency of pumps available in the country. Another study made by the Indian Institute of Science, Bangalore, in 1972 had revealed that there was variation in the performance of pumpsets from installation to installation. Shri Ramachandra explained the need for modifying the existing pumping systems and called for drawing up a strategy for their installation in future. Apart from manufacturing the pumpsets in conformity with the relevant Indian Standard, he felt, their proper use was also vital in achieving the expected performance from them. Referring to the wide fluctuations in electricity, he said that there was need for compulsory implementation of the Indian Standard 'IS : 585-1962 Specification for voltage and frequency for transmission and distribution systems'. He suggested that farmers should be guided by either Electricity Boards for financial institutions in the selection of pumps as only the complete pumping system would influence the performance of the pumpsets. In this context, he said, the requirements of the farmer should first be studied taking into account the availability of water resources and the speed at which the pump should run. He also called upon public sector units to cover their products under the ISI Certification Marks Scheme.

Shri L. Ramachandra Rao, Director, Bangalore Branch Office, ISI; Shri Rin Sanga, Additional Director of Industries and Commerce, Government of Karnataka; and Shri M. Ramakrishna, Assistant Director, Field Testing Station, Bangalore, presented papers on 'Standardization of motor- and diesel engine-driven pumpsets for agriculture', 'State Government's support for standardization and up-gradation of products manufactured in the tiny and small scale sectors' and 'Benefits and advantages of standardization' respectively at this session.

The following points emerged from the discussions that followed:

a) Control panels for agricultural applications should be standardized and brought under compulsory certification;

b) The quantum of water required by a farmer should be taken into account while deciding the type of pumping system to be employed, also taking into account the grouping

pattern and the extent of land;

c) Efficiency of the pump should be increased by adopting standard foot valves which would result in the conservation of energy, increased discharge and reduced hours of run for the pump;

d) A working group should be constituted to advise the farmer at the initial stages of procurement of pumpsets; and

e) Group testing should be taken up for small scale industries and the State Directorate of Industries should take a policy decision regarding the subsidy to be provided for testing equipment.

Presiding over the second technical session, Shri T. Appaswamy stressed the need for standardization of pumpsets by adopting appropriate control panels, starters, frictionless pipes, etc.

Professor N. S. S. Arokiyaswamy, Honorary Faculty Member, Indian Institute of Management, Bangalore; Shri S. R. Varma, Director, Small Industries Development Organization, Regional Testing Centre, Madras; and Shri J.R. Samuel, Senior Deputy Director, Bangalore Branch Office, ISI, presented papers on 'Energy conservation in agricultural sector'; 'Training facilities for testing personnel for standardization of pumpsets, diesel engines and electric motors'; and 'Training and testing facilities for agricultural pumpsets' respectively at this session.

The following points emerged from the discussions that followed:

a) The input materials for the motor, such as stampings and enamel wires should be certified; and

b) Facilities for testing pumps should be created in the State of Karnataka.

ELEVENTH CONFERENCE ON STANDARDIZATION IN RURAL ELECTRIFICATION, NEW DELHI

The Eleventh Conference on Standardization in Rural Electrification was organized by Rural Electrification Corporation (REC) in New Delhi during 28-29 September 1984. A number of senior officers of Electricity Boards, Central Electricity Authority, Indian Standards Institution, Rural Electrification Corporation and other organizations and representatives of electrical industry from India and abroad participated in the Conference.

Inaugurating the Conference, Shri S. Venkitaramanan, Secretary, Department of Power, Union Ministry of Energy, called upon the State Electricity Boards and Rural Electrification Corporation to evolve efficient transmission systems and practices through

adoption of improved standards to ensure better efficiency of the rural power distribution network. While commending the efforts of REC for introducing uniform standards for materials and construction practices relating to rural electrification, he said that, based on the experience of advanced countries, it was necessary to introduce new concepts; at the same time, it should be ensured that the standards already evolved were of universal application and were responsive to the needs of rural power consumers.

Shri Venkitaramanan urged the State Electricity Boards and the State Governments to accord the highest priority to improving operational efficiency of the large number of irrigation pumpsets which would not only strengthen the system but also help in conserving energy. In this connection, he said that the Ministry of Energy had recently approved a proposal allocating special funds for energy conservation projects.

In his Presidential address, Shri M. Venkataratnam, Chairman, REC, said that the Government had accorded a high priority to speedy implementation of the rural electrification programme in view of its immediate impact on socio-economic development of the country. He added that investment on rural electrification was likely to be substantially stepped up during the Seventh Plan. To meet the challenges of rural electrification during the next Plan period, it would be necessary to strengthen the existing sub-transmission and distribution network to make the system more efficient. In this context, he underlined the role of standardization and technical development in minimizing investment and maximizing efficiency.

Earlier, welcoming the participants, Shri N. K. Jangalwa, Technical Director REC, summed up the progress made in the field of standardization of materials and construction practices in rural electrification and said that more than 150 REC standards had already been issued, which were now being widely used in the country. Adoption of uniform practices, he added, would help in achieving the twin objectives of economy and efficiency in the execution of the massive rural electrification programme.

During the two-day deliberations, the Conference finalized 15 new REC standards besides deciding on certain important amendments to existing standards. The Conference also considered a number of proposals put forward by REC to modernize the power distribution system in rural areas by introducing new concepts and

technologies. While some of the proposals considered by the Conference have a direct bearing on the conservation of energy, others aim at ensuring a more reliable supply to the consumers and effecting economy in investment, particularly for making power supply available to backward, tribal and hilly areas.

In the light of useful experience of many advanced countries, the Conference recommended the introduction of certain new types of equipment in the system to reduce power losses, thereby conserving electric energy. The equipment includes 11 kV automatic voltage boosters and 11 kV switched capacitors.

Another energy-saving device recommended for use is the automatic transformer disconnection switch, which has been developed by a Japanese company at the instance of REC. The use of automatic disconnection switches will help save considerable energy by eliminating transformer no-load losses for a substantial period.

The use of aluminium alloy conductors in place of the presently used all-aluminium and steel reinforced aluminium (ACSR) conductors is another important recommendation made by the Conference. Aluminium conductors are now finding application all over the world because of their advantages which include longer life due to elimination of galvanic corrosion and better surface hardness, lighter weight for the same strength, higher conductivity as compared to ACSR, etc. Another advantage of using such conductors in the Indian context is the reduced chances of theft of conductors prevalent in many areas as aluminium alloy cannot be easily recycled for making utensils.

The Conference also made a number of recommendations to improve the performance of conventional oil-filled distribution transformers. These include use of better quality transformer oil, improved insulation for windings, use of special type of insulating paper for inter-layer and interwinding insulation and more effective protection against lightning strokes.

SEMINAR ON CONSUMER PROTECTION, BHOPAL

A Seminar-cum-Workshop on Consumer Protection was organized at Bhopal by the Food and Civil Supplies Department, Government of Madhya Pradesh, during 29-31 October 1984.

Inaugurating the Seminar, Shri N. Subramanian, Secretary, Union Minis-

try of Food and Civil Supplies, stressed the need for proper labelling of all food items including basic composition to help minimize the time involved in civil proceedings against defaulters. Shri Subramanian added that all consumer products should be brought under compulsory certification in a phased manner.

Shrimati Kamala Sohnie (Consumer Guidance Society of India, Bombay) called for organizing consumer guidance societies at district level throughout the country and emphasized the need for carrying out toxicity tests on all imported food-grains before being released for open sale. She appreciated the role being played by ISI in the field of standardization and quality control, and said that consumer guidance societies should have representation on all the committees responsible for the preparation of Indian Standards of consumer interest.

The Bhopal Branch Office of ISI organized an exhibition of ISI-marked products and special publications on the occasion. The participants in the Seminar were also explained the activities of ISI, such as preparation of standards, grant of licences and operation of the ISI Certification Marks Scheme as well as benefits of ISI-marked products with the help of charts and tables.

ANNOUNCEMENT

Shri B. D. Mendiratta, Head of the Department of Printing Technology, Pusa Polytechnic, New Delhi, has been appointed a member of the Judging Committee of the Directorate of Advertising and Visual Publicity, Ministry of Information and Broadcasting, for the 25th National Awards for Excellence in Printing and Designing. Shri Mendiratta was in the Publications Department of ISI before joining Pusa Polytechnic. He is also a member of the ISI Subcommittees relating to printing and binding (EC 10:3) and spoilage formula for paper (EC 10:5).



NATIONAL CONFERENCE ON EFFECTIVE MAINTENANCE FOR HIGH PRODUCTIVITY

The Indian Association for Productivity, Quality and Reliability is organizing the National Conference

on Effective Maintenance for High Productivity at Durgapur during 12-14 April 1985. The Conference will review recent advances in maintenance management *vis-a-vis* maintenance practices in industry.

Further information can be had from: Shri Bikash Bhadury, Assistant Director, Central Mechanical Engineering Research Institute, Mahatma Gandhi Avenue, Durgapur 713209.

NATIONAL SEMINAR ON TALL REINFORCED CONCRETE CHIMNEYS, NEW DELHI

A National Seminar on Tall Reinforced Concrete Chimneys is being held in New Delhi during 24-26 April 1985. The Seminar aims at identifying better design approaches and improved technology besides determining areas for evolving standards in the field, relevant to Indian conditions.

The topics to be discussed at the Seminar include impact of chimneys on the environment, criteria and procedure for dimensioning of chimneys, impact of wind, seismic and temperature conditions in India, aerodynamic effects on tall chimneys, design for structural stability, economical and reliable construction methods, and effective and feasible maintenance and instrumentation of chimneys.

Further information can be had from: Shri Ashok Trehan, Organizing Secretary, National Seminar on Tall Reinforced Concrete Chimneys, National Thermal Power Corporation (NTPC), 62-69 Nehru Place, New Delhi 110019.

NEW DEVELOPMENTS IN MATERIALS AND TECHNIQUES OF PAVEMENT CONSTRUCTION — New Delhi Seminar

A Seminar on 'New Developments in Materials and Techniques of Pavement Construction' is being organized by the Nagadi Educational Trust in New Delhi during 25-26 April 1985. The topics to be discussed at the Seminar include new materials; new techniques for design, construction and quality control; problems of maintenance; environmental influences on pavement behaviour; and application of new developments in practice.

Further information can be had from: The Organizing Secretary, Seminar on 'New Developments in Materials and Techniques of Pavement Construction', Nagadi Educational Trust, 59 Basant Lok, Vasant Vihar, New Delhi 110057.

STANDARDIZATION

ECHOES AND IMAGES

Call for Improving Productivity in Steel Sector

The Steel and Mines Secretary, Shri P. K. Basu, has underlined the need for improving productivity through keener research and development efforts.

Delivering the keynote address at the National Seminar on Productivity and Quality Awareness organized by the Metal Workers Trade Union College in New Delhi on 22 November 1984, Shri Basu said that, as a result of the recently introduced production-cum-profit improvement management system in the Department of Steel, it had been possible to revise upwards production targets of Steel Authority of India (SAIL) and Indian Iron and Steel Company Ltd (IISCO).

He said that only through greater output and availability of steel at lower prices could production and exports from engineering industries be stimulated.

— The Financial Express, 24 November 1984

Steps Soon to Ensure Better Safety in Mines

The Union Government intends to add teeth to the enforcement agencies entrusted with the task of ensuring implementation of safety laws in mines. Special mining tribunals for speedy disposal of prosecution cases and the empowering of inspectors to impose fines on the spot are under the Government's consideration.

This was indicated by the Director General of Mines Safety (DGMS) Shri H. S. Ahuja, in his paper at a symposium on 'Development of mineral industry and its societal ramifications' in Calcutta on 25 November 1984. The Symposium was part of the 12th World Mining Congress, which concluded in New Delhi recently.

Shri Ahuja said the quantum of penalty had already been enhanced for those mines where safety laws were violated. Also, the nucleus of a research and development wing was recently created within the organization with a view to providing technical and scientific support to help DGMS discharge its investigation and standard-setting functions properly.

It was not proposed to expand this wing's activity through the setting up of specialist core

cells on strata control, mine environment, dust noise vibration, mine fires, mining safety equipment and use of explosives.

Shri Ahuja, therefore, called for a fresh approach and extra efforts to achieve a real breakthrough in safety promotional methods and systems. He observed that Indian mine safety legislation needed to be reoriented in its approach and application to take into account the growth of the public sector.

Shri Ahuja, however, admitted that any real breakthrough in safety matters could be possible only if the mine managements sincerely realized and believed that in regard to accident prevention, fulfilment of statutory obligations alone was not all. Further, untiring efforts were needed to meet the social needs of miners. It was in this context that concepts of systems approach to safety and self-regulation became highly relevant.

— The Financial Express, 26 November 1984

Data Bank on Technologies Proposed

The setting up of an International Data Bank on New Technologies and an international technology exchange exposition were among the proposals in the 10-point plan for cooperation in research and development presented at an international seminar in New Delhi on 6 November 1984.

According to the plan presented by All India Engineering Industries Association President Gurpreet Singh, the International Data Bank would be able to provide access to new technologies on a world-wide scale to all research and development institutions organized under the World Association of Industrial and Technological Research Organization (WAITRO).

The plan also suggested that the five working groups on food processing, bioenergy, computer development and applications, and assessing development needs and assistance for developing countries set up by WAITRO, should finalize at least two proposals for international cooperative R & D work soon.

The plan also suggested technology forecasting and monitoring methodology, joint groups with international agencies to promote R & D, linking up of different information systems in

participating countries and a cooperative R & D project in biotechnology in each region of the world.

— The Hindustan Times, 7 November 1984

Environmental Clearance Required for Medium Units Too

Entrepreneurs seeking registration with the Directorate General of Technical Development (DGTD) for setting up medium scale industries that may cause high pollution will now have to obtain environmental clearance, an official release said on 2 December 1984.

The Government has identified for this purpose 18 'highly polluting industries' — primary metallurgical producing industries, paper, pesticides, insecticides, refineries, fertilizers, paints, dyes, leather tanning, rayon, sodium/potassium cyanide, basic drugs, foundry, batteries, acids/alkalis, plastics, rubber, cement and asbestos.

Extra measures, such as installation of suitable pollution control equipment and identification of specific site and location of the projects are at present necessary for large industries before a letter of intent is converted into an industrial licence.

The Government has decided that before the final registration, medium scale industries will also have to get clearance from the State Director of Industries that the site of the project has been approved.

A certificate from the State Pollution Control Board has also to be obtained stating that the proposal meets with the environmental requirements and that the equipment installed or proposed to be installed is adequate and appropriate to the requirements.

— The Hindu, 3 December 1984

Safety Standards for Construction Industry

The Government proposes to prescribe safety standards for different operations in the building and construction industry to protect workers against accidents. An expert group is being set up for this purpose.

This forms part of the Union Labour Ministry's constant exercise to review existing legislation in order to accommodate the growing needs and extend welfare schemes for workers.

Of significance to the organized labour are amendments to the Industrial Disputes Act made in 1982 and more particularly this year, which have been enforced since August last. One outcome has been that the rate of accidents has come down from 4.86 per thousand in 1980 to 3.35 per thousand last year.

— The Statesman, 17 November 1984

Energy Conservation Council Proposed

A proposal to set up a high-level Energy Conservation Council is now under consideration of the Union Government.

The Council, which is likely to be headed by the Minister for Energy, will give advice on all policy issues concerning energy conservation. The advice of the Council is proposed to be sought particularly for projects in which use of more than one form of energy is required. It will be serviced by the Energy Conservation Cell being set up in the Energy Ministry.

The Council, it is felt, will be able to provide the much-needed direction to energy conservation measures in the country. According to official estimates, it is possible to save Rs 31 000 million annually by the industry, transport and agriculture sectors by making an investment of Rs 51 400 million in energy conservation schemes. This will also help avoid a capital expenditure of Rs 79 800 million that would otherwise be needed for building up an equivalent capacity in the energy supply sector.

— The Financial Express, 15 November 1984

Pesticide Residue Levels in Crops Toxic

The pesticide residue levels in a number of consumer products including grain, rice and fruit are above the standard tolerance limits, impact monitoring of pesticide residues in a wide range of crops has revealed.

Contrary to the popular belief that washing vegetables and fruits may remove all the chemicals sprayed, a significant amount of residue persists even after washing.

Due to solubility in lipid medium, the second generation pesticides penetrate into the cuticle via waxy outer layers of the fruits. Besides chemical spraying in fields, considerably large amount of chemicals are used during transportation and storage of fruits and vegetables.

The studies carried out by the Department of Biochemistry, School of Biological Sciences of the Madurai Kamaraj University, covered a wide variety of crops ranging from rice and wheat to coffee, tea and spices, Dr N. Kumaran of the Department told PTI in Madurai.

He said that while the workers in pesticide manufacturing factories were largely well protected against any potential hazards, the farmers in the field who used pesticides were prone to many side effects resulting out of indiscriminate and wrong use.

During the impact monitoring studies, giddiness in a large section of farmers emerged as a prominent side effect of the pesticidal exposure in the fields, he said.

— The Indian Express, 13 November 1984

COMMITTEE MONTH

This month, we report the proceedings of 19 committees which held their meetings during the month of October 1984. Detailed notes regarding two committee meetings are given below. The Table of Meetings lists important items of business transacted by other committees.

PATNA ADVISORY COMMITTEE

The second meeting of Patna Advisory Committee (PAC) of ISI was held on 15 October 1984 at Patna under the chairmanship of Shri P. R. Roy, Director (Technical Development), Department of Industries, Government of Bihar.

The Advisory Committee appreciated the services being rendered by the laboratory in the Patna Branch Office of ISI to industries in the small scale sector. However, it wanted the State Government to accord priority release funds for undertaking acquisition of complete testing facilities as envisaged at the time of initial stages of the project to help improve its efficiency.

The Advisory Committee considered the ways and means for increasing awareness about standardization and quality control and promoting the ISI Certification Marks Scheme in Bihar, and made, among others, the following recommendations:

a) Cooperation of the Directorate of Science and Technology and organized bodies like Bihar Industries Association, Bihar Chamber of Commerce, Industrial Area Development Authorities as well as Commissioner and Secretary, Department of Industries, Government of Bihar, should be enlisted for enrolling a larger number of ISI subscribing members in the State and increasing the sale of Indian Standards;

b) Specific groups of industries which could be easily covered under the ISI Certification Marks Scheme should be identified. For this purpose, a group comprising representatives of Bihar Industries Association; Bihar Chamber

of Commerce; Small Industries Service Institute, Patna; National Small Industries Corporation, Patna; and Directorate of Industries, Government of Bihar, was constituted, with Director (Technical Development), Department of Industries, Government of Bihar, as Chairman;

c) The Government should be assured to ensure effective follow-up of the various Central and State statutory directives for covering important agricultural inputs, such as fertilizers, pesticides, plant protection equipment, and farm implements and machinery under the ISI Certification Marks Scheme;

d) Organized purchasing departments/organizations in Bihar should base their procurement exclusively on Indian Standards to give further impetus to the ISI Certification Marks Scheme. Where more than one organization held licences for ISI marking of a product only ISI-marked goods should be procured;

e) The Government should consider reserving a certain proportion of its stores items for purchase through industrial units situated in the State, especially those in the small scale sector, and give effect to various incentives being provided by the Government, such as rebate on marketing fee, provision of finance for the establishment of testing facilities and according price preference to ISI-certified goods to motivate them to join the ISI Certification Marks Scheme. This would not only bring about industrial orderliness in the State but also facilitate production of goods of predetermined and assured quality; and

f) The Directorate of Handloom and Sericulture, Government of Bihar, and Bihar State Handloom Corporation should be approached to provide assistance to the hosiery industry, which was primarily in the small or tiny sector, to bring it within the fold of ISI Certification Marks Scheme.

Besides ISI Directorate General,



Patna Advisory Committee (PAC) of ISI in session. Shri P. R. Roy, Director (Technical Development), Industries Department, Government of Bihar and Chairman PAC is third from left.

which was represented by Dr Hari Bhagwan, Deputy Director General (Eastern Region), the meeting was attended by representatives of Bihar Industries Association, Bihar Chamber of Commerce, Adityapur Industrial Area Development Authority and important Central and State Government organizations including National Bank for Agriculture and Rural Development and Bihar State Electricity Board.

AHMADABAD ADVISORY COMMITTEE

The fifth meeting of the Ahmadabad Advisory Committee of ISI was held in Ahmadabad on 22 October 1984 under the chairmanship of Shri S. K. Shelat, Industries Commissioner, Government of Gujarat.

Shri S. R. Kuppanna, Deputy Director General (Western Region), ISI, extended a warm welcome to the participants and expressed satisfaction at the progress made by the Ahmadabad Branch Office of ISI in the field of certification marking. He also called for making greater efforts to cover more products under the ISI Certification Marks Scheme in Gujarat.

The Chairman, Shri Shelat, said that in future information about the major sectors of industry in Gujarat including the total number of units in the State for a particular product and their installed capacity, number of units covered under the ISI Certification



Shri S. K. Shelat, Industries Commissioner of Gujarat (centre), presiding over the fifth meeting of Ahmadabad Advisory Committee of ISI. He is flanked by Shri S. R. Kuppanna, Deputy Director General (Western Region); and Shri B. Mukherji, Director, Ahmadabad Branch Office, ISI.

Marks Scheme as well as the extent of their production so covered should be given in the agenda. This would facilitate identification of possible discrepancies and priority areas for further follow-up.

The Committee expressed concern at complaints about the poor quality of cement and regretted that manufacturers, specially mini-cement plants, were not exhibiting much enthusiasm to cover their product under the ISI Certification Marks Scheme. The Committee felt that the Directorate of Civil Supplies, Government of Gujarat, which was the statutory authority for the implementation of the *Cement (Quality Control) Amendment Order*, could consider taking the necessary

steps for the purpose, including prosecution of offending manufacturers.

The Committee also wanted ISI to consider the feasibility of greater surveillance in this regard by drawing a larger number of market samples from bulk consumers of cement. Besides, it was recommended that implications of third-party guarantee of the ISI Mark, which includes free replacement of ISI-certified products with manufacturing defects, should be given greater publicity through the media.

The Chairman informed the Committee that a proposal for setting up an ISI Laboratory in Gujarat had been sent to the Gujarat Government for its consideration.

TABLE OF MEETINGS

AGRICULTURAL AND FOOD PRODUCTS DEPARTMENT

AFDC 6 PEST CONTROL Bangalore
1984-10-17/18

Chairman Dr K. D. Paharia
Plant Protection Adviser to
the Government of India
Directorate of Plant Protection
Quarantine & Storage
New Delli

Drafts finalized for publication — Specifications for: (a) Aldrin dusting powders (*second revision of IS : 1308*); (b) Barium carbonate, pesticidal grade; (c) Carbaryl dusting powder (*first revision of IS : 7127*); (d) Chlordane dusting powder (*first revision of IS : 2864*); (e) Diazinon water dispersible powder concentrates (*first revision of IS : 2862*); (f) DDT, emulsifiable concentrates (*second revision of IS : 633*); (g) Esters of 2, 4-D (*first revision of IS 7233*); (h) Formulation based on stabilized methoxy ethyl mercury

chloride (MEMC) concentrate (*first revision of IS : 2358*); (j) Quinalphos dusting powder (*first revision of IS : 8029*); (k) Stabilized methoxy ethyl mercury chloride concentrate (*first revision of IS : 2127*); and (m) 2, 4-D Sodium technical (*second revision of IS : 1488*).

Draft approved for wide circulation — Carbaryl gamma BHC granules.

AFDC 47 FARM DRAINAGE Nagrakata
1984-10-15/16

Chairman Dr A. M. Michael
Director
Indian Agricultural
Research Institute
New Delhi

Drafts approved for wide circulation — Code for: (a) Construction and maintenance of surface farm drainage systems; and (b) Design of surface farm drainage system. Glossary of terms relating to farm drainage.

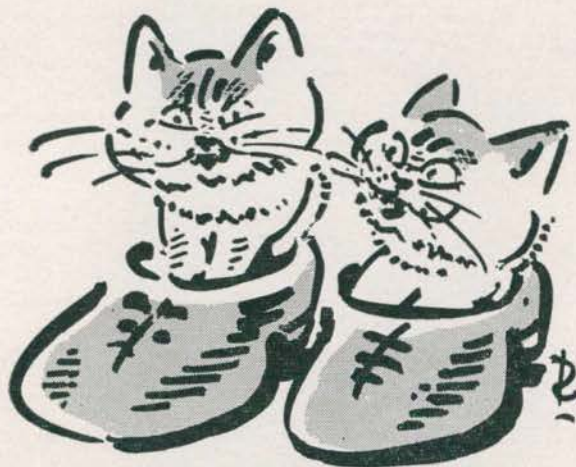
CHEMICAL DEPARTMENT

CDC 40 FOOTWEAR

Calcutta
1984-10-10/12

Chairman Shri A. K. Rudra
(for the meeting) Directorate General of Mines & Safety
Dhanbad, Bihar

Drafts finalized for publication — Code of practice for manufacture of safety rubber canvas footwear for ruines. Specifications for : (a) Canvas shoes, rubber sole (*first revision of IS : 3735*); (b) Gents leather shoes (*first revision of IS : 2060*); (c) Leather safety footwear having direct moulded sole; and (d) Leather safety shoes for women workers in mines and steel plants.



Warm and cosy in standard shoes

Standards reviewed and reaffirmed — 'IS : 5332-1969 Specification for boys' and youths' school shoes'; 'IS : 6493-1971 Specification for leather sandals for men'; 'IS : 6519-1971 Code of practice for selection, care and repair of safety footwear'; 'IS : 6664-1974 Specification for micro-cellular rubber soles and heels'; 'IS : 7329-1974 Specification for metal lasts for safety rubber canvas ankle boots'; 'IS : 7573-1974 Specification for hockey shoes'; 'IS : 8085 (Part 1)-1976 Method of test for footwear'; and 'IS : 8606-1977 Specification for brass screw wire for footwear'.

New subjects — Acids, alkali and corrosives proof footwear, linen synthetic thread for footwear, plastic heels, poly urethane sole, and safety footwear for officers/supervisors.

CONSUMER PRODUCTS AND MEDICAL INSTRUMENTS DEPARTMENT

CPDC 24 ORTHOPAEDIC INSTRUMENTS AND ACCESSORIES
Kanpur
1984-10-19

Chairman Dr K. S. Masalawala
(for the meeting) Bombay Mutual Terrace Building
534 Sandhurad Bridge
Bombay

Drafts finalized for publication — Guide for: (a) Care and handling of orthopaedic implants and instruments; and (b) Retrieval and analysis of metallic orthopaedic implants. Specifications for: (a) Acrylic bone cement for surgical implant (*first revision of IS : 8641*); (b) Pins and wires,

skeletal, traction; Part IV Materials and mechanical requirements; and (c) Pins, rush, intramedullary (*first revision of IS : 7110*). Requirements for orthopaedic implants : (a) Part II Wrought stainless steel; (b) Part III Unalloyed titanium; (c) Part IV Wrought titanium 6-aluminium 4-vanadium alloy; (d) Part V Cobalt-chromium-molybdenum casting alloy; (e) Part VI Wrought cobalt-chromium tungsten-nickel alloy; (f) Part VII Wrought cobalt-nickel-chromium-molybdenum alloy; (g) Part VIII Forgeable and cold-formed cobalt-chromium-nickel-molybdenum-iron alloy; and (h) Part IX Ceramic materials based on alumina.

Drafts approved for wide circulation — Requirements for orthopaedic implants: Part I General requirements (*second revision of IS : 5347*). Specification for : (a) Bone holding forceps, Semb's pattern; (b) Metal bone plates, holes and slots corresponding to screws with symmetrical thread and conical under-surfaces. Metal bone screws: (a) Part III Screws with asymmetrical thread, conical under-surfaces; and (b) Part IV Screws with symmetrical thread, conical under-surfaces.

Standards reviewed and reaffirmed — 'IS : 8921-1978 Augar extractor, Judet's pattern'; 'IS : 8922-1978 Depth gauge for orthopaedic use'; 'IS : 8926-1978 Bone skid, Murphy Lane's pattern'; and 'IS : 9265-1979 Clamp, compression, Muller's pattern'.

New subjects — Bone holding forceps, Semb's pattern, and total hip prosthesis Charnley's pattern.

ELECTROTECHNICAL DEPARTMENT

ETDC 31 POWER ELECTRONICS
New Delhi
1984-10-11

Chairman Shri M. S. S. Murthy
Bharat Heavy Electricals Ltd
Bangalore

Drafts finalized for publication — Electrotechnical vocabulary: Part 27 Power electronics (static power converters) (*first revision of IS : 1885*). Specification for stabilized power supplies, ac output: (a) Part I Ratings and performance, and (b) Part 2 Tests.

Draft approved for wide circulation — Specification for solid state invertors.

New subject — Uninterruptible power system (UPS).

ETDC 57 LOW VOLTAGE SWITCHGEAR AND CONTROLGEAR
New Delhi
1984-10-29

Chairman Shri V. S. Bhatia
Siemens India Ltd
Bombay

Drafts finalized for publication — Guide for marking of insulated conductors (*first revision of IS : 5578*). Specifications for: (a) Circuit-breakers: Parts 1 and 2 Requirements and tests: Section 1 Voltages not exceeding 1 000 V ac or 1 200 V dc (*second revision of IS : 2516*); and (b) Contactors for voltages not exceeding 1 000 V ac or 1 200 V dc (*second revision of IS : 2959*).

Draft approved for wide circulation — Specification for factory-built assemblies of switchgear and controlgear for voltages up to 1 200 V dc Part. . . Particular requirements for miniature circuit-breaker boards.

ETDC 58 HIGH VOLTAGE SWITCHGEAR AND CONTROLGEAR New Delhi 1984-10-30

Chairman Shri H. M. Pai
The Ahmadabad Electricity
Company Ltd
Ahmadabad

Drafts finalized for publication—Specification for: (a) Alternating current disconnectors (isolators) and earthing switches for voltages above 1 000 V: Part IV Type tests and routine tests; and (b) Alternating current disconnectors (isolators) and earthing switches for voltages above 1 000 V: Part V Information to be given with tenders, enquiries and orders. Specification for alternating current switches for voltages above 1 000 V: Part IV Type tests and routine tests.

MARINE, CARGO MOVEMENT AND PACKAGING DEPARTMENT

MCPD 3 MARINE ENGINEERING Bombay 1984-10-11

Chairman Shri N. Chakraborty
Directorate General of Shipping
Bombay

Drafts finalized for publication—General requirements for plate heat exchangers for marine use. Guidelines for: (a) Main dimensions of propeller hubs (*first revision of IS : 8114*); and (b) Tools and outfits for ships' machinery. Propeller shafts of diameter 20 to 160 mm (*first revision of IS : 8173*).

New subjects—Anchor winches for mobile off-shore units, steam traps for marine boilers, and heat exchangers, and water treatment for marine boilers.

MCPD 7 FREIGHT CONTAINERS Bombay 1984-10-10

Chairman Capt N. A. Tamhane
Container Information & Services
Company
Bombay

Drafts approved for wide circulation—Guidelines for packing, stowage and securing of cargo inside the freight containers: (a) Part I General cargo; and (b) Part II Dangerous goods. Specification for series I general cargo freight containers for general purposes: (a) Part I General requirements (*first revision of IS : 6929*); and (b) Part II Testing (*first revision of IS : 6929*).

New subjects—Freight container repair and refurbishment, and securing of freight containers on vehicles.

MECHANICAL ENGINEERING DEPARTMENT

EDC 27 BOLTS, NUTS AND FASTENERS ACCESSORIES New Delhi 1984-10-15/16

Chairman Shri Dilip Paul
General Manager—Technical
(Eastern Region)
Howrah

Drafts finalized for publication—Specification for hexagon head bolts, screws and nuts of product grade A and B: (a)

Part IV Hexagon thin nuts (chamfered) (size range M1.6 to M36) (*second revision of IS : 1364*); and (b) Part V Hexagon thin nuts (unchamfered) (size range M1.6 to M10) (*second revision of IS : 1364*). Specification for: (a) Cross recesses (*first revision of IS : 7478*); (b) Cross recessed countersunk head screws (*first revision of IS : 7485*); (c) Cross recessed pan head screws (*first revision of IS : 7483*); (d) Cross recessed raised countersunk head screws (*first revision of IS : 7486*); and (e) Recess penetration gauges (*first revision of IS : 7479*).

Drafts approved for wide circulation—Specifications for: (a) Countersunk head screws—head configuration and gauging; and (b) Hardened and tempered washers for high strength structural bolts and nuts (*first revision of IS : 6649*); (c) High strength structural bolts (*second revision of IS : 3757*); and (d) High strength structural nuts (*first revision of IS : 6623*).

EDC 43 ENGINEERING METROLOGY Madras 1984-10-11

Chairman Shri K. S. Namdev Rao
HMT Limited
Bangalore

Drafts finalized for publication—Gauging members for GO and NO GO screw plug gauges and screw check plug gauges for ISO metric screw threads (size range above M40 up to and including M120) (*first revision of IS : 9608*). Gauging members for GO and NO GO screw ring gauges for metric threads (size range from M1 up to and including M100) (*first revision of IS : 9610*). Gauging practice for plain workpieces with indicating measuring instruments.

Drafts approved for wide circulation—Straightedges: Part I Cast iron straightedges (bow shaped and I section) (*first revision of IS : 5268*). Toolmakers flats and high precision surface plates (*first revision of IS : 3510*).

Standards reviewed and reaffirmed—'IS : 919-1963 Recommendations for limits and fits for engineering: Part I General engineering (*first revision*)'; 'IS : 919-1963 Recommendations for limits and fits for engineering: Part II Fine mechanism and horology'; 'IS : 2101-1962 Recommendations for limits and fits for (sizes above 500 mm up to 3150 mm)'; 'IS : 4440-1967 Slip gauges accessories'; 'IS : 4960-1968 Universal and elongated type V-blocks'; 'IS : 5273-1969 Radius gauges'; 'IS : 5440-1969 Optical flats'; 'IS : 6311-1978 ISO metric screw thread measuring cylinders (*first revision*)'; 'IS : 6973-1973 Precision angle plates'; 'IS : 6985-1973 Precision box angle plates'; 'IS : 6987-1973 Steel precision polygons'; 'IS : 7014-1973 Length bars'; 'IS : 7859-1975 Gauge allowances and manufacturing tolerances for plain gauges for inside measurements for ISO fit sizes (nominal size up to 500 mm)'; 'IS : 7876-1975 Gauge allowances and manufacturing tolerances for plain gauges for outside measurements for ISO fit sizes (nominal size up to 500 mm)'; 'IS : 8378-1977 Glossary of terms used in metrology'; 'IS : 8823-1978 Triangular straightedges'; and 'IS : 8841-1978 Recommendations for limits and fits for sizes above 3 150 mm up to 10 000 mm'.

EDC 84 BULK HANDLING EQUIPMENT New Delhi 1984-10-17/18

Chairman Shri K. C. Mehrotra
Sr Manager (Mechanical)
Projects & Development India Ltd
Bihar

Drafts finalized for publication — Data sheet for selection of front and loaders. Definitions of dimensions and symbols for earth moving machinery: (a) Part I Reference system; (b) Part II Dimensions for base machines; (c) Part III Dimensions for equipment; and (d) Part IV Dimensions for loaders. Determination of seat index point of earth moving equipment. Glossary of terms for bulk handling equipment; Part II Stacking, loading and reclaiming equipment. Human physical dimensions of operators and minimum operator space envelop for earth moving machinery. Zones of comforts and reach for controls for earth moving machinery.

Drafts approved for wide circulation — Specifications for : (a) Data sheet for section of crawler tractors (bulldozers), and (b) Industrial bag closing machine.

New subjects — Guide to procedure for operator training for earth moving machinery, hydraulic shovel, pneumatic conveying system, volumetric rating for hydraulic excavators. Hoe type buckets for earth moving machinery, and volumetric rating for loader and front loading excavator buckets for earth moving machinery.

STRUCTURAL AND METALS DEPARTMENT

SMDC 9 PIG IRON AND CAST IRON New Delhi
1984-10-18

Chairman Shri B. G. Sastry
Managing Director
Ductron Castings Ltd
Hyderabad

Drafts finalized for publication — Specifications for : (a) Cast iron fittings for pressure pipes for water, gas and sewage: Part XIV Specific requirements for double socket tapers (*third revision of IS : 1538*); (b) Centrifugally cast (spun) iron spigot and socket soil, waste and ventilation pipes, fitting and accessories (*second revision of IS : 3989*); (c) Grey cast iron ingot moulds, stools and slag ladles: Part IV Grey cast iron ingots moulds of mass up to 1 tonne (*first revision of IS : 3005*); and (d) Grey iron castings (*third revision of IS : 210*).

Drafts approved for wide circulation — Comparison of Indian and overseas standards for iron castings: Part II Spheroidal or nodular graphite iron castings (*first revision of IS : 3896*). Specifications for: (a) Abrasion resistant iron castings (*second revision of IS : 4771*); (b) Automotive grey iron castings (*first revision of IS : 6331*); and (c) Cast iron fittings for pressure pipes for water, gas and sewage (*third revision of IS : 1538*); (d) Centrifugally cast (spun) ductile iron pressure pipes for water, gas and sewage (*first revision of IS : 8329*); (e) Centrifugally cast (spun) iron pressure pipes for water, gas and sewage (*third revision of IS : 1536*); (f) Ductile iron fittings for pressure pipes for water, gas and sewage; (g) Horizontally cast iron double flanged pipes for water, gas and sewage (*first revision of IS : 7181*); (h) Malleable cast iron pipe fittings (*second revision of IS : 1879*); and (j) Material for cylinder liners and piston rings for internal combustion engines.

SMDC 10 LIGHT METALS AND THEIR ALLOYS Renukoot
1984-10-03

Chairman Dr Rajendra Kumar
National Metallurgical Laboratory
Jamshedpur

Draft finalized for publication — Dimensions for wrought aluminium and aluminium alloy, welded tube. Specification for aluminium and aluminium alloy welded tubes for general engineering purposes (*first revision of IS : 7094*).

Drafts approved for wide circulation — Code of practice for manufacture of aluminium alloy pressure die castings. Procedure for inspection and testing of aluminium-base and magnesium-base ingots and castings and their acceptance requirements for aeronautical applications (*revision of IS : 2304*). Specification for : (a) Aluminium alloy tube for irrigation purposes: Part II Extruded tube (*second revision of IS : 7092*); (b) Wrought aluminium and aluminium alloys, plate (for general engineering purposes) (*third revision of IS : 736*); and (c) Wrought aluminium and aluminium alloys, sheet and strip (for general engineering purposes) (*third revision of IS : 737*).

SMDC 19 ALLOY STEELS AND SPECIAL STEEL New Delhi
1984-10-18

Chairman Dr G. Mukherjee
Vice-Chairman
Steel Authority of India Ltd
New Delhi

Drafts finalized for publication — Schedule for wrought steels: Part V Stainless and heat resisting steels (*second revision of IS : 1570*). Specification and technical supply condition for hot rolled and forged bars for use in machine tool industry. Steels for cold heading/cold extrusion applications: Part I Wrought carbon and alloy steels.

Drafts approved for wide circulation — Commentary on Indian standard schedules for wrought steels for general engineering purposes (*first revision of IS : 1871*): (a) Part I Steels specified by tensile and/or yield properties; (b) Part II Carbon steels with specified chemical composition and related mechanical properties; and (c) Part III Carbon and carbon manganese free cutting steels. Dimensional tolerances for carbon and alloy constructional steel products (*first revision of IS : 3739*). Schedules for wrought steels: Part II Carbon steels (unalloyed steels): Section II Carbon steel wires with related properties (*first revision of IS : 1570*). Specification for steels for pneumatic tools (*first revision of IS : 5651*).

New Subjects — Chromium steels and other alloy steels for pressure vessels, and forging quality steels for critical applications such as crankshafts, camshafts and axle shafts.

TEXTILE DEPARTMENT

TDC 5 CHEMICAL METHODS OF TEST Bombay
1984-10-10

Chairman Dr (Miss) M. D. Bhavsar
Scientist & Head Text-chem Lab
The Silk & Art Mills'
Research Association
Bombay

Drafts finalized for publication — Code of practice for stains removal from textiles and clothing. Method for determination of colour fastness of : (a) Textile materials to steaming under atmospheric pressure (*second revision of IS : 974*), and (b) Disperse dyes on polyester cellulosic fabrics to carbonization. Method for determination of scouring loss of rayon filament yarn.

Drafts approved for wide circulation— Method for determination of colour fastness of textile materials to: (a) Acid felting severe (*first revision of IS : 3425*); (b) Acid felting : Mild (*first revision of IS : 3857*); (c) Artificial light (xenon lamp) (*first revision of IS : 2454*); (d) Chlorinated water (swimming-bath water) (*first revision of IS : 4803*); (e) Day-light (*first revision of IS : 686*); (f) Weathering by outdoor exposure (*first revision of IS : 5951*); and (g) Weathering by xenon arc lamp (*first revision of IS : 6152*). Method for determination of soil resistance and soil release efficiency of finished textile fabrics and garments.

TDC 12 TEXTILE SIZING AND
FINISHING MATERIALS

Bombay
1984-10-11

Chairman Dr H. C. Srivastava
Ahmedabad Textile Industry's
Research Association, Ahmadabad

Draft finalized for publication— Specification for ultra-marine blue for use in textile industry.

Drafts approved for wide circulation— Method of test for silicone emulsions. Preservative treatments of textiles.



SHRI M. L. SETH IS VICE-CHAIRMAN, CHEMICAL DIVISION COUNCIL



■ Shri M. L. Seth, Senior Advisor, DCM Limited, New Delhi, has been elected Vice-Chairman of the Chemical Division Council (CDC) of ISI. He has been actively associated with the work of the Institution as a Member of its Chemical Standards Sectional Committee (CDC 1) besides being a member of the Institution's Chemical Division Council (CDC); Petroleum, Coal and Related Products Division Council (PCDC); and the Standing Working Committee, Chemicals (SWCC).

Shri Seth is also closely connected with a number of industrial and Government organizations. He has been President of the Indian Chemical Manufacturers' Association, Calcutta; Chairman of Northern Regional Chapter of the Indian Institute of Chemical Engineers and Vice-President of the All India Manufacturers' Organization, Bombay. He is currently a member of the National Industrial Committee on Chemicals of the Ministry of Labour; and Fertilizer Subcommittee of the Ministry of Chemicals and Fertilizers.



During July 1984, the Institution specified standard mark for one product. Additional design of the standard mark for one product was also specified while the design of the standard mark for one product was rescinded. Besides, 73 new licences were granted. Particulars of these as well as additional varieties of products included in the existing licences and the licences cancelled/lapsed are given in the tables which follow.

STANDARD MARK

DESIGN OF THE STANDARD MARK	PRODUCT/CLASS OF PRODUCT AND RELEVANT NUMBER OF INDIAN STANDARD	GAZETTE OF INDIA, PART II, SECTION 3(ii), NOTIFICATION REFERENCE	
		S.O. and Date	Gazette Issue Dated
	*Copper sulphate — IS : 261-1966	2829 1984-07-31	1984-09-01
	Performance requirements for constant speed compression ignition (diesel) engine for general purposes (up to 20 kW) — IS : 10001-1981	2832 1984-07-31	1984-09-01

STANDARD MARK RESCINDED

Performance of constant speed internal combustion engine for general purposes — IS : 1601-1960

NEW LICENCES GRANTED

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1322936 1984-07-03	Northern Minerals Pvt Ltd, Daultabad Road, Gurgaon (Haryana) (Office: 19-A Rajendra Mansion Ansari Road, Darya Ganj, New Delhi 110002)	IS : 1308-1974
CM/L-1323029 1984-07-03	Bangalore Pesticides Limited, 16th km Tumkur Road, Bangalore 560073	IS : 564-1975
CM/L-1323130 1984-07-03	United Pesticides, Village Mandhour, Ambala City (Haryana) 134007	IS : 2567-1978
CM/L-1323231 1984-07-04	Develop Pump Industries, 62 South Anarkali (Near Krishan Nagar), Delhi 110051	IS : 8931-1978
CM/L-1323332 1984-07-02	do	IS : 8934-1978
CM/L-1323433 1984-07-04	Delite Sales Corporation, Aman Nagar, Tanda Road, Jalandhar City	IS : 1879 (Parts II and III)-1975
CM/L-1323534 1984-07-05	Karnataka Pressure Vessels (Pvt) Limited, Site No. 13-C, Attibele Industrial Area, Balagranahalli Village, Neralur (P.O.) Taluk Anekal, Dist Bangalore (Office: No. 20/1 Ist Floor, Silver Jubilee Park Road, Bangalore 560002)	IS : 3196-1982
CM/L-1323635 1984-07-04	Adarsh Cement Products (Pvt) Ltd, Site No. 4, Plot 4, Sahibabad Industrial Area, Ghaziabad 201005 (Office: 16 Sadhana Enclave, New Delhi 110017)	IS : 458-1971

LICENCE No. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1323736 1984-07-04	Bharat Industries, B-23 Jhilmil Industrial Area, Shahdara, Delhi 110032	IS : 8931-1978
CM/L-1323837 1984-07-04	do	IS : 8934-1978
CM/L-1323938 1984-07-04	Shambhavi Gas Gadget (Pvt) Ltd, 619/87 Village Chhatarpur, Mehrauli, New Delhi 110030	IS : 4246-1978
CM/L-1324031 1984-07-05	Viking Industries, Unit No. 7 & 12, AC Type Private Industrial Estate, Coimbatore 641021	IS : 9079-1979
CM/L-1324132 1984-07-05	National Winder Village-Dandi, G.T. Road, Near Paras, Dist Varanasi	IS : 555-1979
CM/L-1324233 1984-07-05	Marvel Engineering Industries, 4/23 Ammankulam Road, P. N. Palayam, Coimbatore 641037	IS : 6595-1980
CM/L-1324334 1984-07-05	Sanghyi Steels Limited, 12 MIDC Talaja, Dist Kolaba 410208 (Office: Mahabir Darshan, 4th Floor, M.N. Koli Marg, Bombay 400003)	IS : 1786-1979
CM/L-1324435 1984-07-05	do	IS : 226-1975
CM/L-1324536 1984-07-06	Pankaj Engineering Works, Plot No. 123, Shed No. 2 & 3. DLF Industrial Area, 14th Mile, Mathura Road, Faridabad 121003 (Haryana)	IS : 4246-1978
CM/L-1324637 1984-07-06	East India Commercial Company (Pvt) Ltd, Lesse: Sri Krishna Jute Mills, Eluru 534002 (Office: 38 Netaji Subhash Road, Calcutta 700001)	IS : 2580-1982
CM/L-1324738 1984-07-06	Rajashree Cement (A Division of the Indian Rayon Corporation Ltd), Adithya Nagar, Village Malkhead, Dist Gulbarga (Office: Industry House, 45 Race Course Road, Bangalore 560001)	IS : 269-1976
CM/L-1324839 1984-07-06	Pankaj Engineering Works, Plot No. 123, Shed No. 2 & 3, DLF Industrial Estate-I, 14th Mile, Mathura Road, Faridabad 121003 (Haryana)	IS : 4760-1979
CM/L-1324940 1984-07-06	Krishna Spun Pipe Works, 127/107 'B' Juhi, Kanpur (Office: 339 Vishnupuri, Near Thana Kohna, Kanpur)	IS : 458-1971
CM/L-1325033 1984-07-10	Lotus Pesticides, Sadri 306702, Station Falna, Dist Pali (Rajasthan)	IS : 1308-1974
CM/L-1325134 1984-07-10	Volrho Limited, Industrial Development Area, Patancheru 502319, Dist Medak (Office: 115 Park Lane, Secunderabad 500003)	IS : 8488-1977
CM/L-1325235 1984-07-10	Agro Chemicals, F-214, 215, Road No. 10, V.K.I. Area, Jaipur 302013 (Office: Special D-5 Mangal Bhawan, Chandpole, Grain Mandi, Jaipur)	IS : 1307-1982
CM/L-1325336 1984-07-10	Kilpest (Pvt) Ltd, 7-C Industrial Area, Govindpura, Bhopal (MP) 462023 [Office: Talwar House, Gandhi Medical College, Hostel Road, Bhopal 462001 (MP)]	IS : 8074-1978
CM/L-1325437 1984-07-10	Lamybag Manufactures (P) Ltd, 10 K. N. Mukherjee Road, Talpukar Barrackpur, Dist 24 Parganas (WB) (Office: 4 Gangadhar Babu Lane, Calcutta 700012)	IS : 7406 (Part II)-1980
CM/L-1325538 1984-07-04	Avon Industries, (Unit I), No. 8, 4th Cross Padarayanapura, Bangalore 560026	IS : 2509-1973
CM/L-1325639 1984-07-11	R.S. Electricals, Petlad Road, Piplag 387353 (Gujarat)	IS : 694-1977
CM/L-1325740 1984-07-11	Anchor Enterprises, Valsad-Khergam Road, Khergam (Valsad)	IS : 4615-1968
CM/L-1325841 1984-07-11	Indian Asbestos Products, Plot No. C-5, Block III, IDA, Uppal, Hyderabad 500039	IS : 1626 (Part I)-1980
CM/L-1325942 1984-07-11	Moti Electric Industries (Pvt) Ltd, 6 MIDC Industrial Area, Hingna Road, Nagpur 440016	IS : 1554 (Part I)-1976
CM/L-1326035 1984-07-11	A. K. Hosiery Mills, 9 Ramaiyah Colony, Tirupur 638602 (TN)	IS : 4964-1980
CM/L-1326136 1984-07-11	Concord Industries, Shotinganallur (Via) Perungudi, Madras 600096 (Office: 54 Justice Ramaswami Road, Kamaraj Avenue, Adyar, Madras 600020)	IS : 561-1978
CM/L-1326237 1984-07-12	Kankharrah Company Ltd, 1 Clark Ghat Road, Bhatpara, Kankharrah, Dist 24 Parganas (Office: 4 Clive Row, Calcutta 700001)	IS : 2818 (Part II)-1971
CM/L-1326338 1984-07-12	India Paint Colour & Varnish Company Ltd, 90 Prince Gulam Hassain Shah Road, Tollygunge, Calcutta 700045 (Office: 170/B/219 Lake Gardens, Calcutta 700045)	IS : 9182 (Part III)-1979
CM/L-1326439 1984-07-12	S. R. Agriculture Corporation, Bharwain Road, Hoshiarpur 146001	IS : 9020-1979
CM/L-1326540 1984-07-12	International Paint Works, Chowk Islamabad, Amritsar (Punjab) 143101	IS : 427-1965

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1326641 1984-07-12	Nidhan Industries, Mour Road, Rampura Phul 151103 (Punjab)	IS : 9020-1979
CM/L-1326742 1984-07-16	Kerala State Cooperative Rubber Marketing Federation Ltd, Crumb Rubber Factory, Chenappady, Kanjirappally 686525 (Office: Kadavanthara, Cochin 682020)	IS : 588-1977
CM/L-1326843 1984-07-16	Yatra Garments, 107 Mulli Street, Lakshmi Nagar, Tirupur 638602	IS : 4964-1980
CM/L-1326944 1984-07-16	Cenyo Gas Appliances Company, Plot No. 5/A-94, NIT Faridabad (Haryana)	IS : 4246-1978
CM/L-1327037 1984-07-16	do	IS : 4760-1979
CM/L-1327138 1984-07-16	Kosan Metal Products (Pvt) Ltd, Bombay Food Premises, Katargam, Surat 395004	IS : 3224-1979
CM/L-1327239 1984-07-16	Volrho Ltd, Patancheru 502319, Dist Medak (AP) (Office: 115 Park Lane, Secunderabad 500003)	IS : 7976-1976
CM/L-1327340 1984-07-16	Uttra Rasayan Udyog Ltd, 19-20 Industrial Area, Sikandrabad, Bulandshahr (Office: JA House, 63 Basant Lok Community Centre, Vasant Vihar, New Delhi 110057)	IS : 1824-1978
CM/L-1327441 1984-07-16	Premier Cable Company Ltd, Karukuty, P.O. Angamally, Dist Ernakulam	IS : 7098 (Part II)-1973
CM/L-1327542 1984-07-16	Mercury Rubber Mills, Rasoi 131029, Dist Sonapat (Haryana) (Office: 2/7 Desh Bandhu Gupta Road, New Delhi 110055)	IS : 1891 (Part II)-1978
CM/L-1327643 1984-07-16	Kalsi Metal Works, Kapurthala Road, Basti Bawa Khel, Jalandhar City 144021 (Office: G.T. Road (Adda Bestian), Jalandhar City 144021]	IS : 9079-1979
CM/L-1327744 1984-07-16	Steel Authority of India Limited, Bokaro Steel Plant, Bokaro Steel City 827001	IS : 10748-1984
CM/L-1327845 1984-07-16	Priyadarshni Cable Industries, 33-A, East Azad Nagar, Delhi 110051	IS : 691-1966
CM/L-1327946 1984-07-16	Ansons Electro Mechanical Works, Agadi Industrial Estate, Khot Road, Subhash Nagar, Jogeshwari (E), Bombay 400060	IS : 2148-1968
CM/L-1328039 1984-07-16	Kumar Industrial Corporation, 797 Industrial Area-B, Ludhiana 141003 (Punjab)	IS : 2640-1977
CM/L-1328140 1984-07-16	Dwekam Electrodes (Pvt) Ltd, Plot No. 33, C Sector, Industrial Area, Ratlam (Office: 198 Shrinagar Colony, Indore)	IS : 814 (Part I)-1974
CM/L-1328241 1984-07-16	Orissa Tubes (P) Ltd, Kolothigam, Dist Ganjam (Office: OSFC House, Engineering School Road, Berhampur, Ganjam)	IS : 1161-1979
CM/L-1328342 1984-07-16	Jothi Engineering Works, B-3 & 4, Industrial Estate, Madurai 625007	IS : 996-1964
CM/L-1328443 1984-07-24	International Cylinders (P) Ltd, 20 Industrial Area, Paonta Sahib 173025 (Office: Pipli Road, Kurukshetra 132118)	IS : 3196-1982
CM/L-1328544 1984-07-24	Sol Engineers Private Ltd, Survey No. 296/7/4, Poloram Village, Narasapur, Dist Medak (Office: 6-3-348 Dwarakapuri Colony, P. B. No. 76, Hyderabad)	do
CM/L-1328645 1984-07-25	Dashmesh Pipe Industries, Village & P.O. Bhanound (PB), Dist Ludhiana [Office: C/O M/S Bhajan Singh & Sons, Mandi Mullanpur (Rajkot Road) Ludhiana]	IS : 458-1971
CM/L-1328746 1984-07-26	North India Wires Ltd, 100/101, Dharmtala Road, Ghosuri, Howrah (Office: 12 Government Place East, Calcutta 700069)	IS : 3196-1982
CM/L-1328847 1984-07-26	Salem Cylinders (Pvt) Ltd, 70/2 Annadhanapatti Village, Sankagiri Main Road, Salem 636002	do
CM/L-1328948 1984-07-26	Kosan Metal Products (Pvt) Ltd, BPT Road, Mahul Chembur, Bombay 400074 (Office: 53/57, Laxmi Insurance Building, Sir P.M. Road, Bombay 400001)	IS : 9798-1981
CM/L-1329041 1984-07-26	Velayudham Oil Company, 17 G.N.T. Road, Erukkancheri, Madras 600051 (TN)	IS : 9048-1982
CM/L-1329142 1984-07-26	Rampyari Spun Pipes India, Village Soyepur, P.O. Lamhi Cantt, Varanasi (Office: J-11/66 Nai Basti, Ishwargangi, Varanasi)	IS : 458-1971
CM/L-1329243 1984-07-26	Vikas Industries, D-5 & 6 Industrial Area, Haridwar	do
CM/L-1329344 1984-07-26	Apex Steel Re-rolling Mills, 9-4-80, Nanal Nagar, II Lancer Road, Hyderabad 500008	IS : 1786-1979
CM/L-1329445 1984-07-26	Kailash Steel Rolling Mill (Pvt) Ltd, 4 Nutan Para Road, Lillooah, Howrah (Office: 26/4 Armenian Street, Calcutta 700001)	IS : 226-1975
CM/L-1329546 1984-07-26	V. K. Engineering Works, 128 Nagindas Master Road (Medos Street), Fort, Bombay 400001	IS : 325-1978
CM/L-1329647 1984-07-26	Ess Ess Kay Engineering Company (Pvt) Ltd, Factory Area, Kapurthala (Punjab)	IS : 1293-1967

LICENCE No. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1329748 1984-07-26	Gemson Enterprises, B-10/10, Group Industrial Area, Wazirpur, Delhi 110052	IS : 2082-1979
CM/L-1329849 1984-07-26	Assam Biri Factory (Pvt) Ltd, AMCO Road, P.O. Bhubri, Dist Goai para, Assam	IS : 1925-1974
CM/L-1329950 1984-07-26	Sun Dye Chem, B-35 Mayapuri Industrial Area, Phase I, New Delhi 110064	IS : 1694-1974
CM/L-1330026 1984-07-27	Harnam Singh & Company, Dehradun Road, Chutmalpur (Saharanpur) (Office: Ambala Road, Saharanpur)	IS : 458-1971
CM/L-1330127 1984-07-27	Jindal Spun Pipe Factory, Bharatpur Road, (Near COD) Mathura	do

ADDITIONAL VARIETIES OF PRODUCTS INCLUDED IN THE EXISTING LICENCES

Sl. No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-1190844	D. P. Garg & Company NOIDA, Dist Ghaziabad	IS : 1341-1981	New variety of steel butt hinges heavy weight, size 100mm included in the licence with effect from 1984-07-21
2	CM/L-1265041	Rama Steel Tubes Pvt Ltd, Sahibabad	IS : 1239(Part I)- 1979	New variety of mild steel tubes, black, screwed and socketed, classes light and medium, sizes up to and including 100mm included in the licence with effect from 1984-07-21
3	CM/L-1291547	Spencer Auto Industries Pvt Ltd, Faridabad	IS : 4246-1978	New variety of domestic gas stoves for use with liquefied petroleum gases, cast iron body, painted double burner total gas consumption 378 g/h, burner ratings 2064 kcal/h (each) included in the licence with effect from 1984-07-07
4	CM/L-1312933	Domestic Appliances, Faridabad	IS : 4246-1978	New variety of domestic gas stoves for use with liquefied petroleum gases, painted CRC sheet body, double burner, total gas consumption 333 g/h, big burner 2010 kcal/h, small burner 1608 kcal/h included in the licence with effect from 1984-07-30
5	CM/L-1324536	Pankaj Engineering Works, Faridabad	do	New variety of domestic gas stoves for use with liquefied petroleum gases, nickel/chrome plated, CRC sheet body, double burner, total gas consumption 340 g/h, big burner 2010 kcal/h, small burner 1688 kcal/h included in the licence with effect from 1984-07-30
6	CM/L-1322835	Bhushan Enterprises, (Gas Division), Sahibabad	do	New variety of domestic gas stoves for use with liquefied petroleum gases, nickel/chrome plated, CRC sheet body and painted cast iron, double burner, total gas consumption 332 g/h big burner 2064 kcal/h, small burner 1554 kcal/h included in the licence with effect from 1984-07-30
7	CM/L-1323736	Bharat Industries, Delhi	IS : 8931-1978	New variety of cast copper alloy fancy stop valve size 15mm and fancy angle stop valve size 15mm included in the licence with effect from 1984-07-21

LICENCES CANCELLED

Sl. No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-1049742	Premier Chemical Industries, Pondichery	IS : 261-1966	Cancelled with effect from 1983-05-24 as the factory has been sold

LICENCES LAPSED

Sl No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-0005212	Malabar Plywood Works, Feroke	IS : 10 (Part II)-1976	Renewal was deferred after 1984-01-31; the licence now stands lapsed after that date
2	CM/L-0006416	Assam Forest Products Pvt Ltd, Assam	do	Renewal was deferred after 1984-03-31; the licence now stands lapsed after that date
3	CM/L-0193643	Adrian Plywood Industries, Cochin	do	Renewal was deferred after 1982-12-31; the licence now stands lapsed after that date
4	CM/L-0210213	Varuna Engineering Company, Jalandhar	IS : 1729-1964	Lapsed after 1983-01-31
5	CM/L-0285244	Venkatesware Agro Chemicals and Minerals (P) Ltd, Madras	IS : 561-1978	Lapsed after 1984-04-15
6	CM/L-0294447	Tropical Agrosystems (P) Ltd, Madras	IS : 2567-1978	Lapsed after 1984-03-31
7	CM/L-0384448	Sudarshan Industries, Assam	IS : 10 (Part IV)-1976	Renewal was deferred after 1982-09-30; the licence now stands lapsed after 1983-09-30
8	CM/L-0526543	Apeejay Industries (P) Ltd, Calcutta	IS : 3749-1978	Lapsed after 1984-05-31
9	CM/L-0544040	Plant Cure Concentrates, Saharanpur	IS : 774-1971	Renewal was deferred after 1983-08-31; the licence now stands lapsed after that date
10	CM/L-0586561	Sree Aravindh Steel Pvt Ltd, Tiruchchirapalli	IS : 6915-1978	Renewal was deferred after 1984-01-15; the licence now stands lapsed after that date
11	CM/L-0595259	Sri Venkateswara Chemical Industries, Dist Kurnool	IS : 561-1978	Lapsed after 1984-03-31
12	CM/L-0596564	Tamilnadu Agro Industries Corporation Ltd, Madras	IS : 564-1975	Lapsed after 1984-03-15
13	CM/L-0599873	Bangalore Pesticides Ltd, Bangalore	IS : 7122-1973	Lapsed after 1984-03-31
14	CM/L-0631742	Haryana Dairy Development Cooperative Federation Ltd, Rohtak	IS : 1165-1975	Renewal was deferred after 1983-07-31; the licence now stands lapsed after that date
15	CM/L-0636853	Jayalakshmi Agro Chemicals, Tanuku	IS : 564-1975	Renewal was deferred after 1983-09-15; the licence now stands lapsed after that date
16	CM/L-0667157	N. T. Bethan Chettiar & Company, Coimbatore	IS : 10 (Part IV)-1976	Renewal was deferred after 1983-01-31; the licence now stands lapsed after that date
17	CM/L-0673556	Rashtriya Engineering Works, Batala	IS : 774-1971	Renewal was deferred after 1983-05-15; the licence now stands lapsed after that date
18	CM/L-0693158	Talwar Timber, Yamuna Nagar	IS : 10 (Part III)-1974	Renewal was deferred after 1983-06-15; the licence now stands lapsed after that date
19	CM/L-0761452	Venkateswara Agro Chemicals, and Minerals Pvt Ltd, Madras	IS : 7121-1973	Lapsed after 1984-04-15
20	CM/L-0772154	Jindal Steel Tubes (P) Ltd, Hyderabad	IS : 1239 (Part I)-1979	Lapsed after 1984-04-30
21	CM/L-0783866	G. R. Chemicals, Madras	IS : 261-1982	Renewal was deferred after 1983-07-15; the licence now stands lapsed after that date
22	CM/L-0791562	Hindustan Engg & Agricultural Works, Jaitu	IS : 1729-1964	Renewal was deferred after 1983-08-15; the licence now stands lapsed after that date
23	CM/L-0824248	Central India Iron and Steel Company, Indore	IS : 226-1975	Lapsed after 1983-12-31
24	CM/L-0829056	The Mysore Electrical Industries, Bangalore	IS : 2148-1968	Lapsed after 1984-01-15
25	CM/L-0840650	Shree Mahabir Steel Re-rolling Mills, Patna	IS : 226-1975	Lapsed after 1984-04-15
26	CM/L-0840751	do	IS : 1977-1975	do
27	CM/L-0843252	East India Industrial Cables, Parwanoo	IS : 694-1977	Renewal was deferred after 1983-03-15; the licence now stands lapsed after that date
28	CM/L-0848565	Mysore Insecticides Company (P) Ltd, Madras	IS : 6439-1978	Renewal was deferred after 1983-03-31; the licence now stands lapsed after that date
29	CM/L-0849668	Jindal Steel Tubes (P) Ltd, Hyderabad	IS : 1161-1979	Lapsed after 1984-03-31
30	CM/L-0866870	Sri Guru Nanak Steel Rolling Mills, Jalandhar City	IS : 1977-1975	Lapsed after 1984-05-15
31	CM/L-0890564	Sujanson Industries, Chandigarh	IS : 8249-1976	Renewal was deferred after 1983-08-31; the licence now stands lapsed after that date
32	CM/L-0897982	Swadeshi Tubes (P) Ltd, Hissar	IS : 1239 (Part I)-1979	Renewal was deferred after 1983-09-15; the licence now stands lapsed after that date

ADDITIONAL VARIETIES OF PRODUCTS INCLUDED IN THE EXISTING LICENCES

SL No.	LICENCE NO.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
33	CM/L-0912851	Metro Cable Industries, Ahmadabad	IS : 694-1977	Renewal was deferred after 1983-11-15; the licence now stands lapsed after that date
34	CM/L-0963767	Sri Guru Nanak Steel Rolling Mills, Jalandhar City	IS : 1786-1979	Lapsed after 1984-04-30
35	CM/L-0968373	Laxmi Narayana Engineering Works, Belgaum	IS : 780-1980	Lapsed after 1984-05-31
36	CM/L-1006522	Kerala Soaps & Oils Limited, Calicut	IS : 285-1974	Renewal was deferred after 1983-11-15; the licence now stands lapsed after that date
37	CM/L-1020516	Andhra Steel Corporation Ltd, Vishakhapatnam	IS : 1875-1978	Lapsed after 1983-12-31
38	CM/L-1029332	Vinay Enterprises, Indore	IS : 916-1975	Lapsed after 1984-01-15
39	CM/L-1049540	Umashankar Somani, Indore	IS : 1178-1973	Renewal was deferred after 1983-03-15; the licence now stands lapsed after that date
40	CM/L-1070632	Super Steels, Faridabad	IS : 280-1978	Renewal was deferred after 1984-04-30; the licence now stands lapsed after that date
41	CM/L-1084138	Sayer Cables & Conductors, Beawar	IS : 398 (Part I)-1976	Lapsed after 1984-05-31
42	CM/L-1095446	Auckland International Ltd, Calcutta	IS : 3667-1966	Renewal was deferred after 1984-05-31; the licence now stands lapsed after that date
43	CM/L-1105928	Vesco Products Company, Calcutta	IS : 2558-1974	Renewal was deferred after 1983-08-15; the licence now stands lapsed after that date
44	CM/L-1112319	Plant Protection Products (P) Ltd, Nellore	IS : 4323-1980	Renewal was deferred after 1983-09-15; the licence now stands lapsed after that date
45	CM/L-1127938	Sayer Cables & Conductors, Beawar	IS : 398 (Part II)-1976	Lapsed after 1984-05-31
46	CM/L-1135634	Indian Smiths (India), Faridabad	IS : 4246-1978	Renewal was deferred after 1983-11-30; the licence now stands lapsed after that date
47	CM/L-1137133	Precto Pipes, Dist Patiala	IS : 458-1971	Renewal was deferred after 1983-12-15; the licence now stands lapsed after that date
48	CM/L-1179149	S. V. Industries, Nellore	IS : 1554 (Part I)-1976	Lapsed after 1984-04-15



CORRIGENDUM

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Page 341, Certification Marks, New Licences Granted, Sl No. 20, Col 3 — Read 'IS: 204 (Part 2)-1978' for 'IS: 20 (Part 2)-1978'.

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INTERNATIONAL STANDARDS

■ ISO STANDARDS

AGRICULTURAL FOOD PRODUCTS (TC 34)

ISO 6571-1984 Spices, condiments and herbs — Determination of volatile oil content

ISO 6635-1984 Fruits, vegetables and derived products — Determination of nitrite and nitrate content — Molecular absorption spectrometric method

ISO 6638/2-1984 Fruit and vegetable products — Determination of formic acid content: Part 2 Routine method

ISO 7328-1984 Milk-based edible ices and ice-mixes — Determination of fat content — Rose-Gottlieb gravimetric method (reference method)

ISO 7386-1984 Aniseed (*pimpinella anisum linnaeus*) — Specification

ISO 7516-1984 Instant tea in solid form — Sampling

ISO 7920-1984 Sweet cherries and sour cherries — Guide to cold storage and refrigerated transport

ISO 8129/2-1984 Fruits, vegetables and derived products — Determination of alcohol-insoluble solid content: Part 2 Method for fresh or quick-frozen peas

AIRCRAFT AND SPACE VEHICLES (TC 20)

ISO 2020-1984 Aerospace — Mechanical systems parts — Preformed flexible steel wire rope for aircraft controls — Technical specification

BANKING PROCEDURES (TC 60)

ISO 7775/1-1984 Securities — Standard scheme for message types: Part 1 Receipt/delivery

BUILDING CONSTRUCTION (TC 59)

ISO 7727-1984 Joints in building — Principles for jointing of building

components — Accommodation of dimensional deviations during construction

ISO 8339-1984 Building construction — Jointing products — Sealants — Determination of tensile properties

ISO 8340-1984 Building construction — Jointing products — Sealants — Determination of tensile properties at maintained extension

CARAVANS (TC 177)

ISO 7419-1984 Leisure accommodation vehicles — Ventilation requirements

CHEMISTRY (TC 47)

ISO 6918-1984 Crude Sodium borates for industrial use — Determination of total and alkali-soluble calcium and magnesium contents — Flame atomic absorption spectrometric method

ISO 6920-1984 Crude sodium borates for industrial use — Determination of total and alkali-soluble calcium and magnesium contents — Titrimetric method

ISO 8005-1984 Carbonaceous materials used in the production of aluminium — Green and calcined coke — Determination of ash content

CINEMATOGRAPHY (TC 36)

ISO 1188-1984 Cinematography — Recorded characteristic for magnetic sound on full-coat 16 mm motion-picture film — Specification

ISO 7453-1984 Cinematography — Sound motion-picture camera cartridge, 8 mm type S model II — Cartridge-camera fit and take-up core drive — Dimensions and specifications

ISO 7454-1984 Cinematography — Sound motion-picture camera cartridge 8 mm type S model II — Camera run length and end notches in film — Dimensions and specifications

ISO 7455-1984 Cinematography —

Sound motion-picture camera cartridge, 8 mm type S model II — Slots and projection for film speed, cartridge hole and projection for film identification and colour-balancing filter — Dimensions and positions

ISO 7456-1984 Cinematography — Sound motion-picture camera cartridge, 8 mm type S model II — Film load position

ISO 8001-1984 Cinematography — Underexposed motion-picture film requiring forced development — Designation method

COMPUTERS AND INFORMATION PROCESSING (TC 97)

ISO 1538-1984 Programming languages — ALGOL 60

ISO 7487/3-1984 Information processing — Data interchange on 130 mm (5.25 in) flexible disk cartridges using modified frequency modulation recording at 7 958 ftprad, 1, 9 tpm (48 tpi), on two sides: Part 3 Track format B

CONTINUOUS MECHANICAL HANDLING EQUIPMENT (TC 101)

ISO/TR 8435-1984 Continuous mechanical handling equipment — Safety code for belt conveyors — Examples for protection of pinch points on idlers

DOCUMENTATION (TC 46)

ISO 5428-1984 Greek alphabet coded character set for bibliographic information interchange

ESSENTIAL OILS (TC 54)

ISO 1279-1984 Essential oils — Determination of carbonyl value — Hydroxylammonium chloride method

ISO 4724-1984 Oil of cedarwood, Virginia (*Juniperus virginiana* Linnaeus)

ISO 4729-1984 Oil of pimento leaf

(Pimenta dioica 'Linnaeus' Merrill)

FASTENERS (TC 2)

ISO 4775-1984 Hexagon nuts for high-strength structural bolting with large width across flats — Product grade B — Property classes 8 and 10

ISO 7413-1984 Hexagon nuts for structural bolting, s type 1, hot-dip galvanized (oversize tapped) — Product grades A and B — Property classes 5, 6 and 8

ISO 7414-1984 Hexagon nuts for structural bolting with large width across flats, s type 1 — Product grade B — Property class 10

ISO 7415-1984 Plain washers for high-strength structural bolting, hardened and tempered

ISO 7416-1984 Plain washers, chamfered, hardened and tempered for high-strength structural bolting

FERROALLOYS (TC 132)

ISO 7087-1984 Ferroalloys — Experimental methods for the evaluation of the quality variation and methods for checking the precision of sampling

FERTILIZERS AND SOIL CONDITIONERS (TC 134)

ISO 7497-1984 Fertilizers — Extraction of phosphates soluble in mineral acids

LABORATORY GLASSWARE AND RELATED APPARATUS (TC 48)

ISO 695-1984 Glass-resistance to attack by boiling aqueous solution of mixed alkali — Method of test and classification

LIGHT METAL CONTAINERS (TC 52)

ISO/TR 8610-1984 Light gauge metal containers — Round venthole cans with soldered ends for milk and milk products — Capacities and related diameters

LIMITS AND FITS (TC 3)

ISO 8062-1984 Castings — System of dimensional tolerances

MACHINE TOOLS (TC 39)

ISO 2407-1984 Acceptance conditions for internal cylindrical grinding machines with horizontal spindle — Testing of accuracy

ISO 2433-1984 Acceptance conditions for external cylindrical grinding machines with a movable table —

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Testing of accuracy

ISO 4703-1984 Acceptance conditions for surface grinding machines with two columns — Machines for grinding slideways — Testing of accuracy

MANGANESE AND CHROMIUM ORES (TC 65)

ISO 4298-1984 Manganese ores and concentrates — Determination of manganese content — Potentiometric method

ISO 5997-1984 Chromium ores and concentrates — Determination of silicon content — Molecular absorption spectrometric method and gravimetric method

MECHANICAL CONTRACEPTIVES (TC 157)

ISO 4074/8-1984 Rubber condoms: Part 8 Determination of mass

MECHANICAL VIBRATION AND SHOCK (TC 108)

ISO 7475-1984 Balancing machines — Enclosures and other safety measures

PAINTS AND VARNISHES (TC 35)

ISO 1514-1984 Paints and varnishes — Standard panels for testing

ISO 3856/2-1984 Paints and varnishes — Determination of 'soluble' metal content: Part 2 Determination on antimony content — Flame atomic absorption spectrometric method and rhodamine B spectrophotometric method

ISO 3856/3-1984 Paints and varnishes — Determination of 'soluble' metal content: Part 3 Determination of barium content — Flame atomic emission spectrometric method

ISO 3856/4-1984 Paints and varnishes — Determination of 'soluble' metal content: Part 4 Determination of cadmium content — Flame atomic absorption spectrometric method and polarographic method

ISO 3856/5-1984 Paints and varnishes — Determination of 'soluble' metal content: Part 5 Determination of hexavalent chromium content of the pigment portion of the liquid paint or the paint in powder form — Diphenyl-carbazide spectrophotometric method

ISO 3856/6-1984 Paints and varnishes — Determination of 'soluble' metal content: Part 6 Determination of total chromium content of the liquid portion of the paint — Flame atomic absorption spectrometric method

ISO 7252-1984 Paints and varnishes

— Determination of total mercury —
— Flameless atomic absorption spectrometric method

ISO 7542-1984 Ground (powdered) paprika (capsicum annum linnaeus) — Microscopical examination

PHOTOGRAPHY (TC 42)

ISO 3028-1984 Photography — Camera flash illuminants — Determination of ISO spectral distribution index (ISO/SDI)

PLASTICS (TC 61)

ISO 1628/1-1984 Guidelines for the standardization of methods for the determination of viscosity number and limiting viscosity number of polymers in dilute solution: Part 1 General conditions

ISO 4898-1984 Cellular plastics — Specification for rigid cellular materials used in the thermal insulation of buildings

PLASTICS PIPES, FITTINGS AND VALVES FOR THE TRANSPORT OF FLUIDS (TC 138)

ISO 7245-1984 Pipes and fittings of acrylonitrile — butadiene-styrene (ABS) — General specification for moulding and extrusion materials

ISO 7246-1984 Pipes and fittings of acrylonitrile / styrene / acrylester (ASA) — General specification for moulding and extrusion materials

ISO 7279-1984 Polypropylene (PP) fittings for pipes under pressure — Sockets for fusion using heated tools — Metric series — Dimensions of sockets

ROAD VEHICLES (TC 22)

ISO 3842-1984 Road vehicles — Fifth wheel mounting

ISO 7399-1984 Road vehicles — Motorcycles — ac flasher units

ISO 7400-1984 Road vehicles — Mopeds — ac flasher units

ISO 7774-1984 Road vehicles — Compression ignition engines — Single fuel filters with horizontal flange and centre bolt fixing — Mounting and connecting dimensions

ISO 8027-1984 Road vehicles — Air filter elements for passenger cars — Types P and R — Dimensions

ISO 8356-1984 Road vehicles — Diesel engines — Screw-in injector, type 22

ROLLING BEARINGS (TC 4)

ISO 1224-1984 Rolling bearings — Instrument precision bearings

**ROUND STEEL LINK CHAINS,
CHAINS WHEELS, LIFTING
HOOKS AND ACCESSORIES
(TC 111)**

ISO 7595-1984 Socketing procedures for wire ropes — Molten metal socketing

**RUBBER AND RUBBER
PRODUCTS (TC 45)**

ISO 3386/2-1984 Polymeric materials, cellular flexible — Determination of stress-strain characteristic in compression : Part 2 High density materials

ISO 4645-1984 Rubber and rubber products — Guide to the identification of antidegradants — Thin layer chromatographic methods

ISO 6807-1984 Rubber hoses and hose assemblies for rotary drilling and vibration applications — Specification

SEWING MACHINES (TC 148)

ISO 4817-1984 Household sewing machines — Determination of directional stability (drift)

ISO 4818-1984 Household sewing machines — Determination of creep of one ply of material over another

SMALL TOOLS (TC 29)

ISO 3002/3-1984 Basic quantities in cutting and grinding : Part 3 Geometric and kinematic quantities in cutting

SOLID MINERAL FUELS (TC 27)

ISO 7404/1-1984 Methods for the petrographic analysis of bituminous coal and anthracite : Part 1 Glossary of terms

ISO 7404/3-1984 Methods for the petrographic analysis of bituminous coal and anthracite : Part 3 Method of determining maceral group composition

STEEL (TC 17)

ISO 4964-1984 Steel — Hardness conversions

TEXTILES (TC 38)

ISO 105/4-1984 Textiles — Tests

for colour fastness : Part 4 General principles

**TEXTILES MACHINERY AND
ALLIED MACHINERY AND
ACCESSORIES (TC 72)**

ISO 1036-1984 Textile machinery — Dyeing and finishing machines — Definition of left and right sides

**TRACTORS AND MACHINERY
FOR AGRICULTURE AND
FORESTRY (TC 23)**

ISO 5353-1978/Amend 2-1984 Earth-moving machinery — Seat index point — Amendment 2

ISO 7182-1984 Acoustics — Measurement at the operator's position of airborne noise emitted by chain saws

WATER QUALITY (TC 147)

ISO 7875/1-1984 Water quality — Determination of surfactants : Part 1 Determination of anionic surfactants by the methylene blue spectrometric method

■ OBITUARY



Dr Ake T. Vrethem (72), a former President of the International Organization for Standardization (ISO) (1974-76), died recently after a short illness. Before being elected ISO President, he was Chairman of the Board of SIS, the Swedish member body of ISO, for ten years. He had then taken an active part in the promotion of standardization at international level as Swedish delegate to meetings of the International Electrotechnical Commission (IEC) and as Chairman of several committees dealing with electrotechnical subjects. During his tenure as ISO President, Dr Vrethem took special interest in furthering collaboration between ISO and IEC. His efforts in that respect resulted in the signing, in 1976, of a new ISO/IEC

general agreement which states that the two organizations complement each other and together form a system for international standardization as a whole. In his contacts within the International Chamber of Commerce and with high-level representatives of transnational industries he advocated the need for industry to strongly support the international work of ISO and IEC.

Dr Vrethem had visited India in 1974 when he highlighted ISO's role in promoting international trade and called upon developing nations to take greater interest in the deliberations of its various committees to take full advantage of the facilities for exchange of technical expertise offered by it.

NEW ISI MEMBERS

■ SUSTAINING MEMBERS

PATNI BROTHERS PRIVATE LIMITED, 22/1 SNEH-LATAGANJ, INDORE 452003 — Manufacture ac pressure pipes (heavy and light duty) and deal in asbestos and other varieties of joints; are equipped with the necessary facilities for checking the quality of the above mentioned products which are supplied all over Madhya Pradesh.

PULLANGODE RUBBER & PRODUCE COMPANY LTD, PULLANGODE ESTATE, KALIKAVU, NEAR NILAMBUR, DIST MALAPPURAM (KERALA) — Manufacture concentrated latex and sheets, also a mini unit to manufacture special grade is nearing completion.

RAASI CEMENT LIMITED, POST BOX NO. 1805, 1-10-125 ASHOK NAGAR, HYDERABAD 500020 — Established in 1979 by a group of qualified and experienced professionals the 0.3 million tonnes per year cement plant is now under expansion to achieve a total capacity of 1.1 million tonnes per year; with excellent industrial relations, the factory has been working around 125 percent of its rated capacity without losing even a single man-day.

USHA AUTOMOBILE & ENGINEERING LTD, 2 RAMGOPAL GHOSH ROAD, CALCUTTA 700002 — Incorporated in 1945, the company is a leading manufacturer of quality automobile accessories, window regulators, door locks, dicky and door handles, locking devices, metal profiles, glass-run channels, silencers, pipes, seats, etc, for passenger and commercial vehicles; its products are being supplied as original equipment to most of the Indian vehicle manufacturers and the replacement market. Facilities for tool design and fabrication, pressure die casting, electroplating, press shop, machine shop, assembly, cold roll forming, rubber extrusion, spring making, etc, are available.

■ ASSOCIATE MEMBERS

KAJARIA CASTINGS PVT LTD, 8 CAMAC STREET (6TH FLOOR), CALCUTTA 700017 — A Government recognized eligible export house, exports cast iron products to USA; has also won EEPIC's All India Level Top Exporters Shield for 1982-83 for Merchant-Exporter category.

KALIND PRESSINGS & PRODUCTS PVT LTD, P.O. BOX NO. 1, PLOT NO. 30A, SIPCOT INDUSTRIAL COMPLEX, HOSUR, DIST DHARMAPURI, TAMIL NADU 635126 — A medium scale private limited company registered with DGTD for the manufacture of tie rod drag link assembly. It commenced supplies in 1983, and concentrates on requirements of Original Equipment; also plans to cater to spare parts market.

KELTRON ENTERTAINMENT SYSTEMS LTD, T.C. 24/1211, THYCAUD P.O., TRIVANDRUM 695014 — Engaged in the manufacture of 2, 3 and 4 band portable and table transistor radios with brand names 'Keltron Kalpaka',

'Kranti', 'Kamini AC-DC', 'Kartika', 'Kadambari', 'Kavita' and 'Kanchana'; stereo auto cassette player, stereo cassette tape decks; stereo amplifiers of 15+15W and 40+40W; public address amplifiers of 40W; and road traffic signal controllers, models TC-I, TC-II and TC-III; have recently introduced microprocessor-based version of traffic signal controllers, model 'VERSA TMS'.

KELTRON RECTIFIERS LIMITED, KELTRON HOUSE, VELLAYAMBALAM, TRIVANDRUM 695001 — Manufacture rectifier diodes from 3 to 375 A with reverse voltage of 100 to 1800 volts.

KERA SINTER LTD, 5E 'SUBHODAYA', YMCA LANE, HYDERABAD 500001 — An Indo-German joint venture with APIDC, it plans to manufacture 14 000 tonnes per annum of sintered glazed and non-glazed tiles under a licence from Kerabedarf (West Germany) at Bibnagar, District Nalgonda from early 1985. A professionally managed company, it has an eye on rigid quality control, technological innovations and consumer satisfaction.

MAHAVIR MANUFACTURING COMPANY, 19 KIBE COMPOUND, INDORE 452001 — Manufacture head acid batteries for motor vehicles in their factory fully equipped with the necessary equipment; also supply the batteries to the ordnance factory at Itarsi.

MAN-JOB BUILDERS, 16/16-1, LALBAGH ROAD, BANGALORE 560027 — Started in 1983, they have taken up a number of construction works from private parties and public institutions; one of their major works comprises a school building and a residential building at a total cost of about Rs 2.2 millions; they have the necessary knowhow and construction machinery like mixers, vibrators, steel shutters, and pumpsets.

MATERIAL MOVEMENT, B-107 OKHLA INDUSTRIAL AREA, PHASE I, NEW DELHI 110020 — Engaged in the manufacture of crushers, screens, belt conveyors and allied material handling systems, they offer services right from the concept stage to design, execution, and erection and commissioning.

M. L. MOITRA & BROS, 61 MCLEOD STREET, CALCUTTA 700017 — Electrical engineers, contractors and consultants for various types of coal and ash handling plants, they also undertake electrical contracts for erection and commissioning of equipment of steel, oxygen and cement plants on turnkey basis.

M. P. PACKAGING COMPANY, E-14 SAKET, INDORE 452001 — Manufacture corrugated and printed cartons with up-to-date testing and manufacturing facilities under one roof; have also undertaken new developments in packaging.

MUKESH METAL BOX COMPANY, MAVDI PLOT, RAJKOT 360004 — Manufacture tin container for 15 kg and 18 litre square tins and 1, 2, 5, 8 and 10 kg square tins for *shudhi ghee*.

NAINITAL POLYTECHNIC, NAINITAL — Established in 1957, it conducts 3-year diploma courses in civil, electrical and mechanical engineering as well as electronics; also conducts a 2-year diploma course in commercial practice.

PACE EQUIPMENT PVT LTD, 2 RUBY APARTMENT, SIR MATHURADAS VASANJI ROAD, ANDHERI (E), BOMBAY 400069 — Manufacture heat exchangers (including after-coolers, intercoolers and oilcoolers), pressure vessels, and chemical equipment.

POYLAKADA FISHERIES PVT LTD, PARAMESWAR NAGAR, QUILON 691001 — Established in 1974, export marine products and cashew.

RALLIS INDIA LIMITED, PALGHAT 678625 — Formulate different types of insecticides and pesticides and serve the farmers in combating insects and pests; have organized a network of sales and meet the seasonal and timely needs of agricultural industry with good quality pesticides.

REGAL IRON AND STEEL WORKS, 38 KIBE'S COMPOUND, INDORE 462001 — Manufacture quality rolling shutters; also deal in steel windows, section windows, flexible gates and connected fabricated items.

RISING STAR CONSULTANCY, 664 PARMANAND COLONY, DELHI 110009 — Engaged in providing professional services to new entrepreneurs in the fields of creating data centres/data base required for studying/evaluating various projects, providing instant and up-to-date information to new entrepreneurs; undertaking market studies/market surveys on selected items; and identifying import substitution and export-oriented projects.

ROOF SEAL (MADRAS) PVT LTD, 564/1 VANAGRAM ROAD, ATHIEPET, AMBATTUR, MADRAS 600058 — Manufacture bituminous water-proof roofing felts based on hessian, paper, fibreglass tissue and polyester resin tissue.

SAGAR MANUFACTURERS, NEAR ASHOK MACHINE TOOLS, MAVDI PLOT, RAJKOT 360004 — Manufacture diesel engines.

SHREE NITYANAND STEEL ROLLING MILLS, KOTWAL WADI, NERAL, DIST RAIGADH (MAHARASHTRA) — Manufacture and re-roll mild steel and special steel rounds, squares, flats, and hexagonal bars, sections and CTD bars.

SUSHMA & COMPANY, 84 MIDC, ROAD NO. 15, MAROL, ANDHERI (EAST), BOMBAY 400093 — Manufacture tubular

sheathed heating elements, kitchen equipment and control panels; specialize in erection, installation and repair of electrical and electronic equipment on board warships, merchant ships and in hotels.

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ROCKFORT PAINTS & CHEMICALS, 414 KAMARAJ STREET, K.K. NAGAR, TRICHY 620021 — Manufacture quality industrial and domestic paints, fire-retardant paints, insulating varnishes, rust-preventive chemicals and allied paint chemicals under the brand name 'Rockfort'.

RUCHIKA CABLES, RUCHIKA HOUSE, 2346 BAZAR CHITLI QABAR, JAMA MASJID, DELHI 110006 — Manufacture cables.

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ISI BULLETIN

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been formulated for staplers and
staples (see also page 45).

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EDITORIAL

A New Framework for Consumer Protection

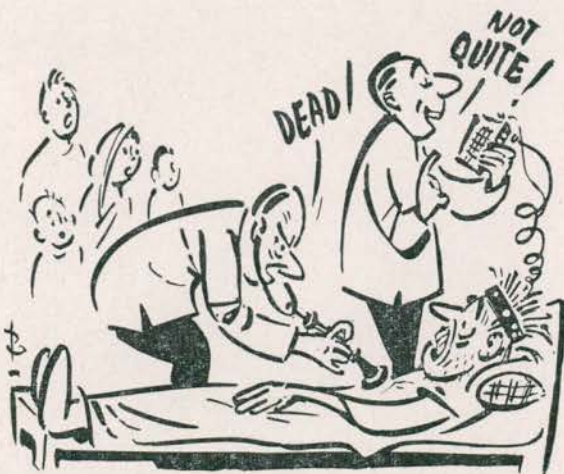
■ The proliferation of substandard and adulterated goods reflects the temptations which are induced by supply shortages and consumer ignorance. Legal sanctions may be of limited impact immediately but their absence will enlarge the dimensions of the menace beyond endurance. The recommendation of the Law Commission towards assuring the protection of consumer interest through writing into the law specific safeguards in respect of the quality of goods supplied is a welcome beginning. But the protection that is sought to be made available will not measure up to much unless there is standardization at all the points between the source of production and the last retail distribution outlet. The advisory councils which the Law Commission wishes to be set up at different levels can serve to monitor the quality of the goods which are marketed. The effectiveness of this instrument hinges on the type of support it gets not only from government agencies and industry but also from the public at large. This is an area where politicisation of any kind — which is how vested interest always gets to be built up — should be pointedly rejected.

All this might well turn out to be a partial remedy of very limited benefit to the consumer. This is because adulteration derives its strength from the lacunae in testing and inspection on the one hand and consumer impatience for getting what he wants on the other. The number of laboratories for testing crucial items like food samples is too small for the needs of the massive economy. This has resulted in the secondment of less than optimal skills for doing what are really high-skilled jobs. Most of the work here has to be attended to by the local or municipal authorities. They do not have the resources for setting up and staffing the type of testing laboratories which the community requires. The present situation is that the consumer, even if he is knowledgeable about his rights, is not able to avail himself of the protection which the laws relating to the prevention of adulteration and the sale of substandard goods are supposed to offer. At the time of the organization of the vocational stream under the plus two educational pattern and also when the degree curricula were attempted to be restructured for providing socially productive courses of study, no worthwhile programme came into being for formulating such courses. Nor have the State administrations done much by way of establishing the supportive arrangements for training their inspection staff. Because of all this, the anti-adulteration drive is in the charge of the paramedical or sanitation personnel who cannot handle the job. What is required in these circumstances is the organization of an adequate cadre of trained personnel. The consumers for their part should cooperate as active participants in the consumer movement, being vigilant against adulteration and demanding on quality of the products.

NORMS AND VALUES

When Does a Person Die?

Saints and sages have been obsessed with the idea of death since time immemorial and have looked at it from different angles in all periods and countries of the world. In fact, death has been a major talking point in all religions just as it has intrigued medical men from time to time. Yet, in spite of the many philosophical and other treatises on the subject, one thing that still remains beyond universal agreement is the very definition of death. For instance, a person is taken as dead in the United States and Great Britain if he suffers from 'brain death' while in India the law is said to be silent on this point. As a result, a person declared dead under the law in the United States may still be considered alive in India.



According to the United States Uniform Determination of Death Act, an individual is dead if he or she has sustained an irreversible cessation of circulatory and respiratory functions, or of all the functions of the entire brain, including the 'brain stem'. Similarly, a person is declared dead in Britain when his or her brain fails to respond to certain clinical tests. In India, a person can be declared dead only when there is an irreversible cessation of circulatory and respiratory functions.

This was stated by Shri M. R. Masani, President of the World Federation of Right-to-Die Societies, while addressing the World Congress on Law and Medicine held recently, according to a report published in the National Herald (27 February 1985).

Another participant, Lt-Col H. N. Skukla, Senior Anaesthesiologist, Command Hospital, Lucknow, suggested that a person might be pronounced dead if, based on the usual and customary standards of medical practices, it is determined that the person has had an irreversible cessation of cerebral cardiac and pulmonary functions. Besides, a person could be declared dead if, having suffered from irreversible structural brain damage, his or her bodily functions cannot be maintained without continuous artificial support provided the diagnosis of 'brain death' is based on the diagnostic criteria as agreed to by the Conference of Medical Royal Colleges and their faculties (of United Kingdom) in 1976.

Isn't it time concerned standards engineers brought together experts — both medical and otherwise — to thrash out this perennial problem?



Teaming for Success

'Where there is sound standardization activity, there will be good team spirit in the organization', says BHEL Standard (Vol 2; No. 2; 1983) quoting a senior officer of Bharat Heavy Electricals Ltd (BHEL). This is as it should be, for the consensus principle adopted in finalizing standards presupposes a certain amount of cooperation among participating experts and a measure of collective decision-making. Organizing the committee, pooling the expertise and consulting the various individuals (in person or through correspondence) are routine activities of a standards-making department all of which help in building up team spirit. More and more modern organizations are realizing today that 'team spirit' is the key to success. Obviously, the next logical step is . . . STANDARDS.



CONSUMER NEWS

STAPLER THAT WORKS

Struggling with a stapler in an attempt to bind together a bunch of papers is a common sight in all offices and establishments. Frustration takes over when a magazine of staples does not fit in the channel of the stapler. And, even if it does, the staple wire may not be of the right diameter and may, therefore, jam the staple driver. When this hurdle has been crossed, one is still not sure whether the wire ends will properly clinch or whether the papers to be bound will come out undamaged in the end. There are also instances of the stapler going out of order after a few operations, or as a result of failure of its spring or pusher or on its accidental dropping on the floor. All this not only results in wasteful purchase but also irritates the user, induces fatigue and lowers his efficiency.

To help manufacturers produce staplers and staples of the desired quality and overcome the problems faced by the consumers, the Indian Standards Institution has laid down standards for staplers (IS : 5349-1969) as well as staples (IS : 5348-1981). The Standard for staplers, which covers both desk

type and plier type staplers, specifies their functional requirements relating to binding and durability besides the material to be used and their size and surface finish. For springs, the Standard specifies a specific quality of steel to eliminate their failure during operation. It also prescribes a shock test which requires the stapler to remain undamaged on being dropped from a height of 90 to 100 cm in different positions on a concrete floor or slab. Another test specified in the Standard requires the staplers to provide satisfactory stapling of a prescribed number of sheets of 50 g/m² white printing paper over 3 000 to 30 000 operations depending on the type of stapler. The complementary specification for staples prescribes, apart from performance requirements like holding power and the desired clinch, details about the material to be used and shape and dimensions of the staples, these requirements being critical for compatibility with the standard stapler. To ensure that the staples don't get rusted, a corrosion resistance test which requires the staples to remain unrusted after 5 hours' dipping in 5 percent sodium chloride solution has been specified.

Wider adoption of standards on staples and staplers

by the industry is sure to take the sting out of the routine, yet arduous, job of stapling papers. A welcome beginning has already been made in this direction, with the taking up of an ISI Certification Marks licence for staples by a Hyderabad firm. Hopefully, this lead will be followed by other manufacturers of staples and staplers in the country, thereby making the stapling of papers a smooth and satisfying experience.



QUALITY CASHEWNUTS

Cashewnuts are a favourite Indian savoury snack. They are not only consumed within the country but also have a large export market, the major importing countries being the USA, the USSR, Australia and those situated in Western Europe. Available as roasted or fried, plain or salted, coated with spice or sugar, they can be bought in bulk and stored for use, when necessary.

To ensure the supply of quality cashewnuts to the consumer, the Indian Standards Institution has laid down requirements and methods of sampling and test for seasoned, spiced and sweetened cashewnuts

(IS : 10619-1983), both roasted and fried. The Standard prescribes that cashewnuts should be crisp and wholesome and have the roasted nutty flavour characteristic of them. The heat-treatment given to cashewnuts should not result in excessive burning or charring and the product should be free from rancid or other undesirable flavour. They should also be free from insect residues, rodent hair and excreta, fungal infection, objectionable odour and rancid taste. Use of artificial colour or flavour is not permitted. To ensure that cashewnuts have a good shelf life, the maximum permissible limits for moisture and acidity of extracted fat have been prescribed.

The Standard also requires the cashewnuts to be packed under hygienic conditions in flexible food grade pouches, or in sealed tins with or without vacuum or inert gas like carbon dioxide or nitrogen. Each container should be marked with information regarding the manufacturer's name, type of material, batch or code number, net mass, and sugar content in the case of sugar-coated cashewnuts. If antioxidants have been used, this fact should also be stated.

NAM Group of Meetings in the Sphere of Standardization, Measurement and Quality Control

India Assumes Chairmanship of the Coordinating Countries and Experts Group of NAM

■ India assumed the responsibility of chairmanship of the Coordinating Countries and the Experts Group of the Non-aligned Movement (NAM) in the Sphere of Standardization, Measurement and Quality Control (SMQC) for the next two years at the meetings held in New Delhi during 23-31 January 1985. The meetings included Second Meeting of NAM Group of Experts (30-31 January 1985); Fifth Meeting of Coordinating Countries (28-29 January 1985); One-day Workshop on Standardization and Quality Assurance (25 January 1985); Second Meeting of Functional Group 3 Metrology and Functional Group 4 Financing of Programmes, Investments and Advice (24 January 1985); and Second Meeting of Functional Group 1 General Problems, Standardization, Information, Promotion and Upgrading of SMQC and Functional Group 2 Quality Control and Quality Certification (23 January 1985).

These meetings were attended by some 40 delegates from 25 NAM and other developing countries. The main achievement of these meetings was the development of a time frame for effective implementation of the Action Programme for Cooperation.

FLASHBACK

The Non-aligned Movement has recognized standardization not only as a vehicle for technology transfer but also as a vital link in international trade and a means for achieving a faster pace of industrialization by bringing harmony and economy in production besides acting as an instrument for stimulating and promoting better relations among NAM countries.

Recognizing the important role played by SMQC in the process of industrialization, transfer of technology and industrial cooperation among developing countries, the Foreign Ministers of Non-aligned Countries at their meeting in New Delhi in 1981 established a Group of Coordinating Countries comprising Cuba, India and Yugoslavia for working out proposals for a Programme of Action in this

field to be adopted by the Seventh Summit Conference of the Movement. The Group was subsequently enlarged to include Korea DPR, Nicaragua and Iraq.

The Coordinating Countries and Experts of Non-aligned Movement on SMQC thereafter formulated an action programme which conceived areas of cooperation in this sphere covering conduct of research; formulation of common strategy for effective participation at the international level; exchange of experience and technical information; organization of technical assistance, training and help in the establishment and improvement of national systems; harmonization of national standards; and evolution of a unified strategy for prevention and removal of technical barriers to trade.

The Seventh Summit Conference held in New Delhi under the chairmanship of India recognized standardization as an important component of progress and prosperity of non-aligned nations, endorsed the action programme finalized by the Coordinating Bureau and urged speedy and time-bound implementation of the Programme of Cooperation in this field.

Meanwhile, the Coordinating Countries held their second meeting in New Delhi where formation of functional groups to implement some of the important elements of the action programme was mooted. During the third meeting, the terms of reference of four functional groups were delineated and their objectives defined. But these activities gained momentum after the Seventh Summit held in New Delhi in 1983.

In keeping with the mandate of the Seventh Summit Conference, the Coordinating Countries constituted four functional groups which formed the nucleus for in-depth study of elements of economic cooperation. These functional groups later held meetings and adopted action plans in their respective areas.

India has taken very active part in the formulation of the Action Programmes and as a member of Coordinating Countries provided detailed proposals on action plans for each

functional group. The testimony of India's involvement is that the convenership of Functional Groups 2 and 3 has been assigned to it.

DELIBERATIONS

The Meeting of Experts Group held during 30-31 January 1985 was inaugurated by the Union Minister for Food and Civil Supplies, Rao Birendra Singh on 30 January 1985. Addressing the participants, the Minister traced the history of Non-aligned Movement and said that pooling of resources of the member countries would go a long way in achieving collective self-reliance and economic prosperity to establish a new international economic order. He added that, in keeping with the mandate of the Seventh Summit Conference for speedy and time-bound implementation of the action programme for cooperation in the sphere of SMQC, the Experts Group should consolidate its efforts so that elements of the action programme could be implemented expeditiously.

The meeting of the Coordinating Countries held during 28-29 January 1985 and the Workshop on Standardization and Quality Assurance held on 25 January 1985 were inaugurated by Prof S. Sampath, Director, Indian Institute of Technology (IIT), Kanpur and Vice-President, ISI. Prof Sampath stressed the importance of standardization as a tool for mutual cooperation and for solving economic and social problems by reducing multiplicity of efforts to bring down cost. Highlighting the significance of exchange of scientific and technical information, and sharing of experience amongst NAM countries in the field of SMQC, he said that international standards reflected, to a large extent, the interests and technological capabilities of developed nations and they were often not compatible with the conditions prevailing in most developing countries.

The meetings of the four functional groups were inaugurated by the Secretary, Ministry of Food and Civil Supplies, Shri M. Subramanian, who called for sharing of experience and

attend meetings of ISI Technical Committees for a first-hand experience of their working. The workshop sessions helped the participants exchange their experience among themselves and appreciate the various aspects of formulation of standards. Visits to industrial establishments and testing organizations in Delhi and other cities gave them an idea of the practical application of standards in different spheres of industrial activity.

On the successful completion of the Training Programme, the participants were awarded certificates on 31 January 1985 by Shri Sinha who impressed upon them the need for spreading the message of standardization with greater vigour in their respective countries. He was happy to note that feedback from the participants indicated that they had gained a good deal from India's experience as the problems encountered by other developing countries were similar to those faced by India.

Earlier, summing up the proceedings of the Programme, Dr B. N. Singh said that the participants had submitted



Addressing the valedictory function (from left): Shri B. K. Sinha, Director General, ISI; Dr B. N. Singh, Additional Director General, ISI; and Mr Fikri Ibrahim Mahmood, a participant from Iraq

reports covering different aspects, such as project work, draft standards prepared as a group activity, exchange of experience and selected topics of special interest to them. These reports, he hoped, would prove useful in recapitulating in future the technical knowledge acquired by the participants in the Training Programme.

Speaking on behalf of the participants, Mr Fikri Ibrahim Mahmood (Iraq), Mr Samson Tadesse (Ethiopia), Miss Amphan Srimekanond (Thailand) and Mr Leandry Kinabo (Tanzania) complimented ISI on the successful conduct of the Programme and said that they had immensely been benefited from it.



Shri B. K. Sinha (extreme left) giving away certificates to the trainees: Mrs Sumartini Maksum (Indonesia), Mrs Manichanh Thammavong (Laos PDR), Mr Dinh Van Nghi (Vietnam), Mr Leandry Kinabo (Tanzania), Mr Thongthavy Phengdy (Laos PDR), and Mr Kim Hyun Il (Republic of Korea)

PARTICIPANTS

Mr Naqibullah (B.Sc. Industrial Chemistry), Member of Norms & Standards Department, Kabul (Afghanistan).

Mr Ciro Rogelio Gomez Gil (Diploma of Physical Licentiate and Post-grade Certificate in Dimensional Metrology), Chief, Metrological Research Laboratory, Electrotechnical Measurement, Institute for Metrological Researches (INIMET), Havana (Cuba).

Mr Samson Tadesse (B.Sc. Animal Sciences), Assistant Nutritionist, Ethiopian Standards Institution, Addis Ababa (Ethiopia).

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Mrs Sumartini Maksum (Degree in Biology), Staff of Sub-Directorate of Industrial Products, Directorate of Standardization and Quality Control, Jakarta, Pusat (Indonesia).

Mr Fikri Ibrahim Mahmood (B.Sc. Industrial Chemistry), Senior Chemist, Central Organization for Standardization & Quality Control (COSQC), Baghdad (Iraq).

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Mr Thongthavy Phengdy (Engineering—Food Processing and Conserving), Deputy Chief of Technical Division, Department of Light Industry, Ministry of Industry, Vientiane (Laos PDR).

Mr Abdul Rahim Bin Samin (B.Sc. Biology and Animal Morphogenesis), Research Officer, Standards & Industrial Research Institute of Malaysia, Selangor (Malaysia).

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Mrs Maliika Rani Kayastha (Diploma in Education), Publication Officer,

Nepal Bureau of Standards, Kathmandu (Nepal).

Mr Leandry Kinabo (B.Sc. Chemistry and Physics), Standards Officer, Tanzania Bureau of Standards, Dar-es-Salaam (Tanzania).

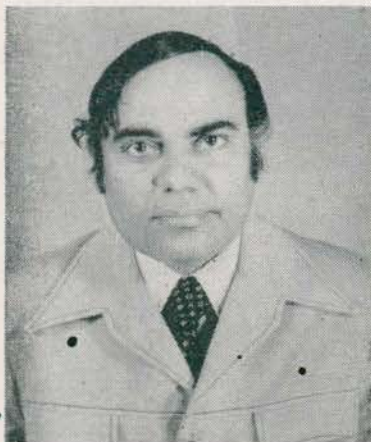
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Mr Dinh Van Nghi (Diploma in Engineering—Food Technology), The General Department for Standardization, Metrology and Quality Control, Hanoi (Vietnam).



Another group of trainees receiving certificates at the conclusion of the Training Programme Mr Abdul Rahim Bin Samin (Malaysia), Mr Fikri Ibrahim Mahmood (Iraq), Mr Ciro Rogelio Gomez Gil (Cuba), Mr Samson Tadesse (Ethiopia), Mr Nguyen Van Thai (Vietnam), and Mr Fauzi Yazid (Indonesia)



DR B. N. SINGH ELECTED CHAIRMAN OF GATT COMMITTEE

■ Dr B. N. Singh, Additional Director General, ISI, was unanimously elected Chairman of the International Committee on Technical Barriers to Trade at a recent meeting held in Geneva.

The Committee has been set up under the General Agreement on Tariffs and Trade (GATT) to reduce or eliminate technical barriers to trade. It ensures that technical regulations and standards, including packaging, marking and labelling requirements, and methods for certifying conformity with technical regulations and standards, neither create unnecessary obstacles to international trade nor discriminate against the products of any country. The Committee also encourages and promotes measures to assist developing countries in the application of technical regulations and standards.

STANDARDS NEWS

NATIONAL SEMINAR ON STRATEGIES FOR VENDOR DEVELOPMENT, HYDERABAD

The National Productivity Council, Hyderabad, organized a National Seminar on Strategies for Vendor Development at Hyderabad, during 4-5 January 1985. The programme was attended by 70 delegates including purchase officers, material managers, controllers of stores and quality control supervisors drawn from 40 organizations in the private and public sectors. The Seminar was inaugurated by Shri R. P. Gupta, Deputy Director General NPC, New Delhi.

Fifteen papers highlighting the various aspects of vendor development were presented at the Seminar. In his paper 'Standardization and vendor development', Shri Y. K. Bhat, Director, Hyderabad Branch Office, ISI, highlighted the Institution's methodology of standards formulation and said that it could be suitably adapted for the development of company standards. Shri Bhat also described the procedure for granting ISI Mark and dwelt on the benefits accruing from the Institution's Certification Marks Scheme to both the purchasers and the vendors besides explaining how it could be useful in self-certification of vendors. He also discussed the various preformae developed by ISI for vendor development, recording vendor history, vendor's performance evaluation, vendor rating and vendor's corrective action as given in 'IS : 7200 (Part 3) - 1982 Presentation of statistical data: Part 3 Management information systems—Quality control'. He also highlighted the use of standard sampling inspection tables as specified in IS : 2500 for the control of quality of incoming components along with proformae for recording the inspection data.

Shri Bhat also participated in the Panel Discussion that followed. The Panel discussed the policies on vendor development; roles of vendees, vendors and the Government; and organization

for vendors development and threw up a number of action points for implementation by industrial units.

INDIA INTERNATIONAL TEXTILE MACHINERY EXHIBITION, BOMBAY

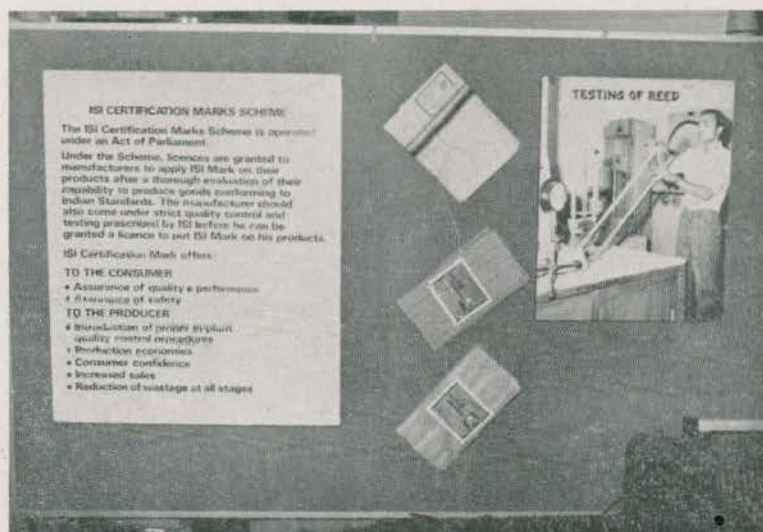
The Indian Standards Institution participated in the exhibition organized by India International Textile Machinery Exhibition Society in Bombay during 1-10 December 1984. Some 140 textile machinery manufacturers including 24 foreign participants from Bulgaria, Czechoslovakia, France, Italy, Netherlands, Switzerland, UK, USA and West Germany, displayed a wide range of textile machinery, components, parts, accessories and garment making machines incorporating advanced technology.

The ISI Stall had on display textile items bearing the ISI Mark besides standards on textile industry. The activities of the Institution were explained through charts and photographs.

TRAINING PROGRAMME IN GAS CHROMATOGRAPHY TECHNIQUES

The Indian Standards Institution organized a Training Programme in Gas Chromatography at its Central Laboratory at Sahibabad during 26-30 November 1984 to acquaint officers from ISI laboratories with gas chromatography techniques. The course was conducted by Shri B. Sitaraman of M/s Toshniwal Instruments Private Limited which has supplied the gas chromatographs to ISI.

ISI Laboratories have been recently equipped with advanced micro-processor-controlled gas chromatographs for the analysis of a number of materials, such as pesticides like chloropyrifos, fluchloralin and butachlor, and estimation of ester in vegetable oils and products. Gas chromatography is finding increasing use not only for process and quality control in industry because of the rapidness of analysis but is also recommended in Indian Standards as a reference method for the analysis of complex materials.



A view of a portion of the ISI Stall in the India International Textile Machinery Exhibition held in Bombay

IPSS BULLETIN

One more addition to standards literature in India is the *IPSS Bulletin*—a newsletter brought out by the IPSS Secretariat for the benefit of engineers and executives in steel plants and major design, consultancy and manufacturing organizations connected with the steel industry. The IPSS Secretariat undertakes work relating to Interplant Standardization in Steel Industry (IPSS).

The newsletter will review IPSS activities including technical committee meetings held and planned, issue of draft standards and implementation of IPSS Standards besides carrying annotations on those important among them. The *IPSS Bulletin* will also highlight views of leaders in the field of standardization and present glimpses of events relating to problems, prospects and pitfalls in the standardization exercise. Other contents of the journal will include notes and articles regarding experience on the shopfloor and in the design office as well as case studies on the application of IPSS Standards and their economic effects.

The inaugural issue of *IPSS Bulletin* (January 1985) explains the aims and objects of Interplant Standardization in Steel Industry and gives an overview of IPSS activity since its inception in 1973. Besides explaining the methodology of preparing IPSS Standards, it lists draft standards in the pipeline and gives details of technical meetings held and planned. Brief notes are given on important IPSS Standards including those relating to motor control centres, coupling, safety of personnel using various appliances in steel plants, selection of electrodes, colour coding of pipes and EOT cranes.

Composed with the help of an electronic typewriter and printed by offset process, the *IPSS Bulletin* will make interesting reading for those concerned with interplant standardization activity in steel industry.

NATIONAL PRODUCTIVITY COUNCIL AWARD FOR ISI LICENSEE

M/s Alinda Machine Industries, Hubli, have been given the National Productivity Council (NPC) Award for 1983 in the metallurgical sector of small scale industries. The Award was presented to Shri T. T. Jituri, Managing Partner, M/s Alinda Machine Industries, by Shri R. Venkataraman, Vice-President of India, in New Delhi on 19 December 1984. The NPC Award is given every year for the best performance in a particular sector of industry.

M/s Alinda Machine Industries hold ISI licences for cast iron pipe fittings, cast iron sluice valves, cast iron reflux (non-return) valves, cast iron manhole frames and covers, and horizontally double flanged pipes (cast iron). ISI-marked products are of guaranteed quality as they are manufactured under a scheme of testing and inspection specified for each product in accordance with the provisions laid down in the relevant Indian Standards.

SAFETY OF LASER PRODUCTS

Lasers continue to capture the imagination with their intriguing potential and have already found many uses in the electronics and communications industries as well as research and development, entertainment, medicine and surveying. This widespread use of lasers has led to the preparation of an International Standard (IEC Pub 825) which deals with radiation safety of laser products and equipment and gives their classification and requirements. The Standard is intended to protect persons from laser radiation in the wavelength range 200 nm-1mm by indicating safe working levels of laser radiation and by introducing a system of classification of lasers according to their degree of hazard.

IEC Pub 825 not only contains requirements and specifications in respect of laser products for the benefit of manufacturers but also for their users. The manufacturing requirements include engineering specifications (protective housing, safety interlocks, remote interlock connectors, key control, laser radiation emission warning, beam stop or attenuator, controls, viewing optics and scanning safeguard); labelling; requirements for specific laser products (medical laser products and laser fibre optics transmission system); and test and classification specifications. A user's guide included in the Standard covers safety precautions (use of remote control connector, key control; beam stop or attenuator, warning signs, beam paths, specular reflections, eye protection, protective clothing, training and medical supervision); hazards incidental to laser operation; procedures for hazard control; and maximum permissible exposures. Four appendices given in the Standard contain examples of calculations, medical considerations, a bibliography and summary tables.

HYPODERMIC NEEDLES AND SYRINGES

Single-use hypodermic needles and syringes are used together for a number

of purposes including injections (intravenous, muscular and superficial) and for taking blood samples. They are used only once and a moderately large hospital will use millions in a year.

The materials used for the construction of all parts of these items are dependent, to some extent, upon the design, process of manufacture and method of sterilization employed by individual manufacturers. Standard requirements for sterile hypodermic needles and syringes for single use have just been published by the International Organization for Standardization in two new standards, namely, ISO 7864-1984 and ISO 7886-1984. Besides general requirements relating to their mechanical and chemical properties, they include tests for unwanted characteristics, such as abnormal toxicity and extractable material. They go a long way towards providing a basis for international specification of these vital pieces of medical equipment without stemming design variations or methods of packaging and sterilizing.

ISO 7864-1984 and ISO 7886-1984 are the latest in a series of International Standards for syringes for medical use and needles for injections, which also include a colour code for identifying single-use hypodermic needles (ISO: 6009-1981).

In India, work on the standardization of hypodermic syringes and needles was started in the early sixties. As a result, Indian Standards are available not only for general purpose (IS: 3236-1980), and small capacity (IS: 3237-1980) hypodermic syringes but also for dimensions of interchangeable type hypodermic syringes (IS: 3238-1965) and general requirements for syringes for medical use (IS: 3235-1980). The Indian Standards Institution has also brought out two standards for hypodermic needles for general (IS: 3317-1965) and dental (IS: 5180-1969) purposes. Besides, an Indian Standard specifies requirements for Luer type conical fitting for hypodermic syringes, needles and other medical equipment (IS: 3234-1979). Based on the relevant International Standards, Indian Standards for single use syringes (IS: 10258-1984, and needles (IS: 10654-1983) have also been brought out.

BSI CINEMATOGRAPHY SPECIFICATIONS

The British Standards Institution (BSI) has published two new specifications in the series of standards designated 'BS 5550 Cinematography' which together should contribute towards improved sound and visual reproduction.

The first new document is 'BS 5550 Cinematography: Part 3 35 mm film: Section 3.4 Sound: Subsection 3.4.7 Specification for the lateral positions and width dimensions of two-track photographic sound records on 35 mm motion-picture prints' and is identical with 'ISO 7343 Cinematography — Two-track photographic sound records on 35 mm motion-picture prints — Positions and width dimensions' published by the International Organization for Standardization. This Standard will help reduce problems associated with over-modulation of the sound track, sound channel separation and poor sound track scanning.

The second publication is 'BS 5550 Cinematography: Part 6 Television usage: Section 6.5 Specification for the colours, luminances and dimensions for viewing conditions for the evaluation of films and slides for television' which is identical with 'ISO 6035 Cinematography Viewing conditions for the evaluation of films and slides for television — Colours, luminances and dimensions'. This Standard lays down the necessary conditions for colour and luminance of open gate screen illumination and those of the surround. It also specifies the relative size of surround and screen, and the level of ambient illumination necessary to permit critical evaluation of colour balance and contrast of films intended for television use. Other recommendations cover viewing conditions for review rooms designed for large audiences.

Further parts of this Standard in preparation relate to specification for raw film stock, image areas, camera usage, sound, film spacing and projection, camera cartridges and spools, and projector spindles. Other aspects of cinematography to be dealt with include projector screens, auditoria and control rooms in addition to television usage.

1985 ELI WHITNEY MEMORIAL AWARD

Mr Reuben R. Jensen, former Executive Vice-President, General Motors Corporation, Detroit (USA) has been awarded the 1985 Eli Whitney Memorial Award for his 'extraordinary inventiveness as a manufacturing engineer and his superior management abilities' which have enhanced production technology and led to improved automotive products. Mr Jensen has also been instrumental in establishing product and process engineering procedures for new design proposal and has helped establish a value analysis programme at General Motors' Hydramatic Division.

ISI BULLETIN — VOL 37, FEBRUARY 1985

The Eli Whitney Memorial Award has been instituted by the Society of Manufacturing Engineers (USA) in the memory of Mr Eli Whitney, pioneer of mass production through the use of standardized components.

COMPANY STANDARDIZATION TRAINING SEMINAR, BANGALORE

The Indian Standards Institution is organizing a Company Standardization Training Seminar in Bangalore during 10-13 June 1985.

The Seminar, which will impart detailed training in company standardization methods and techniques to engineers already working in industrial units, is designed to equip them properly for organizing company standardization activity. To those companies which already have some form of standardization activity within their plants, the Seminar affords an opportunity to assess and improve on their present efforts.

Further information can be had from: The Director (Standards Promotion), Indian Standards Institution, 9 Bahadur Shah Zafar Marg, New Delhi 110002.



Shri Y. K. Bhat, Director, Hyderabad Branch Office, ISI (extreme right), initiating ISI-marking on a hermetic air compressor produced by M/s Shri Ram Refrigeration Industries, Hyderabad, on 14 December 1984. This firm was recently granted two ISI licences to manufacture hermetically sealed refrigeration compressors operating on vapour compression cycle and suitable for high/low temperature applications. These are the first ISI licences to be granted in the country for the production of such air compressors in accordance with the requirements laid down in the Indian Standards 'IS: 10617 (Part 1)-1983 Specification for hermetic compressors: Part 1 High temperature application group' and IS: 10617 (Part 3)-1983 Specification for hermetic compressors: Part 3 Low temperature application group'. These standards specify a number of tests, such as refrigeration capacity test, locked rotor test, high voltage test, insulation resistance test, bursting test and pneumatic test for the shell which must be satisfied before the air compressors can be declared to have met the quality specifications laid down in the relevant Indian Standards

STANDARDIZATION

ECHOES AND IMAGES

States Told to Vet Norms on Hazardous Chemicals

The Centre has advised all State Governments to undertake a thorough review of various regulations, control and preventive measures relating to hazardous chemicals manufacturing processes and evaluate the existing arrangements for enforcement of safety.

The Chemicals and Fertilizers Minister, Shri Veerendra Patil, has told the Lok Sabha in a written reply to Prof P. J. Kurien that the Centre has also decided to set up a special cell to make a detailed study of the practices in vogue in developed countries for dealing with hazardous substances and to identify gaps in the prevailing legislative and institutional arrangements in the country.

The Cell would also suggest suitable steps for strengthening such arrangements.

— The Business Standard, 23 January 1985

Review of Safety Rules Initiated

The Union Labour Ministry has initiated steps for a general review of rules and regulations governing safety and the Factories Act keeping in view the recent tragedy in Bhopal.

At a high level meeting convened in New Delhi on 15 December 1984 by the Union Labour Secretary, it was decided that efforts should be made to strengthen control and preventive measures in hazardous and chemical industries using toxic substances.

The review will also go into various safety rules and regulations and look into the present procedure regarding location of sites and imparting of training to factory inspectors. It was also felt that the existing inspection system should be strengthened and the possibility of creating special technical teams for inspection should be considered.

The International Labour Organization's offer to provide literature and all other relevant information on safety measures in hazardous and chemical industries using toxic substances in particular would also be kept in view by the ministry while reviewing the Factories Act and safety rules and regulations.

— The Business Standard, 16 December 1984

Plea for Quality Systems Manual

The Secretary, Department of Heavy Industry, suggested on 6 December 1984 formulation of a quality systems manual to work as guide to all personnel of an organization.

Inaugurating the Fifth National Convention on Quality and Reliability in New Delhi, he said that the manual should clearly coordinate the responsibilities of each and every functional agency of an organization.

The Heavy Industry Secretary said that formulation of the manual as a part of quality assurance programme would enable the organization to produce defect-free goods and perform defect-free service.

Stressing the importance of quality development, he said that there was tremendous scope for developing strategies by which managers, through in-house efforts, could liquidate internal constraints and control inputs from external sources.

He added that a crucial factor to determine India's success in achieving sustained economic development would be improved productivity and international acceptance of Indian products on a competitive basis.

He reminded the industry that the Indian products had often come under criticism due to inadequacy of quality and inconsistency in the quality of the same product over a period of time.

The industry would have to address itself to development of an appropriate strategy for making quantum jump in the quality of indigenously manufactured products and services without increasing production costs, he added.

— The Financial Express, 8 December 1984

Computerized Control of Inventories Urged

While effective control on inventories has assumed greater significance in view of resource crunch, proper management of cash has also become indispensable to avoid liquidity problem in the day-to-day operations of any industry. Introduction of a system of computerized inventory control and management of inflow and outflow of cash would help bring down inventories and achieve financial discipline.

This was the main theme of a discussion on 'Inventory control and cash management' organized

by the Heavy Engineering Corporation Ltd (HEC) and Bureau of Public Enterprises in Ranchi recently.

The Chairman-cum-Managing Director of HEC, Shri S. R. Jain, said that, according to an estimate, more than Rs 150 000 million were invested in inventories in various industries. The cost of carrying them and interest on borrowed capital for purchasing the inventories came to about Rs 50 000 million per year, he added.

The prime objectives of cash management, Shri Jain pointed out, were to ensure availability of cash at all times for day-to-day obligations of business, effective use of liquid money, acceleration of cash inflow and reduction of blockage of cash in inventories and other fixed assets.

Shri Onkar Dayal, Director (Finance), HEC, suggested enunciation of a national inventory policy for the guidance of industrial undertakings regarding acquisition and accumulation of inventories and setting up of a 'clearing house' at least for public sector enterprises to see that unnecessary time-consuming processes were eliminated in financial transactions among the corporations.

Shri Dayal said it was paradoxical that, in spite of possessing sophisticated techniques on inventory management, industries were saddled with the burden of very large and ever-mounting inventories. Inventory control was increasingly emerging as a problem which could be tackled by an inter-disciplinary team. He added that the situation arising from acquisition and accumulation of inventories should be constantly reviewed.

— The Business Standard, 18 January 1985

Use of SQC Techniques Urged in Industry

Induction of statistical quality control (SQC) techniques in manufacturing plants can help raise production by 10 to 100 percent without further investment or expansion of plants, according to Dr C. R. Rao, Professor, University of Pittsburgh.

Delivering the inaugural address at the 23rd Indian Econometric Conference at Hyderabad on 3 January 1985, he said that introduction of SQC techniques in all industries should be seriously considered.

Citing an interesting computation based on savings due to use of SQC techniques, Dr Rao said that the Seventh Plan envisaged an outlay of Rs 3 200 000 million and there was a shortfall of Rs 400 000 million in raising resources. It was estimated that, under the existing manufacturing conditions, wastes and quality losses account for 10 to 15 percent of GNP. Considering only the manufactured goods, the monetary loss on account of wastes and substandard quality was of the order of Rs 80 000 million. If SQC techniques were introduced, this amount could be saved and the total savings over a five-year period would be of the same order as shortfall of Rs 400 000 million in the Plan outlay which would thus be met without raising additional resources, Dr Rao pointed out.

Citing some global figures of expenditure on research and development in rich and poor countries, Dr Rao said that rich countries had an income of

about \$ 5 000 billion and they spent about 2 percent of this, that is, about \$ 100 billion, on non-military science and development research. The poor countries had one-fifth of this income, that is about \$ 1 000 billion, and they spent only 0.2 percent of this income, that is, about \$ 2 billion, on scientific and technological research. Going by the standard of the advanced countries, it should be \$ 20 billion, Dr Rao said.

The Business Standard, 5 January 1985



Plan to Control Ganga Pollution

The Prime Minister, Shri Rajiv Gandhi, assured the Lok Sabha on 23 January 1985 that adequate resources would be allocated and specific responsibilities assigned to Central and State Government agencies for the implementation of the programme to control pollution of the river Ganga.

Replying to questions by Shri Satyendra Narain Sinha, he said that though sewage treatment facilities had been installed at many locations along the Ganga, the municipalities and local bodies which had the responsibility to run these were unable to carry it out effectively, largely due to lack of resources and diversion of the available resources to other activities.

The Prime Minister said that the proposed four-tier structure of the recently constituted Ganga Authority would oversee the implementation of the programme to control the river's pollution.

The apex body of the Authority would be chaired by the Prime Minister and would include the Chief Ministers of the States concerned as members.

The other members of the apex body would include the Deputy Chairman of the Planning Commission, Ministers of State for Planning, Environment and Forests, and Science and Technology, and member in charge of Environment and Science in the Planning Commission.

There would be a steering committee under the chairmanship of the Secretary, Department of Environment, with representatives from the Central and State agencies concerned. In each State there would be a high-level committee chaired by Chief Secretary concerned to oversee the implementation of the programme. A monitoring mechanism with computer back-up would be set up under the chairmanship of the member in charge of Science and Environment in the Planning Commission.

Shri Gandhi said that the main components of the project included renovation of the existing sewage pumping and treatment plant, installation of new plants in selected towns and renovation of the existing sewerage system.

The industrial plants on the banks of the river and its tributaries had been asked to control pollution and suitable measures had been devised for the purpose.

The estimated expenditure of the Ganga Authority in five years was Rs 2 500 million.

— The Hindu, 24 January 1985



COMMITTEE MONTH

This month, we report the proceedings of 32 committees which held their meetings during the months of November and December 1984. Detailed notes regarding two committee meetings are given below. The Table of Meetings lists important items of business transacted by other committees.

MADRAS ADVISORY COMMITTEE

The twenty-sixth meeting of Madras Advisory Committee (MAC) of Indian Standards Institution was held in Madras on 23 November 1984 under the chairmanship of Dr D. C. Kothari. Representatives of the Institution of Engineers (India), All India Manufacturers' Organization, Small Industries Service Institute, Engineering Export Promotion Council, and Electricity, Industry and Public Works Department of the Government of Tamil Nadu attended the meeting.

The Committee recommended that consumer products, such as storage-type water heaters and domestic pressure cookers should be brought under compulsory ISI certification in the interest of safety of consumers. As this would bring greater pressure on ISI for testing, it was suggested that the Institution should set up additional testing facilities and build the requisite infrastructure for the purpose. The Committee also wanted ISI to examine the feasibility of evolving simple tests for assessing the quality of consumer products for ready application.

It was felt that a vigorous drive should be launched for a more effective implementation of standards and purchase of ISI-certified products by State-owned and managed corporations. Besides, the Government departments should be approached for giving price preference to ISI-marked goods. In this context, it was suggested that State-level Standardization Committee for the Implementation of Indian Standards should be activated and an ISI Inspection Office established at Coimbatore which had a concentration of industries. The Inspection Office, it was observed, could also serve the Tirupur area.

Earlier, welcoming the participants, Shri C. R. Rama Rao, Deputy Director



Dr D. C. Kothari (second from left) presiding over the twenty-sixth meeting of the Madras Advisory Committee

General (Southern Region), ISI, briefly reviewed the progress in the field of certification marking, laboratory testing and membership drive since the last meeting of MAC.

STANDING WORKING COMMITTEE, ELECTROTECHNICAL

The nineteenth meeting of the Standing Working Committee, Electrotechnical (SWCET) was held in New Delhi on 13 November 1984 under the chairmanship of Shri S. G. Ramachandra. The meeting commenced with a tribute to Dr A. K. Gupta, Director General ISI, who had expired the previous day.

The Standing Working Committee reconstituted all the 40 Sectional Committees functioning under the Electrotechnical Division Council (ETDC) to make them more effective and fully representative of the interests concerned. It also appointed new Chairmen for three Sectional Committees as under: (a) Shri Krishna Swarup (Central Electricity Authority, New Delhi) — ETDC 3 Electrical Insulators and Accessories Sectional Committee; (b) Shri R. L. Rajgarhia

(M/s C. M. Rajgarhia, Giridih) — ETDC 9 Mica Sectional Committee; and (c) Shri S. Chakravorti (Arc Welding Plant, Indian Oxygen Limited, Calcutta) — ETDC 21 Electric Welding Equipment Sectional Committee.

While considering the proposal for reducing the time taken in standardization work in the electrotechnical field, the Committee felt that, in view of the limited man-power resources available with the Institution, the ISI Directorate General could share Secretariat responsibilities with some other organizations like the Electrical Research and Development Association and Central Power Research Institute. It was agreed that possible organizations for the purpose would be identified and their heads invited to a meeting at which involvement of these organizations in national standardization work could be spelt out and their cooperation sought in carrying out this activity.

The Committee was informed that revision of Indian Standards in the electrotechnical field was kept fully in pace with the corresponding work at IEC level. The methodology adopted was such that the corresponding revision of a national standard was

generally available by the time a revised IEC publication was printed.

The Chairman, Shri S. G. Ramachandra suggested that whenever work of a Sectional Committee was likely to influence that of a number of other Sectional Committees under ETDC, the Chairmen of the concerned Sectional Committees should be invited to SWCET meetings where related

issues could be considered and resolved. One of the areas identified for immediate consideration was that of low voltage insulation coordination being dealt with by ETDC 19 High Voltage Techniques Sectional Committee.

The Committee noted with satisfaction India's participation in the IEC Council and Committee of Action meetings held in Geneva during

3-6 July 1984 and desired that the necessary steps should be taken well in time to finalize the composition of the Indian delegation to the 49th IEC General Meetings scheduled to be held at Montreal (Canada) during 20 May-1 June 1985 when, besides the Council and the Committee of Action, 43 Technical Committees/Subcommittees were expected to meet.

TABLE OF MEETINGS

AGRICULTURAL AND FOOD PRODUCTS DEPARTMENT

AFDC 8 SUGAR INDUSTRY New Delhi
1984-11-19

Chairman Shri P. J. Manohar Rao
Directorate of Sugar
New Delhi

Drafts finalized for publication— Specifications for: (a) Cane crushing rollers for sugar mills, (b) Continuous centrifugal liners for B & C massecuites of sugar industry, (c) Glass bottles for sugar standards, (d) Hubs for cane knives, and (e) Self-discharging centrifugal liners.

Drafts approved for wide circulation— Specifications for: (a) Rotary vacuum filter screens for sugar industry, (b) Supporting liners for batch type centrifugal machines for sugar industry, and (c) Supporting screens for continuous centrifugal machines for sugar industry.

AFDC 34 DAIRY PRODUCTS Anand
1984-11-12/13/14

Chairman Dr I. S. Verma
Director
National Dairy Research Institute
Karnal

Drafts finalized for publication— Method for determination of acetic acid and lactates content in milk powder and similar products. Specifications for: (a) Infant formula, (b) Infant milk foods (*second revision of IS : 1547*), and (c) Milk-cereal based weaning foods (*second revision of IS : 1656*).

Drafts approved for wide circulation— Method of test for determination of chloride content in cheese. Specifications for: (a) Condensed milk (*second revision of IS : 1166*), and (b) Milk powder (*second revision of IS : 1165*).

New subjects— Aseptic milk, and gulabjaman.

CHEMICAL DEPARTMENT

CDC 13 INKS AND ALLIED PRODUCTS Calcutta
1984-12-17/18

Chairman Shri N. G. Maitra
Sulekha Works Ltd
Calcutta

Drafts finalized for publication— Specifications for: (a) Ink, clothmarking (*second revision of IS : 394*); (b) Ink marking non-porous surfaces (*first revision of IS : 1379*); (c) Ink, numbering machine; and (d) Teleprinter ribbon, cotton.

Drafts approved for wide circulation— Specifications for: (a) Correcting fluids, white opaque; (b) Glossary of terms relating to inks and allied industries (*first revision of IS : 4395*); and (c) Pads for rubber stamps.

Standards reviewed and reaffirmed— 'IS : 343-1978 Picture coating varnish (*first revision*)'; 'IS : 1333-1978 Ink, duplicating, for single drum rotary machine (*second revision*)'; 'IS : 2105-1975 Letterpress ink, black, general purposes (*first revision*)'; 'IS : 2694-1963 School chalks, moulded, white'; 'IS : 5046-1975 Letterpress ink, black, bookprinting (*first revision*)'; 'IS : 6831-1973 Caustic potash, technical and analytical'; 'IS : 6931-1972 Methods of test for printing inks'; 'IS : 7771-1975 Letterpress half tone ink, black'; 'IS : 8642-1977 Dyes for waterbased writing inks'; 'IS : 8744-1978 Rotary letterpress newsprint ink, black'; 'IS : 9055-1979 One-time carbon paper'; and 'IS : 9056-1978 Typewriter ribbon, silk'.

New subjects— Polyethylene typewriter ribbon and silk screen printing inks.

CDC 15 PAPER AND ITS PRODUCTS (EXCLUDING PACKAGING MATERIALS) New Delhi
1984-12-10

Chairman Shri N. Narasimhan
C-48, New South Extension Part II
New Delhi

Draft finalized for publication— Specifications for paper for magnetic ink character recognition cheque printing.

CDC 36 TANNING MATERIALS AND ALLIED PRODUCTS Bombay
1984-12-04

Chairman Dr C. K. Rao
Central Leather Research
Institute
Madras

Draft approved for wide circulation— Specification for wax emulsion for leather finishing.

Standards reviewed and reaffirmed— 'IS : 2716-1972

Myrobalan extract (*first revision*); 'IS : 3967-1975 Cutch (*first revision*)'; 'IS : 3968-1967 Wattle bark'; 'IS : 3999-1969 Casein based aqueous pigments and finishes'; 'IS : 5465-1967 SONALI bark'; 'IS : 6301-1971 Basic chromium sulphate (for tanning)'; 'IS : 6357-1971 Sulphated oil for leather fat liquoring'; 'IS : 6657-1972 Sal bark'; 'IS : 6658 Cashew testa'; 'IS : 7742-1975 Synthetic emulsion resin binders'; and 'IS : 9004-1978 Tamarind seed test'.

New subject — Synthetic fat liquors.

CDC 41 LINTERS AND ALLIED PRODUCTS Bombay 1984-12-05/06

Chairman Dr S. N. Pandey
(for the meeting) Head
Cotton Technological Research Laboratory
Bombay

Drafts finalized for publication — Specifications for: (a) Defibrated linters, and (b) Nitrocellulose (*third revision of IS : 1091*).

Standards reviewed and reaffirmed — 'IS : 3517-1979 Cotton linters (*first revision*)'; 'IS : 3520-1979 Water-soluble sodium carboxymethyl cellulose (*first revision*)'; 'IS : 3532-1980 Chemical cotton for nitrocellulose (*first revision*)'; 'IS : 8782-1978 Chemical cotton for paper manufacture'; and 'IS : 9191-1979 Code of practice for storing cotton linters'.

New subjects — Cotton linters, bleached, and glossary of terms relating to linters and its allied products.

CIVIL ENGINEERING DEPARTMENT

BDC 4 BUILDING LIMES New Delhi 1984-12-03

Chairman Shri C. D. Thatte
Director
Gujarat Engineering Research Institute
Vadodara

Draft finalized for publication — Specification for building limes (*third revision of IS : 712*).

Drafts approved for wide circulation — Method of field testing of building lime (*second revision of IS : 1624*). Specification for broken brick (burnt clay): (a) Coarse aggregates for use in lime concrete (*second revision of IS : 3068*), and (b) Fine aggregates for use in lime mortar (*second revision of IS : 3182*).

BDC 24 WATER SUPPLY AND SANITATION New Delhi 1984-12-14

Chairman Shri J. D'cruz
Engineer-in-Chief
Delhi Water Supply and Sewerage Disposal Undertaking
New Delhi

Drafts finalized for publication — Code of practice for laying of cast iron pipes (*first revision of IS : 3114*). Code of practice for septic tanks: (a) Part 1 Design and construction (*second revision of IS : 2470*), and (b) Part 2 Secondary treatment and disposal of effluent from septic tanks (*second revision of IS : 2470*). Guidelines for registration of plumbers.

Drafts approved for wide circulation — Code of practice for ancillary structures in sewerage system: (a) Part 1 Manholes, (b) Part 2 Flushing tanks, and (c) Part 3 Inverted syphon. Code of practice for road gullies (*first revision of IS : 7740*). Specification for precast concrete septic tank (*first revision of IS : 9872*).

BDC 35 FURNITURE

New Delhi
1984-12-04

Chairman Shri A. Bhardwaj
207 Golf Links
New Delhi

Drafts finalized for publication — Specifications for: (a) Chair for office purposes: Part 1 Non-revolving and non-tilling (*second revision of IS : 3499*), (b) Metal chairs for office purposes: Part 2 Revolving and tilling (*second revision of IS : 3499*).



Sturdy and comfortable

Drafts approved for wide circulation — Specifications for: (a) Dining tables (*first revision of IS : 5823*), (b) Divan and easy chairs (*first revision of IS : 5974*), (c) Wooden chairs for office purposes, (d) Wooden clothes' lockers (*first revision of IS : 5923*), (e) Wooden shelving cabinets (adjustable and non-adjustable type) (*first revision of IS : 4126*), (f) Wooden table for office purposes, and (g) Wooden table tops.

BDC 45 FOUNDATION ENGINEERING Bombay 1984-11-30

Chairman Brig Ombir Singh
Chief Engineer
HQ Southern Command
Pune

Drafts finalized for publication — Code of practice for design and construction of: (a) Pile foundations: Part 4 Load test on piles (*first revision of IS : 2911*); and (b) Radar antenna, microwave and TV tower foundations.

Drafts approved for wide circulation — Code of practice for design and construction of: (a) Machine foundation: Part 5 Foundations for impact type machines other than hammers (*first revision of IS : 2971*); and (b) Simple spread foundations (*second revision of IS : 1080*). Code of practice for structural safety of building of shallow foundation (*third revision of IS : 1904*).

BDC 44 METHOD OF MEASUREMENT OF WORKS OF CIVIL ENGINEERING (EXCLUDING RIVER VALLEY PROJECTS)

New Delhi
1984-12-12

Chairman Shri A. C. Panchdhari
Chief Technical Examiner
Central Vigilance Commission
New Delhi

Draft finalized for publication— Method of measurement of building and civil engineering works: Part 14 Glazing (third revision of IS : 1200).

Draft approved for wide circulation— Method of measurement of building and civil engineering works: Part 17 Roadwork including airfield pavements (third revision of IS : 1200).

BDC 52 FOUNDATION AND SUBSTRUCTURES

New Delhi
1984-12-14

Chairman Shri K. R. Datye
Rehem Mansion 2
44 Bhagat Singh Road, Colaba
Bombay

Draft finalized for publication— Recommendations for pressure grouting of rock foundations in river valley projects (first revision of IS : 6066).

Draft approved for wide circulation— Specification for bentonite for civil engineering works.

New subject— Filter fabrics for under-drainage system of dam: Foundation as well as seepage control.

BDC 56 HYDRAULIC GATES AND VALVES

New Delhi
1984-11-21

Chairman Shri Y. Adinarayana Sashtri
Managing Director
Tungabhadra Steel Products Limited
Tungabhadra

Drafts finalized for publication— Recommendations for: (a) Design of screw hoists for hydraulic gates; (b) Structural design criteria for low head slide gates (second revision of IS : 5620); and (c) Structural design of radial gates (second revision of IS : 4623).

Drafts approved for wide circulation— Guidelines for: (a) Design of float driven hoisting mechanism for automatic gates control; and (b) Painting system for hydraulic gates. Recommendations for: (a) Inspection testing and maintenance of radial gates and their hoists: Part 1 Inspection, testing and assembly at manufacturing stage, Section 2 Hoists; and (b) Structural design of medium and high head slide gates (first revision of IS : 9349) Specification for rubber sealings for hydraulic gates.

BDC 69 MEASUREMENTS OF WORKS OF RIVER VALLEY PROJECTS

New Delhi
1984-12-13

Chairman Shri S. P. Caprihan
Redecon (India) Pvt Ltd
New Delhi

Drafts finalized for publication— Method of measurement of: (a) Joints in river valley projects, and (b) Venti-

lation pipes and other embedded materials in river valley projects.

Draft approved for wide circulation— Method of measurement of instrumentation in river valley projects.

CONSUMER PRODUCTS AND MEDICAL INSTRUMENTS DEPARTMENT

CPDC 19 SURGICAL DRESSINGS Bombay
1984-12-07

Chairman Col S. K. Jain
Directorate General of Armed
Forces Medical Services
Ministry of Defence
New Delhi

Draft finalized for publication— Specification for first-aid dressings.

Draft approved for wide circulation— Specification for cervical collar.

ELECTRONICS AND TELECOMMUNICATION DEPARTMENT

LTDC 18 WIRES AND CABLES FOR ELECTRONIC EQUIPMENT New Delhi
1984-12-03

Chairman Shri J. L. Gupta
Additional Director (S)
Telecommunication Research Centre
New Delhi

Drafts finalized for publication— General requirements and tests for RF cables (first revision of IS : 5026). Specification for RF cables: Part 1 Polyethylene (solid dielectric) cables: (a) Section 1 Type WRA-01, (b) Section 2 Type WRA-02, (c) Section 3 Type WRA-03, (d) Section 4 Type WRA-04, and (e) Section 5 Type WRA-05.

Drafts approved for wide circulation— Methods of calculation of maximum external diameter of cables for indoor installations. Specification for RF cables: Part 2 Polyethylene (semi-solid) cables: (a) Section.....Type WRB-OX, unbalanced; (b) Section..... Type WRB-OXX, unbalanced; and (c) Section.....Type WRB-OXXX, balanced.

New subjects— Data cables, PVC insulation/sheath for telecommunication cables and solderless wire wrap.

ELECTROTECHNICAL DEPARTMENT

ETDC 19 HIGH VOLTAGE TECHNIQUES New Delhi
1984-11-19

Chairman Dr B. I. Gururaj
Indian Institute of Science
Bangalore

Drafts finalized for publication— Insulation coordination within low voltage systems including clearances and creepage distances for equipment. Specification for oscilloscopes and peak voltmeters for impulse tests.

ETDC 30 SURGE ARRESTERS

New Delhi
1984-11-20

Chairman Dr B. I. Gururaj
Indian Institute of Science
Bangalore

Drafts finalized for publication — Application guide for surge arresters with series gap and non-linear resistors for ac systems. Specification for lightning arresters for alternating current systems.

ETDC 50 ELECTROMEDICAL EQUIPMENT

New Delhi
1984-12-13

Chairman Surg Cdre A. K. Deb
Defence Bio-Engineering &
Electromedical Laboratory
Bangalore

Drafts finalized for publication — Application guide for medical equipment: (a) Part 1 General requirements and electrical installation; and (b) Part 2 Safety provisions, application, operation and maintenance. Electrical muscle and nerve stimulators for therapeutic purpose. Electroencephalograph: (a) Part 1 General and safety requirements, (b) Part 2 Particular requirements for performance. General and safety requirements for electrical equipment used in medical practice: (a) Part 4 Protection against unwanted or excessive radiation, (b) Part 7 Construction, and (c) Part 8 Behaviour and reliability. Specifications for: (a) Electrocardiograph (*first revision of IS : 8048*), (b) Radiographic cassettes (*first revision of IS : 6991*), and (c) Scintillation counters. Terminology for nuclear medical instruments.

Drafts approved for wide circulation — Determination of maximum symmetrical radiation beam from a rotating anode X-ray tube for medical diagnosis. Methods of determination characteristics of focal spots in diagnostic X-ray tube assemblies for medical use. Specifications for: (a) Electrical safety of lung ventilator, and (b) Implantable ventricular pacemaker.

Standards reviewed and reaffirmed — 'IS : 1885 (Part 43)-1977 Electrotechnical vocabulary: Part 43 Electrical equipment used in medical practice; and 'IS : 2032 (Part 19)-1977 Graphical symbols used in electrotechnology: Part 19 Electrical equipment used in medical practice'.

MARINE, CARGO MOVEMENT AND PACKAGING DEPARTMENT

MCPD 1 SHIPBUILDING

New Delhi
1984-12-11

Chairman Shri S. Parmanandhan
(for the meeting) Plot No. 2942
14th Main Road, Anna Nagar
Madras

Drafts finalized for publication — Specifications for: (a) Cast iron gate valves for use in marine pipe work system, (b) Marine valves hand wheels, and (c) Steel gate valves for use in marine pipe work system.

Draft approved for wide circulation — Glossary of terms or ships windows.

MCPD 20 NON-POWERED MATERIAL HANDLING EQUIPMENT

Chairman Shri R. K. Nanda
(for the meeting) Air-India
Bombay

Draft approved for wide circulation — G and performance test requirements of stillage trucks.

MCPD 22 INDUSTRIAL TRUCKS

Chairman Shri B. Mohanraj
Macneill & Magor Ltd
Calcutta

Draft finalized for publication — Str requirement of service brake comp industrial trucks.

Drafts approved for wide circulation noise emitted by powered industrial tr workplace. Testing of industrial tractor

New subject — General requirements fo use of work platform of powered indu

MECHANICAL ENGINEERING DEPARTMENT

EDC 35 PUMPS

Chairman Shri Jai Narain
(for the meeting) Additional Engineer (E&M)
Sewage & Disposals Works
New Delhi

Drafts approved for wide circulation stuffing box cavities of suction proce; ments for reflux valves for centrifugal pu purposes. Specification for: (a) Borewe fixed at bottom end of suction line of centrifugal pumps for agricultural purp ratings for centrifugal pumps for agr and (c) Pumps for fire fighting appl requirements for ejecto pumps.

New subject — Vertical suspended subr fugal pumps handling process and chem

EDC 75 SPRINGS

Chairman Shri A. A. Mirchandani
All India Spring Manufactu
Association
Kemen Springs Pvt Ltd
Harilela House
Mint Road
Bombay

Standards reviewed and reaffirmed — 'IS Upholstery springs: Part 2 Zig-zag type 1978 Helical compression springs: P calculation for springs made from rect springs', and 'IS : 8924-1978 Bushes for l for automotive suspension'.

PETROLEUM, COAL AND RELATED PRODUCTS DEPARTMENT

PCDC 20 FERTILIZERS

Delhi
1984-11-20

Chairman Dr N. S. Randhawa
Deputy Director General (FA&E)
Indian Council of Agricultural
Research
New Delhi

Drafts finalized for publication— Methods of sampling and test for fertilizers: (a) Part 1 Sampling (*first revision of IS : 6092*), (b) Part 2 Determination of nitrogen (*first revision of IS : 6092*), (c) Part 3 Determination of phosphorus (*first revision of IS : 6092*), (d) Part 4 Determination of potassium (*first revision of IS : 6092*), (e) Part 5 Determination of secondary elements and micronutrients (*first revision of IS : 6092*), and (f) Part 6 Determination of moisture and impurities (*first revision of IS : 6092*). Specification for calcium ammonium nitrate (*second revision of IS : 2409*).

Draft approved for wide circulation— Specification for ferrous sulphate, agricultural grade.

Standards reviewed and reaffirmed— 'IS : 1013-1972 Specification for triple superphosphate (*first revision*)'; 'IS : 1014-1956 Specification for bone-meal, steamed'; 'IS : 1114-1964 Specification for ammonium chloride, fertilizer grade'; 'IS : 1781-1975 Specification for urea, technical'; 'IS : 6661-1972 Specification for potassium schoenite'; 'IS : 7863-1975 Specification for fertilizer physical mixtures'; 'IS : 8359-1977 Specification for urea ammonium phosphate based fertilizers'; 'IS : 8558-1977 Specification for neem cake for manuring'; 'IS : 8559-1977 Specification for mahua cake for manuring'; and 'IS : 9024-1978 Specification for granulated fertilizer mixtures'.

New subject— Manganese sulphate.

PUBLICATIONS DEPARTMENT

EC 2 DOCUMENTATION

New Delhi
1984-12-06

Chairman Dr V. A. Kamath
Floor No. 1, Block 3
Kotwal Mansion, Proctor Road
Bombay

Drafts finalized for publication— Codes of practice for: (a) Processing of microtransparencies (microfilms and microfiche) (silver halide) (*first revision of IS : 3083*), (b) Handling and storage of microtransparencies (microfilm and microfiche) (silver halide) (*second revision of IS : 3130*), and (c) Guide for bibliographic description of different kinds of documents: Data elements and record format for computer-based bibliographical data bases.

Standards reviewed and reaffirmed— 'IS : 6299-1971 Code for handling, testing and storage of monochrome photographic prints'; and 'IS : 7150-1974 Specification for library catalogue and abstract card'.

STRUCTURAL AND METALS DEPARTMENT

SMDC 20 STEEL CASTINGS

New Delhi
1984-12-20

Chairman Shri T. Kumar
Executive Director
Steelcast Bhavnagar Pvt Ltd
Bhavnagar

Drafts finalized for publication— Technical supply conditions for steel castings (*first revision of IS : 8800*). Specifications for: (a) Alloy steel castings suitable for pressure services (*first revision of IS : 7899*), (b) Corrosion resistant high alloy steel nickel base and cobalt based investment castings for severe applications, (c) Dimensional tolerances for investment castings, (d) Martensitic and high alloy austenitic steel castings for high temperature service (*first revision of IS : 7806*), and (e) 1.5 percent manganese steel castings for general engineering purposes (*second revision of IS : 2708*).

Drafts approved for wide circulation— Technical supply conditions for investment castings in steel. Specifications for: (a) Acceptance standards for dye penetrant inspection of steel castings, (b) Heat resistant alloy steel castings (*first revision of IS : 4522*), (c) High tensile steel castings (*second revision of IS : 2644*), (d) Precipitation hardening stainless steel castings, and (e) Steel castings of high magnetic permeability (*first revision of IS : 4491*).

New subject— Norms for classification of steel foundries for quality assurance.

SMDC 26 CRANES AND ALLIED APPLIANCES

New Delhi
1984-12-13/14

Chairman: Shri R. N. Bhowal
Jessop & Company Ltd
Calcutta

Drafts finalized for publication— Code of practice for heavy duty EOT cranes including special service machines for use in steel works (*first revision of IS : 4137*). Glossary of terms for cranes (*first revision of IS : 5532*): (a) Part 1 Type of cranes, (b) Part 2 Parameters, (c) Part 3 General concepts, and (d) Part 4 Component parts.

SMDC 28 HOT-DIP SPRAYED AND DIFFUSION COATINGS

New Delhi
1984-12-06

Chairman: Shri V. R. Subramanian
General Manager
Indian Lead Zinc
Information Centre
New Delli

Drafts finalized for publication— Recommended practice for: (a) Design and preparation of material prior to galvanizing (*first revision of IS : 6159*), (b) Hot-dip galvanizing of iron and steel (*first revision of IS : 2629*), and (c) Safeguarding against embrittlement of hot-dip galvanized iron and steel products (*first revision of IS : 6158*), Specification for hot-dip zinc coatings on structural steel and other allied products (*second revision of IS : 4759*).

Drafts approved for wide circulation — Code of practice for repair of damaged hot-dip galvanized coatings. Method of testing uniformity on zinc coated articles (*second revision of IS : 2633*). Recommended practice for safe-guarding against warpage and distortion of hot-dip galvanized articles. Specification for hot-dip zinc coatings on mild steel tubes (*first revision of IS : 4736*).

New subject — Recommended practice of hot-dip aluminium-zinc alloy coatings on steel.

TEXTILE DEPARTMENT

TDC 2 COTTON AND COTTON PRODUCTS

Bombay
1984-11-14

Chairman Dr P. R. Roy
(*for the* Manager (R&D)
meeting) The Arvind Mills Ltd
Ahmadabad

Drafts finalized for publication — Requirements for blend compositions of textiles. Specifications for: (a) Cotton gaberdine (*second revision of IS : 1423*); (b) Dyed cotton fabric, water repellent (*second revision of IS : 2422*); (c) Grey yarn cotton and cotton regenerated cellulosic blended (*third revision of IS : 171*); and (d) Polyester blend suitings: Part 1 For government departments (*first revision of IS : 9517*).

Drafts approved for wide circulation — Specifications for: (a) Packing of cotton yarn and cloth for container services, (b) Polyester blend suitings, and (c) Polyester cotton blended saris.

TDC 15 HOSIERY

Bombay
1984-11-27

Chairman: Shri S. T. Notani
(*for the* Federation of Hosiery
meeting) Manufacturers Association of India
Bombay

Draft finalized for publication — Specification for cotton yarn, grey for hosiery (*third revision of IS : 834*).



Draft approved for wide circulation — Specification for nylon socks (*first revision of IS : 5084*).

PUBLIC GRIEVANCE CELL IN ISI













■ The Indian Standards Institution, New Delhi, has set up a Public Grievance Cell to deal with grievances from outside organizations and the general public relating to ISI's work. The Cell is located in ISI Headquarters at New Delhi and functions during the Institution's normal working hours.

The general public and all organizations are welcome to bring their grievances relating to ISI's work to the attention of the Public Grievance Cell. The grievances will be processed expeditiously and early action taken to redress them.

CERTIFICATION MARKS

During August and September 1984, the Institution specified standard marks for eleven products while the design of the standard marks for six products were revised. Besides, 171 new licences were granted. Particulars of all these, as well as additional varieties of products included in the existing licences and the licences cancelled/lapsed are given in the table which follows.

STANDARD MARK

DESIGN OF THE STANDARD MARK	PRODUCT/CLASS OF PRODUCT AND NUMBER OF THE RELEVANT INDIAN STANDARD	GAZETTE OF INDIA, PART II, SECTION 3(ii) NOTIFICATION REFERENCE	
		S.O. and Date	Gazette Issue Dated
IS:44 	Iron oxide pigments for paints — IS : 44-1969	} 2953 1984-08-016	1984-09-15
IS:255 	Sodium sulphate, anhydrous (technical grade) — IS : 255-1982		
IS:279-81 	*Galvanized steel wire for telegraph and telephone purposes — IS : 279-1981	2989 1984-08-30	1984-09-22
IS:750-76 	Handloom cotton lungies — IS : 750-1976	} 2987 1984-08-28	1984-09-22
IS:1718 	Cotton spindle tapes — IS : 1718-1970		
IS:2191 PART I  MODULAR	IS:2191 PART I  NON MODULAR *Wooden flush door shutters (cellular and hollow core type) plywood face panels — IS : 2191 (Part I)-1983	—	—
IS:2202 PART I  MODULAR	IS:2202 PART I  NON MODULAR *Wooden flush door shutters (solid core type) plywood face panels — IS : 2202 (Part I)-1983	2952 1984-01-16	1984-09-15
IS:2494 	V-belts for industrial purposes — IS : 2494-1974	3277 1984-09-24	1984-10-20
IS:4955 	*Household laundry detergent powders — IS : 4955-1982	2991 1984-08-30	1984-09-22
IS:5348 	Staples — IS : 5348-1981	3273 1984-09-24	1984-10-20

DESIGN OF THE
STANDARD MARKPRODUCT/CLASS OF PRODUCT AND NUMBER OF
THE RELEVANT INDIAN STANDARDGAZETTE OF INDIA, PART II, SECTION 3(ii)
NOTIFICATION REFERENCE

S. O. and Date

Gazette Issue Dated



*Household laundry detergent bars —
IS : 8180-1982

2990
1984-08-30

1984-09-22



*General and safety requirements for power
threshers — IS : 9020-1979

2992
1984-08-30

1984-09-22



Azotobacter chroococcum inoculants —
IS : 9138-1979

2987
1984-08-28

1984-09-22



Plain knitted cotton cloth (fabric) —
IS : 9469-1980

2953
1984-08-16

1984-09-15



Centre bolts for leaf springs — IS : 9484-1980

2987
1984-08-28

1984-09-22



Performance requirements for variable speed
compression ignition (diesel engines for auto-
motive purposes) — IS : 10003-1981

3277
1984-09-24

1984-10-20



Carbon steel, safety razor blades —
IS : 10198-1982

2953
1984-08-16

1984-09-15

*Revised design of the standard mark

NEW LICENCES GRANTED

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1330228 1984-08-04	Associated Cylinders Industries Pvt Ltd, SIDCO Industrial Complex, Bari Brahamna, Jammu 181133 (Office: 153 A/D Gandhi Nagar, Jammu 180004)	IS : 3196-1982
CM/L-1330329 1984-08-06	Good flame Industries, Chouki Gate, Firozabad 283203 (UP)	IS : 4246-1978
CM/L-1330430 1984-08-04	Motilal Pesticides (India) Pvt Ltd, Masani-Delhi Road, Mathura 281003 (Office: 305 Manjusha 57, Nehru Palace, New Delhi)	IS : 9369-1980
CM/L-1330531 1984-08-04	Ahmedabad Jupiter Textile Mills [Unit of NTC (G) Ltd], Dadhichi Road, Ahmadabad 380004 (Gujarat)	IS : 9648-1980
CM/L-1330632 1984-12-17	K-Lite Industries, 73 Thathamuthiappan Street, Madras 600001	IS : 6616-1972
CM/L-1330733 1984-08-06	Coimbatore Rajendra Industries, 7 Avaram- palayam Road, P. O. Ganapathy, Coimbatore 641006	IS : 6595-1980
CM/L-1330834 1984-12-17	Andhra Cement Company Ltd, Durga Cement Works, Durgapuram Dachehalli (PO), Dist Guntur (Office: Chanderlok Complex, S. D. Road, Secunderabad 500003)	IS : 1489-1976

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1330935 1984-12-17	Maharaja Cables, 1024, V & P. O. Mahipalpur, New Delhi 110037	IS : 1554 (Part I)-1976
CM/L-1331028 1984-12-17	Uttam Foundries & Ispat (P) Limited, Village Janetpur, Naraingarh Road, Ambala City	IS : 1729-1979
CM/L-1331129 1984-08-06	Tirupathi, Cotton Mills [A unit of National Textile Corporation (APRK&M) Limited], Ranigunta 517520, Dist Chittoor	IS : 171-1973
CM/L-1331230 1984-08-06	Goyal Concrete Pipes, Industrial Estate, Morena (MP)	IS : 458-1971
CM/L-1331331 1984-12-17	Coimbatore Rajendra Industries, 1(B)-2 Avaram- palayam Road, P. O. Ganapathy, Coimbatore 641006	IS : 7538-1975
CM/L-1331432 1984-12-17	S. K. Insulated Cables Mfg, 178 G. T. Road, Sahibabad, Dist Ghaziabad (UP)	IS: 1554 (Part I)-1976
CM/L-1331533 1984-12-17	Chandra Precision Extrusions, 88A Salai Vinaya- gar Road, Dharmapuri 636007	IS : 2509-1973
CM/L-1331634 1984-08-06	Krishi Rasayan, National Highway, NHN 5, P. O. Ranital, Dist Balasore 756111 (Orissa)	IS : 1307-1982
CM/L-1331735 1984-12-17	Saf Yeast Company Pvt Ltd, C-3 Gane Khadpoli Industrial Area, P. B. No. 36 Chiplun, Dist Ratnagiri (Maharashtra) (Office: Raja Bahadur Building, 5th Floor, 43 Tamarind Street, P. B. No. 10116, Bombay 400023)	IS : 1320-1981
CM/L-1331836 1984-12-17	SMP Pvt Limited, Plot No. 22/1 MIDC Industrial Area, Roha, Dist Raigad (Maharashtra) (Office: 94 Nagindas Master Road, Fort, Bombay)	IS : 1307-1973
CM/L-1331937 1984-12-17	Venkateswara Agro Chemicals & Minerals (P) Limited, 3-B (NP) Industrial Estate, Ambattur, Madras 600098	IS : 1507-1977
CM/L-1332030 1984-12-17	Rohini Processing Industries, 452 The Mall, Behind Roxy Cinema, Kanpur 208004 (UP)	IS : 5852-1977
CM/L-1332131 1984-08-06	Hind Udyog Corporation, 1A, Simla Satghara Road (Extn), Rishra, Dist Hoogli (Office: 32 Arme- nian Street, Calcutta 700001)	IS : 9550-1980
CM/L-1332232 1984-12-17	Vijay Paint Industries, 15 Industrial Area, Banmore, Dist Morena 476444 (Office: Daulat Ganj, Gwalior 474001)	IS : 427-1965
CM/L-1332333 1984-12-17	Sushil Krishna Khaira Chemicals, Harpalpur, Dist Chhatarpur (MP)	IS : 1061-1982
CM/L-1332434 1984-08-07	Kumar Chemicals, 7 Industrial Area, Barauni, P.O. Tilrath (Begusarai)	IS : 561-1978
CM/L-1332535 1984-08-08	Sharma Cement Pipe Works, Village Bhamrola, P. O. Bagwara, Tehsil Kichha (Nainital) (Office: 14-F Rampur Garden, Bareilly)	IS : 458-1971
CM/L-1332636 1984-08-08	Ramu Hosierys, 82-A, Lakshmi Nagar Main Road, Tirupur 638602 (TN)	IS : 4964-1980
CM/L-1332737 1984-12-17	Tensil Steel Ltd, Hirabaug Vishwamitri Road, Vadodara 390001	IS : 1785 (Part I)-1983
CM/L-1332838 1984-12-17	Gemson Enterprises, B-10/10 Group Industrial Area, Wazirpur, Delhi 110052	IS : 368-1977
CM/L-1332939 1984-12-17	Kumar Industrial Corporation, 797 Industrial Area B, Ludhiana 141003 (Punjab)	IS : 2108-1977
CM/L-1333032 1984-12-17	Esskay Steel Rolling Mills, Plot No. F3/1 MIDC, Tarapur, Thane (Office: 22 Baroda Street, Bombay 400009)	IS : 1786-1979
CM/L-1333133 1984-12-17	Wireway India, F-142 Matsya Industrial Area, Alwar 301030	IS : 398 (Part I)-1976
CM/L-1333234 1984-08-09	L. M. M. International Howrah, Amta Road, Banskara, Howrah 700005 (Office: 6 Raja Wood- munt Street, Calcutta 700001)	IS : 3832-19/1
CM/L-1333335 1984-12-17	New India Engineering Syndicate, 283 Bellilious Road, Howrah, Unit No. 1) (Office: 113 G, Netaji Subhas Road, Room No. 33, Calcutta 700001)	IS : 1538 (Part XVIII, XIX, XXI)-1976
CM/L-1333436 1984-12-17	Glolite Electricals, Angirwadi, Champsi Bhimji Road, Mazagaon, Bombay 400010	IS : 1534 (Part I)-1977
CM/L-1333537 1984-08-10	Central Cables (P) Ltd, A-13 MIDC Industrial Area, Hingna Road, Nagpur 440016	IS : 691-1966

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1333638 1984-08-10	Jain Brothers (Pipe Division), Survey No. 77, Nimkhedi Khurd, Jalgaon 425001 (Office: 152 Polan Peth, P. B. No. 20, Jalgaon 425001)	IS : 4985-1981
CM/L-1333739 1984-08-08	Nathani Food Products Pvt Limited, J-8 MIDC, Hind Cross Road, Tarapur Industrial Area, Boisar, Dist Thane [Office: 29 Ajay Shopping Centre (Mathuna Road W. R.) TH Kataria Marg, Mahim, Bombay 400016]	IS : 1011-1981
CM/L-1333840 1984-12-17	Kalani Asbestos Cement Pvt Limited, Unit No. 3, Mhow-Neemuch Road, Pitampur, Dist Dhar (Office: Kalani House, Tukoganj, Main Road, Indore 452001)	IS : 1592-1980
CM/L-1333941 1984-12-17	do	IS : 9627-1980
CM/L-1334034 1984-12-17	Process Engineering Company, D-3 & 4 Behala Industrial Estate, Banamali-Nasker Road, Calcutta 700060 (Office: 9 Old China Bazar Street, Sharma Market, 5th Floor, Room No. 86, Calcutta 700001)	IS : 2980-1979
CM/L-1334135 1984-12-17	Swastik Industries, D-III, Plot No. 47, 48, 49 MIDC Industrial Area, Chinchwad, Pune 411019 (Office: Swastik House, 39/D, Jawaharlal Nehru Marg, Opp Apsara Cinema, Pune 411037)	IS : 15932-1980
CM/L-1334236 1984-12-17	Gupta Spun Pipe Industries, Village-Gonde, Allahabad-Faizabad Road, Dist Pratapgarh (Office: 237 Civil Lines, Pratapgarh)	IS : 458-1971
CM/L-1334337 1984-12-17	Ess Ess Kay Engineering (P) Limited, Factory Area, Kapurthala (Punjab)	IS : 1258-1979
CM/L-1334438 1984-12-17	do	IS : 3854-1966
CM/L-1334539 1984-08-14	Pearl Fasteners, 136-140/26 Industrial Estate, Chandigarh	IS : 1363-1967
CM/L-1334640 1984-12-17	Union Pesticides, Sri Ram Nagar, Vidisha (MP)	IS : 2567-1978
CM/L-1334741 1984-12-17	B. L. Industries, F-218 Road No. 10, V. K. I. Area, Jaipur 302013 (Office: Indraprasth Bhavan, Chandpole Bazar, Jaipur 302001)	IS : 4323-1980
CM/L-1334842 1194-12-17	Gupta Chemicals Pvt Limited, B-144 Road No. 9, V. I. Area, Jaipur 302013 (Office: 1st Floor, Bhukhmaria Building, Opp Shriji Ki Mori, Tripolia Bazar, Jaipur)	IS : 4783-1982
CM/L-1334943 1984-12-17	Indofil Chemicals Ltd, No. 11 Karuppa Gonder Street, Podanur, Dist Coimbatore (Office: Nirlon House, Dr Annie Besant Road, Bombay 400025)	IS : 8708-1978
CM/L-1335036 1984-12-17	Jeet Industries, Kunjpura Road, Near Power House, Karnal 132001 (Haryana)	IS : 2339-1963
CM/L-1335137 1984-12-17	Suraksha Chemicals & Engineers, Jai Motors Compound, Eastern Express Highway, Thane 4000601 (Office: 290/A/10 Anand Nagar, Bombay 400037)	IS : 4783-1968
CM/L-1335238 1984-08-14	Bharti Rasaynic Udyog, Sorid Bhat, Jagdalpur Road, Dhamtari (MP) (Office: Sadar Bazar, Dhamtari)	IS : 561-1978
CM/L-1335339 1984-12-17	Southern Asbestos Cement Limited, A. B. Road, Kaksi 465106, Dist Shajapur (MP) (Office: 7-G, HIG Ravishankar Sukla Nagar, Indore 452008)	IS : 1592-1980
CM/L-1335440 1984-08-16	Express Tin Containers (P) Limited, 493 G. T. Road, (South) Sibpur, Howrah 711102 [Office: 38 Burtolla Street (Ground Floor), Calcutta 700007]	IS : 10325-1982
CM/L-1335541 1984-12-17	G. R. Steels & Alloys Private Limited, K.R. Puram Whitefield Road, Whitefield 560066 (Office: 9/1 3rd Floor Mahalaxmi Chambers, Mahatma Gandhi Road, Bangalore 560001)	IS : 1786-1979
CM/L-1335642 1984-12-17	National Engineering Company Ltd, Dr Hari-krishna Naidu Street, Ambattur, Madras 600053 (Office: 67 Sembudoss Street, Madras 600001)	IS : 226-1975

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1335743 1984-12-17	A. K. Corporation Limited, Malkapuram, Vislakapuram 530011	IS : 1977-1975
CM/L-1335844 1984-12-17	Marsh Engineers, 19/1 Hingana Khurd, Vithalwadi, Pune 411041	IS : 2148-1981
CM/L-1335945 1984-12-17	Bajaj Knitters, 94 D Lakshminagar, Tirupur 638602	IS : 4964-1980
CM/L-1336038 1984-08-16	United Pesticides, Village Mandhour, Ambala City (Haryana)	IS : 3903-1975
CM/L-1336139 1984-08-17	Rainbow Colours, Khandelwal Industrial Estate, Pokhran Road, No. 1, P. O. Jokegram, Thane [Office: B-44 OM Cooperative Society, Off L. B. S Marg, Ghatkopar (W) Bombay 400086]	IS : 5346-1975
CM/L-1336240 1984-12-17	Amar Brother & Company, 714-A Mehrauli Road, Gurgaon (Haryana)	IS : 2347-1974
CM/L-1336341 1984-12-17	Agromore Limited, Mysore Road, Bangalore 560026	IS : 10243-1982
CM/L-1336442 1984-12-17	Alfa Manufacturing Company, 60/3 'O' Road, Netajigarh, Belgachia, Howrah (Office: P-264 Benaras Road, P. O. Netajigarh, Howrah 711108)	IS : 1729-1979
CM/L-1336543 1984-12-17	Bharat Iron & Steel Works, Poona-Bangalore Road, Belgaum 590016	IS : 1538 (Part VII, VIII, IX, X, XI, XVIII & XIX)-1976
CM/L-1336644 1984-12-17	National Rolling & Steel Ropes Limited, Athpur, 24-Parganas (WB) (Office: Nicco House, Hare Street, Calcutta 700001)	IS : 1786-1979
CM/L-1336745 1984-12-17	Star Agencies, Anand Bhavan, Opp Sardar Bhawan, Near Jubilee Garden, Vadodara 390001	IS : 5490 (Part II)-1979
CM/L-1336846 1984-08-17	do	IS : 5490 (Part IV)-1979
CM/L-1336947 1984-08-17	Bharat Gold Mines Limited, Central Workshops (Mech), P. O. Oargaum, K. G. F. 563120	IS : 7913-1975
CM/L-1337040 1984-12-17	Maharashtra Asbestos Pvt Limited, Bela Village, P.B. No. 29, Bandara 441904 (Office: 305A, Green Street, Opp. Old Custom House, Bombay 400001)	IS : 9627-1980
CM/L-1337141 1984-12-17	Cable Corporation of India Limited, Dattapada Road, Borivli (East), Bombay 400066	IS : 691-1966
CM/L-1337242 1984-12-17	Ghaziabad Steel Tubes Company, 35 K.M. Delhi-Hapur Road, Ghaziabad (UP) (Office: 6/23 Shanti Niketan, New Delhi 110021)	IS : 1239 (Part I)-1979
CM/L-1337343 1984-08-21	Sonet Engineers, Mavdi Plot, Rajkot 360004	IS : 10001-1981
CM/L-1337444 1984-12-17	Automatic Instrument Company, C-3/2 Mayapuri Phase II, New Delhi 110064	IS : 4159-1976
CM/L-1337545 1984-08-21	Hind Tin Industries, 107 A, Raja Dinendra Street, Calcutta 700006 (Office: P-355 Kevatala Road, Calcutta 700029)	IS : 10325-1982
CM/L-1337646 1984-08-21	Friends Industries, 10/22, Katra Wazir Khan, Hathras Road, Agra 282006	IS : 10001-1981
CM/L-1337747 1984-08-21	K-Lite Industries, 73 Thatha, Muthiappan Street, Madras 600001	IS : 3528-1966
CM/L-1337848 1984-08-21	Kappa Electricals, 11 Mount Road, Saidapet, Madras 600015	IS : 2705 (Part II)-1981
CM/L-1337949 1984-08-21	do	IS : 2705 (Part III)-1981
CM/L-1338042 1984-08-24	Indira RCC Spun Pipe Industries, Chhota Lal Pur, Pandey Pur (Azamgarh Road), Varanasi [Office: C/o M/s Goverdhan Das Gopal Das (Saraf), CK-57/86 Govindpura, Varanasi]	IS : 458-1971
CM/L-1338143 1984-08-24	J. K. White Cement Works, P. O. Golan, Tehsil Merta, Dist Naguar	IS : 8042-1978
CM/L-1338244 1984-08-24	Bharat Iron & Steel Works, Poona-Bangalore Road, Belgaum 590016	IS : 780-1980
CM/L-1338345 1984-12-17	United Pesticides, Village Mandhour, Ambala City 134007 (Haryana)	IS : 4323-1980
CM/L-1338446 1984-12-17	Jeet Industries, Kunjpura Road, Near Power House, Karnal 132001 (Haryana)	IS : 2074-1962
CM/L-1338547 1984-12-17	Delta Food Pvt Ltd, B-10, Site No. 1, Industrial Area, Bulandshahr Road, Ghaziabad 201001	IS : 1011-1981

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1338648 1984-12-17	Kitchen King Industries, Dilip Nagar, Ratlam 457001 (MP)	IS : 4246-1978
CM/L-1338749 1984-12-17	Oriental Metal Pressing Works Pvt Ltd, 131 Worli, Bombay 400018	do
CM/L-1338850 1984-12-17	Vayaz Indian Pesticides (P) Limited, 16-B Moula Ali, Hyderabad 500040	IS : 8074-1976
CM/L-1338951 1984-08-27	Sahyadri Steel Tubes Pvt Limited, Abrama Village, Opp National Highway No. 8, Valsad (Gujarat) (Office: 5 Rustom Building, IInd Floor, 29 Near Nariman Road, Bombay 400023)	IS : 3196-1982
CM/L-1339044 1984-08-27	Shriram Refrigeration Industries Limited, Balanagar Township, Hyderabad 500037	IS : 10617 (Part I)-1983
CM/L-1339145 1984-08-28	do	IS : 10617 (Part III)-1983
CM/L-1339246 1984-08-28	Shriram Food & Fertilizer Industries, Shivaji Marg, P. O. Box No. 6219, New Delhi 110015	IS : 10325-1982
CM/L-1339347 1984-08-28	Best & Crompton Engineering Limited, M. M. Industrial Estate, Yedipur, Bangalore 560082	IS : 9079-1979
CM/L-1339448 1984-08-30	Samrat Cylinders & Heavy Engineering Company Pvt Ltd, A-31, MIDC Area, Jalna 431203	IS : 3196-1982
CM/L-1339549 1984-12-17	Sood & Company, Vithal Nagar, Saugar (MP) (Office: 3/56 Sadar Bazar, Saugar)	IS : 2932-1974
CM/L-1339650 1984-08-30	Modern Fabricators, 23 J Radhamadav Dutta Garden Lane, Calcutta 700010	IS : 1038-1983
CM/L-1339751 1984-08-30	Behar Bobbin & Engineering Works, Bara Bazar, Katihar 854105	do
CM/L-1339852 1984-08-28	Rajdoot Paints Pvt Ltd, A-38 Industrial Area, Ghaziabad-Bulandshahr Road, Sikandrabad 203205 (UP) (Office: Rajdoot Paint House, 19 D. D. A. Commercial Complex, Kailash Colony Extension, New Delhi 110048)	IS : 427-1965
CM/L-1339953 1984-12-17	Synpro Industries, 50-51 & 60-61 Industrial Estate, Pologround, Indore 452003 (MP)	IS : 133-1975
CM/L-1340029 1984-12-17	Dee Pee Kagaj Udyog Pvt Limited, Sector III, B-2 Noida, Dist Ghaziabad (Office: 16 Apsara NDSE Co-op, New Delhi 110049)	IS : 1222-1973
CM/L-1340130 1984-12-17	Regal Paints, 172 MIG Duplex, A. B. Road, Indore (MP) [Office: 83 Siyaganj Commercial House, Indore (MP)]	IS : 133-1975
CM/L-1340231 1984-12-17	Himachal Air Products Pvt Ltd, Maganpura, P. O. Majholi, Sub-Division Nalagarh, Dist Solan (HP)	IS : 309-1974
CM/L-1340332 1984-12-17	Dental Product of India Ltd, Lal Bahadur Shastri Marg, Manpada, Thane 400604 (Office: 9 Wallace Street, Bombay 400001)	IS : 6036-1970
CM/L-1340433 1984-12-17	Ganga Asbestos Cement Limited, Dalmau Road, Munshiganj, Raibareli	IS : 1592-1980
CM/L-1340534 1984-08-31	Ganga Foundry, 9/103 Pillaiyur Kovil Street, B. R. Puram, Peelamedu, Coimbatore 641004	IS : 6595-1980
CM/L-1340635 1984-08-31	Vij Enterprises, 19-A Industrial Estate, Jalandhar Road, Hoshiarpur 146001 (Punjab)	IS : 10001-1981
CM/L-1340736 1984-12-17	Gujarat Agro Industries Corporation Ltd, (Pesticides Formulation Unit), Near ITI, National Highway No. 8 B, Gondal 360311 (Office: Khetudyog Bhawan, Opp High Court, Navarangpur, Ahmadabad 380014)	IS : 565-1975
CM/L-1340837 1984-12-17	Pesto Chem India, 320 Karwal Nagar, Delhi (Office: 966-67 Gali Telian, Behind Novelty Cinema, Delhi 110006)	IS : 3903-1975
CM/L-1340938 1984-09-04	Rajdoot Paints Pvt Ltd, A-38 Industrial Area, Ghaziabad-Bulandshahr Road, Sikandrabad 203205 (Office: Rajdoot Paint House, 19 D.D.A Commercial Complex, Kailash Colony Extension, New Delhi 110048)	IS : 5410-1969

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1346041 1984-09-25	Super Spinning Mills Limited, 'B' Unit, Kotnur 515213, Taluk Hindupur, Dist Anantapur (AP)	IS : 834-1975
CM/L-1346142 1984-09-25	Vijay Paint Industries, 15 Industrial Area, Banmore, Dist Morena 476444 (MP) (Office: Daulat Ganj, Gwalior 474001)	IS : 2074-1979
CM/L-1346243 1984-09-24	Hindustan Everest Tools Limited, Village Jathari, Dist Sonapat (Office: Dohil Chambers, 46 Nehru Place, New Delhi 110019)	IS : 4003 (Part II)-1978
CM/L-1346344 1984-09-26	Prabha Electronics Limited, 209 Industrial Area, Chandigarh 160002	IS : 9798-1981
CM/L-1346445 1984-09-26	Cement Pipe Corporation, Rajendra Nagar, Industrial Colony, Mohan Nagar, Ghaziabad (UP) (Office: 2 Parkview, Karol Bagh, New Delhi)	IS : 458-1971
CM/L-1346546 1984-09-26	Mercury Chemicals, Bajana (Via Viramgam), Dist Surendranagar (Gujarat) (Office: 30 Patrakar Society, Fatehganj, Vadodara)	IS : 254-1973
CM/L-1346647 1984-09-26	Ram Agro Chemical Industries Pvt Ltd, 103 G. N. T. Road, Polal, Madras 600066 (Office: 197 Govindappa Naicken Street, Madras 600001)	IS : 1109-1980
CM/L-1346748 1984-09-26	Vijay Paint Industries, 15 Industrial Area, Banmore, Dist Morena 476444 (MP) (Office: Daulat Ganj, Gwalior 474001)	IS : 341-1973
CM/L-1346849 1984-12-17	Nagpur Re-rolling Mills, Bawa Steel Buildings, Opposite Railway Station, Kamptee 441001	IS : 1786-1979
CM/L-1346950 1984-09-27	Sandip Engineering Company, A-26/H, Gali No. 4, Anand Parbat Industrial Area, New Delhi 110005	IS : 9079-1979
CM/L-1347043 1984-09-27	Surya Enterprises, Jungly Sahib Ka Bada, Chana Kothar, Gwalior (Office: Bhagwati Sadan, Topi Bazar, Gwalior)	IS : 7142-1974
CM/L-1347144 1984-09-27	Klassik Enamellers, D-336 TTC, Thana-Belapur Road, Thane (Office : 56 Krishna Niwas, 006 Kalbadevi Road, Bombay 400002)	IS : 774-1971
CM/L-1347245 1984-09-25	Card Board Box Manufacturing Company, Jessore Road, Madhyamgram, Barasat (Office: Kanak Building, 41 Chowringhee Road, Calcutta 700071)	IS : 10212 (Part I)-1982

ADDITIONAL VARIETIES OF PRODUCTS INCLUDED IN THE EXISTING LICENCES

Sl No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-0948569	Indane Cables, Rohtak	IS : 694-1977	New variety of PVC insulated cables for working voltages up to and including 1 100 volts, sheathed and unsheathed with copper conductor, excluding cables for low temperature conditions included in the licence with effect from 1984-09-29
2	CM/L-1107730	Polar Auto & Engineering Industries Pvt Ltd, New Delhi	IS : 4246-1978	New variety of domestic gas stoves for use with liquefied petroleum gases, CRC sheet body, double burner, total gas consumption 266 g/h with burners ratings 1 688 kcal/h and 1 206 kcal/h included in the licence with effect from 1984-09-29
3	CM/L-1129033	Usha Rectifier Corporation India (P) Ltd, Faridabad	IS : 4985-1981	New variety of unplasticized PVC pipes for potable water supplies—Class 3; sizes 200 to 315 mm included in the licence with effect from 1984-09-07

SL No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
4	CM/L-1234535	Kitchen Tools, Rohtak	IS : 4246-1978	New variety of domestic gas stoves for use with liquefied petroleum gases, CRC sheet, painted and stainless steel sheet body, double burner total gas consumption — 332 g/h with burners ratings 2 064 kcal/h and 1 554 kcal/h included in the licence with effect from 1984-09-07
5	CM/L-1234737	Ajanta Tubes Ltd, Ghaziabad	IS : 4985-1981	New variety of unplasticized PVC pipes for potable water supplies of Classes 1, 2, 3, 4 with sizes 110 to 315 mm; 110 to 180 mm; and 110 mm respectively included in the licence with effect from 1984-09-05
6	CM/L-1267045	Seato Engineers, Kundli	IS : 4246-1978	New variety of domestic gas stoves for use with liquefied petroleum gases, CRC sheet body, double burners total gas consumption 344 g/h with burners ratings 1876 kcal/h; and 1 876 kcal/h included in the licence with effect from 1984-09-29
7	CM/L-1274547	Apt (Delhi) Engineering (P) Ltd, New Delhi	IS : 4246-1978	New variety of domestic gas stoves for use with liquefied petroleum gases, CRC sheet painted and stainless steel sheet body, double burner, total gas consumption—332 g/h with burners ratings 2 064 kcal/h and 1 554 kcal/h included in the licence with effect from 1984-09-15
8	CM/L-1284954	Manoj Enterprises, New Delhi	IS : 4246-1978	New variety of domestic gas stoves for use with liquefied petroleum gases, Stainless steel sheet body, double burner total gas consumption 325 g/h, with burners ratings 1 528 kcal/h and 2 010 kcal/h included in the licence with effect from 1984-08-08
9	CM/L-1291547	Spencer Auto Industries Pvt Ltd, Faridabad	IS : 4246-1978	New variety of domestic gas stoves for use with liquefied petroleum gases, CRC sheet and cast iron body, painted double burner, total gas consumption — 324 g/h with burners ratings 2 064 kcal/h and 1 474 kcal/h included in the licence with effect from 1984-09-29
10	CM/L-1303124	Indra Industries, Delhi	IS : 3564-1974	New variety of door closers (hydraulically regulated), size No. 1 included in the licence with effect from 1984-08-18
11	CM/L-1306130	SKN Associates Pvt Ltd, New Delhi	IS : 4246-1978	New variety of domestic gas stoves for use with liquefied petroleum gases, CRC sheet painted and stainless steel sheet body, double burner total gas consumption 332 g/h with burners ratings 2 064 kcal/h and 1 554 kcal/h included in the licence with effect from 1984-09-15
12	CM/L-1324839	Pankaj Engineering Works, Faridabad	IS : 4760-1979	New variety of domestic cooking ranges including grillers for use with liquefied petroleum gases, top surface ranges with two boiling burners and a griller only of CRC sheet nickel/chromium plated body, total gas consumption — 495 g/h with burners ratings 2 015 kcal/h and 1 688 kcal/h; grill burner—1 688 kcal/h included in the licence with effect from 1984-09-07

SL No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
13	CM/L-1326944	Cenyo Gas Appliances Co, Faridabad	IS : 4246-1978	New variety of domestic gas stoves for use with liquefied petroleum gases, nickel/chromium plated CRC sheet body, double burner, total gas consumption 332 g/h with burners ratings 2 064 kcal/h and 1 554 kcal/h included in the licence with effect from 1984-09-07
14	CM/L-1327845	Piryadarshani Cable Industries, Delhi	IS : 691-1966	New variety of flexible trailing drill cable, type FT 6 general purpose HOFR sheath included in the licence with effect from 1984-09-29

LICENCES LAPSED

SL No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-0015619	Sulekha Works Ltd, Calcutta	IS : 220-1972	Renewal was deferred after 1984-01-15; the licence now stands lapsed after that date
2	CM/L-0112112	Andhra Steel Corporation, Visakhapatnam	IS : 1977-1975	Lapsed after 1984-06-30
3	CM/L-0130316	Eveready Flashlight Company, Lucknow	IS : 2083-1962	Lapsed after 1983-08-15
4	CM/L-0202618	Jairamdas Udyog Ltd, Bangalore	IS : 6175 (Part III)-1977	Renewal was deferred after 1983-08-15; the licence now stands lapsed after that date
5	CM/L-0227533	Sen-Harvic, Udhana (Gujarat)	IS : 1038-1975	Renewal was deferred after 1997-03-15; the licence now stands lapsed after that date
6	CM/L-0283139	Liberty Chemical Works, Bombay	IS : 2211-1972	Lapsed after 1984-08-15
7	CM/L-0322022	Shankara Machine Tools Pvt Ltd, Bahadurgarh	IS : 774-1971	Renewal was deferred after 1984-05-15; the licence now stands lapsed after that date
8	CM/L-0327436	Guest Keen Williams Ltd, Calcutta	IS : 3930-1966	Renewal was deferred after 1984-06-15; the licence now stands lapsed after that date
9	CM/L-0327537	do	IS : 4431-1978	do
10	CM/L-0327638	do	IS : 5517-1969	do
11	CM/L-0327739	do	IS : 3195-1975	do
12	CM/L-0327840	do	IS : 3885-1977	do
13	CM/L-0328337	Indian Cable Company Ltd, Pune	IS : 434 (Part I)-1964	Lapsed after 1984-06-15
14	CM/L-0330425	Guest Keen Williams Ltd, Calcutta	IS : 7283-1974	Renewal was deferred after 1984-06-15; the licence now stands lapsed after that date
15	CM/L-0330526	do	IS : 4432-1967	do
16	CM/L-0361840	Singh Engineering Works Ltd, Kanpur	IS : 6914-1978	Lapsed after 1984-08-31
17	CM/L-0366244	Farmico Private Limited, Himatnagar	IS : 561-1978	Renewal was deferred after 1982-01-15; the licence now stands lapsed after 1984-06-30
18	CM/L-0366345	do	IS : 562-1978	do
19	CM/L-0409337	Singhal Pesticides, Agra	IS : 6439-1978	Lapsed after 1984-05-15
20	CM/L-0410423	Indian Metals & Ferro-Alloys Ltd, Cuttack	IS : 3589-1981	Lapsed after 1983-12-31
21	CM/L-0411223	do	IS : 1239 (Part I)-1979	do
22	CM/L-0434336	Hindustan Conductors, Azamgarh	IS : 398-1976	Renewal was deferred after 1983-04-30, the licence now stands lapsed after that date
23	CM/L-0443741	Mahendra Engineering Works, Coimbatore	IS : 325-1978	Lapsed after 1984-06-15

Sl. No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
24	CM/L-0450334	Bharat Tin Works, Bhavnagar	IS : 916-1975	Lapsed after 1984-07-31
25	CM/L-0454847	Swadeshi Metals Pvt Ltd, Chandigarh	IS : 398 (Part II)-1976	Lapsed after 1983-08-15
26	CM/L-0459857	Geeta Iron & Brass Pvt Ltd, Vadodara	IS : 909-1975	Renewal was deferred after 1981-12-15; the licence now stands lapsed after that date
27	CM/L-0476857	Krislar Diesel Engines Pvt Ltd, Madras	IS : 1601-1960	Renewal was deferred after 1983-09-30; the licence now stands lapsed after that date
28	CM/L-0527545	Genelec Limited, Bombay	IS : 2148-1968	Renewal was deferred after 1984-06-15; the licence now stands lapsed after that date
29	CM/L-0531637	Inca Cables Pvt Ltd, Madras	IS : 398 (Part II)-1976	Lapsed after 1984-06-30
30	CM/L-0572247	Indian Metal & Ferro Alloys Ltd, Cuttack	IS : 2713-1969	Lapsed after 1983-12-15
31	CM/L-0578461	Virangam Re-rolling Mills (P) Ltd, Udyognagar	IS : 1977-1975	Renewal was deferred after 1979-01-15; the licence now stands lapsed after that date
32	CM/L-0586157	President Industries, Ahmadabad	IS : 561-1978	Renewal was deferred after 1984-01-15; the licence now stands lapsed after that date
33	CM/L-0578663	Malhotra Steel Products, Thane	IS : 226-1975	do
34	CM/L-0592758	Farmico Private Limited, Himatnagar	IS : 564-1975	Renewal was deferred after 1982-02-28; the licence now stands lapsed after 1984-06-30
35	CM/L-0612536	Gem Surgical, Ahmadabad	IS : 3390-1977	Renewal was deferred after 1982-12-15; the licence now stands lapsed after that date
36	CM/L-0641947	Jayalakshmi Fertilizers, Tanuku	IS : 5281-1969	Lapsed after 1984-09-15
37	CM/L-0658964	President Industries, Ahmadabad	IS : 2567-1978	Lapsed after 1984-03-31
38	CM/L-0659764	Apeejay Industries Pvt Ltd, Calcutta	IS : 3748-1966	Renewal was deferred after 1983-04-30; the licence now stands lapsed after that date
39	CM/L-0662652	Nagarjuna Agro & Steel Corporation, Dist Guntur	IS : 2567-1978	Renewal was deferred after 1983-12-31; the licence now stands lapsed after that date
40	CM/L-0674962	Shri Bajrang Iron Industries, Calcutta	IS : 226-1975	Renewal was deferred after 1984-02-15; the licence now stands lapsed after that date
41	CM/L-0690051	Modi Steel Wire Manufacturing Company, Madras	IS : 398 (Part II) -1976	Renewal was deferred after 1984-03-31; the licence now stands lapsed after that date
42	CM/L-0696871	Markfed Refined Oil & Allied Industries, Kapurthala	IS : 1374-1979	Lapsed after 1984-04-15
43	CM/L-0719655	Rajdoot Paints Pvt Ltd, Delhi	IS : 133-1975	Renewal was deferred after 1983-09-15; the licence now stands lapsed after that date
44	CM/L-0749563	Anglo India Jute Mills Company Ltd, Calcutta	IS : 7406 (Part I)-1974	Renewal was deferred after 1984-01-31; the licence now stands lapsed after that date
45	CM/L-0759667	Rafiq Knitters, Tirupur	IS : 4964-1980	Renewal was deferred after 1984-03-15; the licence now stands lapsed after the date
46	CM/L-0764963	Galada Continuous Castings Ltd, Hyderabad	IS : 5484-1978	Lapsed after 1983-03-31
47	CM/L-0782662	Rajdoot Paints Pvt Ltd, Delhi	IS : 2339-1963	Renewal was deferred after 1983-11-30; the licence now stands lapsed after that date
48	CM/L-0805042	Allied Steel (P) Ltd, Raipur (MP)	IS : 8054-1976	Renewal was deferred after 1983-10-15; the licence now stands lapsed after that date

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49	CM/L-0813344	U. K. Paint Industries, New Delhi	IS : 137-1965	Lapsed after 1984-08-31
50	CM/L-0824652	National Industrials, Chalakudy	IS : 10 (Part II)-1976	Renewal was deferred after 1983-12-31; the licence now stands lapsed after that date
51	CM/L-0827759	Hira Cable Works, Dist Sambalpur	IS : 4685 (Part I)-1968	Renewal was deferred after 1982-12-31; the licence now stands lapsed after that date
52	CM/L-0833855	V. R. Cables & Plastics Industries, Ahmadabad	IS : 694-1977	Renewal was deferred after 1982-01-31; the licence now stands lapsed after that date
53	CM/L-0836760	Geep Industrial Syndicate Ltd, Allahabad	IS : 203-1972	Renewal was deferred after 1983-02-15; the licence now stands lapsed after that date
54	CM/L-0839968	Indian Metals & Ferro Alloys Ltd, Cuttack	IS : 1161-1979	Lapsed after 1984-02-29
55	CM/L-0840145	Southern Insecticides & Fertilizers, Madras	IS : 7122-1973	Renewal was deferred after 1984-02-29; the licence now stands lapsed after that date
56	CM/L-0853154	Krishna Steel Industries Ltd, Thane	IS : 6914-1978	Renewal was deferred after 1984-04-15; the licence now stands lapsed after that date
57	CM/L-0855865	Bhagsons Paint Industries (India), Delhi	IS : 525-1968	Renewal was deferred after 1983-04-15; the licence now stands lapsed after that date
58	CM/L-0855966	do	IS : 524-1968	do
59	CM/L-0858972	Anjaneya Steel Rolling Mills, Tiruchirappalli	IS : 226-1975	Renewal was deferred after 1983-04-15; the licence now stands lapsed after that date
60	CM/L-0861557	B. L. Industries, Jaipur	IS : 7122-1973	Lapsed after 1984-04-15
61	CM/L-0871257	Central Insecticides & Fertilizers, Bombay	IS : 565-1975	Renewal was deferred after 1984-06-15; the licence now stands lapsed after that date
62	CM/L-0876368	Century Fitting Works, Calcutta	IS : 10 (Part IV)-1976	Renewal was deferred after 1983-06-30; the licence now stands lapsed after that date
63	CM/L-0881967	Sterling Cables, Faridabad	IS : 694-1977	Renewal was deferred after 1983-07-31; the licence now stands lapsed after that date
64	CM/L-0885066	Monark Engineering Com-pany, Bombay	IS : 933-1976	Renewal was deferred after 1983-08-15; the licence now stands lapsed after that date
65	CM/L-0885167	do	IS : 934-1976	do
66	CM/L-0885672	Micropiston & Rings Ltd, Pune	IS : 6750-1972	do
67	CM/L-0888072	Raipur Bharat Steel & Wire Weld Industries Ltd, Raipur	IS : 1977-1975	Renewal was deferred after 1982-08-15; the licence now stands lapsed after that date
68	CM/L-0893267	Modi Sales, Ludhiana	IS : 226-1975	Renewal was deferred after 1983-09-15; the licence now stands lapsed after that date
69	CM/L-0894471	Gupta Chemicals (P) Ltd, Jaipur	IS : 5281-1969	Lapsed after 1984-09-15
70	CM/L-0902444	Gwalior Wire Products, Gwalior	IS : 398 (Part I)-1976	Renewal was deferred after 1983-10-15; the licence now stands lapsed after that date
71	CM/L-0903143	Scientific Insecticides Company, Guntur	IS : 7121-1973	do
72	CM/L-0915554	Subbiah Foundry, Coimbatore	IS : 6595-1980	Renewal was deferred after 1983-11-30; the licence new stands lapsed after that date
73	CM/L-0916859	National Container Works, Rajpura	IS : 916-1975	Renewal was deferred after 1982-11-30; the licence now stands lapsed after that date
74	CM/L-0927864	Nagarjuna Agro & Steel Corporation, Dist Guntur	IS : 565-1975	Renewal was deferred after 1984-01-15; the licence now stands lapsed after that date

Sl No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
75	CM/L-0929060	Nagarjuna Agro & Steel Corporation, Dist Guntur	IS : 2568-1978	Renewal was deferred after 1984-01-15; the licence now stands lapsed after that date
76	CM/L-0929969	Nav Bharat Steel Rolling Mills, Bombay	IS : 226-1975	Renewal was deferred after 1984-04-15; the licence now stands lapsed after that date
77	CM/L-0933859	Super Industries, Ahmadabad	IS : 561-1978	Renewal was deferred after 1983-01-31 the licence now stands lapsed after 1984-05-15
78	CM/L-0959675	Timber & Plywood Company Ltd, Calcutta	IS : 10 (Part II)-1976	Renewal was deferred after 1982-03-31; the licence now stands lapsed after that date
79	CM/L-0962058	Nav Bharat Steel Rolling Mills, Bombay	IS : 1786-1979	Renewal was deferred after 1984-04-15; the licence now stands lapsed after that date
80	CM/L-0960458	Salem Textiles Ltd, Dist Salem	IS : 834-1975	Renewal was deferred after 1983-04-15; the licence now stands lapsed after that date
81	CM/L-0979176	Alcon Wires & Cables Industries, Rajpura	IS : 694-1977	Lapsed after 1984-07-15
82	CM/L-0981466	Rathi Udyog Ltd, Ghaziabad	IS : 1977-1975	Renewal was deferred after 1983-07-15; the licence now stands lapsed after that date
83	CM/L-0983571	Rohtas Re-rolling Mills Dehri-on-Sone, Dist Rohtas	IS : 226-1975	Renewal was deferred after 1983-08-31; the licence now stands lapsed after that date
84	CM/L-0998281	Glusol Biscuit Company, Ajmer	IS : 1011-1981	Lapsed after 1983-09-30
85	CM/L-1001007	Krishna Iron & Steel Rolling Mills, Mandi Gobindgarh	IS : 226-1975	Renewal was deferred after 1983-10-15; the licence now stands lapsed after that date
86	CM/L-1008930	Gujarat Agro Industries Corporation Ltd, Ahmadabad	IS : 562-1978	Renewal was deferred after 1983-11-30; the licence now stands lapsed after 1984-06-30
87	CM/L-1013418	Amrit Pal Singh & Company, Yamuna Nagar	IS : 10 (Part III)-1974	Renewal was deferred after 1983-12-15; the licence now stands lapsed after that date
88	CM/L-1021720	M. Shanks Sanitary Cisterns Company, Mills Road, Goraya	IS : 774-1971	Renewal was deferred after 1982-12-31; the licence now stands lapsed after that date
89	CM/L-1023017	Kaushal Timber Traders, Yamuna Nagar	IS : 10 (Part III)-1974	Renewal was deferred after 1984-01-15; the licence now stands lapsed after that date
90	CM/L-1030519	Supra Chem, Hyderabad	IS : 3098-1975	Renewal was deferred after 1984-02-15; the licence now stands lapsed after that date
91	CM/L-1036430	do	IS : 493 (Part I)-1981	do
92	CM/L-1038939	Bajoria & Company, Bhagalpur	IS : 398 (Part I)-1976	Lapsed after 1984-02-29
93	CM/L-1043831	Bharat Iron & Steel Industries Bombay	IS : 226-1975	Renewal was deferred after 1984-03-15; the licence now stands lapsed after that date
94	CM/L-1047233	All India Medical Corporation, Naroda, Ahmadabad	IS : 633-1975	do
95	CM/L-1049641	Usha Knitting Company, Tirupur	IS : 4964-1980	do
96	CM/L-1052327	Inc. Cables Pvt Ltd, Madras	IS : 398 (Part I)-1976	Lapsed after 1984-06-30
97	CM/L-1052428	Jairamdas Udyog Ltd, Bangalore	IS : 5100-1969	Renewal was deferred after 1983-08-15; the licence now stands lapsed after that date
98	CM/L-1052529	do	IS : 5102-1969	do
99	CM/L-1052630	do	IS : 6175 (Part II)-1977	do
100	CM/L-1053026	do	IS : 5101-1969	do
101	CM/L-1055636	T. S. R. & Company, Madras	IS : 3959-1978	Renewal was deferred after 1984-03-31; the licence now stands lapsed after that date

Sl. No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
102	CM/L-1062532	K. C. Agro Aids, Karnal	IS : 9020-1979	Renewal was deferred after 1984-03-31; the licence now stands lapsed after that date
103	CM/L-1074034	Harison Engineering Corporation, Jalandhar	IS : 778-1980	Renewal was deferred after 1983-05-15; the licence now stands lapsed after that date
104	CM/L-1083641	Swadehi Metals Pvt Ltd, Chandigarh	IS : 398 (Part I)-1976	Lapsed after 1983-04-30
105	CM/L-1084643	Swastik Containers, Hyderabad	IS : 916-1975	Lapsed after 1984-05-15
106	CM/L-1092036	Namsons Electronics, Cannanore (Kerala)	IS : 9583-1981	Renewal was deferred after 1983-06-30; the licence now stands lapsed after that date
107	CM/L-1094949	Mahalaxmi Re-rolling Mills and Engineering Works, Bhilai	IS : 226-1975	Lapsed after 1984-07-15
108	CM/L-1111721	Weldex Private Limited, Bangalore	IS : 814 (Part II)-1974	Renewal was deferred after 1983-08-31; the licence now stands lapsed after that date
109	CM/L-1117935	Towers & Transformers Pvt Ltd, Ghaziabad	IS : 398 (Part II)-1976	Renewal was deferred after 1983-09-30; the licence now stands lapsed after that date
110	CM/L-1114929	Gwalior Wire Production, Gwalior	IS : 398 (Part I)-1976	Renewal was deferred after 1983-09-15; the licence now stands lapsed after that date
111	CM/L-1123021	Weldex Private Limited, Bangalore	IS : 814 (Part I)-1974	Renewal was deferred after 1983-10-15; the licence now stands lapsed after that date
112	CM/L-1130321	Youngmen Electronics, Ambala City	IS : 4250-1967	Renewal was deferred after 1983-11-15; the licence now stands lapsed after that date
113	CM/L-1130725	Sing Electro Steel Ltd, Dist Thane	IS : 6914-1978	do
114	CM/L-1132931	Master Industries, Moga	IS : 9020-1979	Renewal was deferred after 1983-11-30; the licence now stands lapsed after that date
115	CM/L-1133933	Shakti Engineering Works, Batala (Punjab)	IS : 9020-1979	do
116	CM/L-1139541	Metal Processing Industries, Pvt Ltd, Madras	IS : 226-1975	Lapsed after 1984-01-15
117	CM/L-1146134	Mazgaon Containers and Fabricators Pvt Ltd, Bombay	IS : 1783-1974	Renewal was deferred after 1984-01-15; the licence now stands lapsed after that date
118	CM/L-1146639	Metal Processing Industries, Pvt Ltd, Madras	IS : 1786-1979	Lapsed after 1984-01-15
119	CM/L-1147338	Modern Plastics Corporation, Hyderabad	IS : 2509-1973	Renewal was deferred after 1984-01-15; the licence now stands lapsed after that date
120	CM/L-1159244	Special Steels Ltd, Thane	IS : 6915-1978	Renewal was deferred after 1984-02-15; the licence now stands lapsed after that date
121	CM/L-1159446	do	IS : 1977-1975	do
122	CM/L-1164237	Inca Cables Pvt Ltd, Madras	IS : 1554 (Part I)-1976	Renewal was deferred after 1984-02-29; the licence now stands lapsed after that date
123	CM/L-1166948	Quality Metals Industries, Coimbatore	IS : 10 (Part IV)-1976	Renewal was deferred after 1984-02-29; the licence now stands lapsed after that date
124	CM/L-1168245	Hydrocarbon & Chemicals, Calcutta	IS : 4887-1980	Renewal was deferred after 1984-03-15; the licence now stands lapsed after that date
125	CM/L-1168346	do	IS : 1083-1978	do
126	CM/L-1170131	Ravi Steelways, Ranchi	IS : 226-1975	Renewal was deferred after 1984-03-15; the licence now stands lapsed after that date
127	CM/L-1170333	do	IS : 1786-1979	do

SL No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
128	CM/L-1178551	Bharat Iron & Steel Industries, Bombay	IS : 1786-1979	Renewal was deferred after 1984-04-15; the licence now stands lapsed after that date
129	CM/L-1181136	Shakti Cables, Secunderabad	IS : 1554 (Part D)-1976	Lapsed after 1984-04-30
130	CM/L-1196149	A. K. Enterprises, Meerut	IS : 416-1978	Renewal was deferred after 1984-06-15; the licence now stands lapsed after that date
131	CM/L-1200417	The Sankar Match Works, Sivakasi	IS : 2653-1980	Lapsed after 1984-06-30
132	CM/L-1202623	Om Prakash Agatwal & Brothers, Jaipur	IS : 285-1974	Lapsed after 1984-07-15
133	CM/L-1211927	Ashok Pesticides, Vadodara	IS : 633-1975	Lapsed after 1984-07-31
134	CM/L-1218234	Sone Valley Portland Cement Company Ltd, Japla	IS : 1489-1976	Lapsed after 1984-06-30
135	CM/L-1228439	Supreme Industries Ltd, Taloja	IS : 4985-1981	Lapsed after 1984-08-15
136	CM/L-1228641	Hallex Engineering Industries, Faridabad	IS : 325-1978	Lapsed after 1984-08-31

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INDIAN STANDARDS

The Standards listed below have been classified departmentwise

■ NEW AND REVISED INDIAN STANDARDS

AGRICULTURAL AND FOOD PRODUCTS DEPARTMENT

IS : 882-1984 Lindane (first revision). Gr 2

IS : 1251-1984 Zinc phosphide, technical (second revision). Gr 3

IS : 3903-1984 Dimethoate emulsifiable concentrates (second revision). Gr 3

IS : 9054-1983 Inter-carrier slats (first revision). Gr 1

IS : 10907-1984 Code for design of farm drainage tile or pipe system. Gr 5

IS : 10925-1984 Turmeric oleoresin. Gr 3

IS : 10946-1984 Methods of sampling for technical grade pesticides. Gr 3

IS : 11008-1984 Methabenzthiazuron water dispersible powder concentrates. Gr 3

IS : 11010-1984 Ziram colloidal suspension. Gr 3

IS : 11032-1984 Rotary screen-type precleaner. Gr 2

CHEMICAL DEPARTMENT

IS : 3205-1984 Precipitated barium carbonate, technical (first revision). Gr 5

IS : 3972 (Part 1/Sec 2)-1984 Methods of test for vitreous enamelware: Part 1 Preparation of specimen for testing: Section 2 Enamelled cast iron (first revision). Gr 2

IS : 7324-1983 Brix hydrometers (first revision). Gr 7

IS : 10895-1984 Copper nitrate. Gr 4

IS : 10945-1984 Shanks for footwear. Gr 5

CIVIL ENGINEERING DEPARTMENT

IS : 1742-1983 Code of practice for building drainage (second revision). Gr 10

IS : 2366-1983 Code of practice for nail-jointed timber construction (first revision). Gr 10

IS : 2911 (Part 1/Sec 4)-1984 Code of practice for design and construction

of foundation: Part 1 Concrete piles: Section 4 Bored precast concrete piles. Gr 7

IS : 10890-1984 Planetary mixer used in tests of cement and pozzolana. Gr 2

IS : 10993-1984 Functional requirements for 2 000-kg dry powder tender for fire brigade use. Gr 3

CONSUMER PRODUCTS AND MEDICAL INSTRUMENT DEPARTMENT

IS : 10955-1984 Gimlet for trephine. Gr 1

IS : 10976-1984 Terms and definitions of wheelchairs manual. Gr 3

IS : 10984-1984 Scissors, dissecting, curved on flat, Pott's pattern. Gr 1

IS : 10985-1984 Needle, acupuncture. Gr 1

IS : 11034-1984 Guide for care and handling of orthopaedic implants and instruments. Gr 1

ELECTRONICS AND TELECOMMUNICATION DEPARTMENT

IS : 2786 (Part 2)-1984 Ceramic dielectric capacitors, type 2: Part 2 FCCG 01 and FCCG 02 capacitors. Gr 3

IS : 4007 (Part 2/Sec 10)-1983 Terminals for electronic equipment: Part 2 Detail specification for terminals: Section 10 Terminal, insulated, with insulated captive spring cap, Type TSL 5. Gr 1

IS : 4570 (Part 4)-1984 Crystal unit holders: Part 4 Metal solder seal, two-wire crystal unit holders types BC and BC/1. Gr 1

IS : 8271 (Part 2/Sec 10)-1984 Quartz crystal units used for frequency control and selection: Part 2 Series AA for oscillators: Section 10 Quartz crystal unit type AA-10. Gr 2

IS : 8271 (Part 2/Sec 13)-1984 Quartz crystal units used for frequency control and selection: Part 2 Series AA for oscillators: Section 13 Quartz crystal unit type AA-13. Gr 2

IS : 8271 (Part 2/Sec 14)-1984 Quartz crystal units used for frequency control and selection: Part 2 Series AA for oscillators: Section 14 Quartz crystal unit type AA-14. Gr 1

IS : 8271 (Part 4/Sec 4)-1984 Quartz crystal units used for frequency control and selection: Part 4 Series AB for oscillators: Section 4 Quartz crystal unit type AB-04. Gr 1

IS : 10922-1984 Copper foil for use in the manufacture of copper-clad base material. Gr 5

IS : 11013-1984 Piezoelectric ceramic elements (impact type and squeeze type) for gas lighters. Gr 2

ELECTROTECHNICAL DEPARTMENT



Shocking?

IS : 369-1983 Electric radiators (second revision). Gr 4

IS : 1709-1985 Capacitors for electric fan motors (first revision). Gr 6

IS : 2593-1984 Flexible cables for miners' cap-lamps (first revision). Gr 3

IS : 4289 (Part 1)-1984 Flexible cables for lifts and other flexible connections: Part 1 Elastomer insulated cables (first revision). Gr 3

IS : 5831-1984 PVC insulation and sheath of electric cables (first revision). Gr 3

IS : 9335 (Part 3/Sec 4)-1984 Cellulosic papers for electrical purposes: Part 3 Specification for individual materials: Section 4 Electrolytic capacitor paper. Gr 2

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high-strength structural bolting with large width across flats (thread lengths according to ISO 888) — Product grade C — Property classes 8·8 and 10·9

ISO 7412-1984 Hexagon bolts for high-strength structural bolting with large width across flats (short thread length) — Products grade C — Property classes 8·8 and 10·9

ISO 7417-1984 Hexagon nuts for structural bolting — Style 2, hot-dip galvanized (oversize tapped) — Product grade A — Property class 9

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ISO 7459-1984 Glass containers — Thermal shock resistance and thermal shock endurance — Test methods

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ISO 7142-1984 Binders for paints and varnishes — Epoxy resins — General methods of test

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THE COVER — Carbonated beverages. A number of Indian Standards specify quality parameters for the manufacture of carbonated and other beverages including synthetic syrups, squashes and fruit juices (*see also* page 90).

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International Technology and Standards

■ Standardization becomes important at a certain stage in the development of a particular technology — when the technology needs the stabilizing effect of doing certain things the same way. You could say that when the people involved in developing a technology conclude that certain of their wheels do not need to be continuously reinvented or redesigned, they seek a standard solution for solving their particular wheel problem whenever it comes up. Naturally they would like to have the best possible technical solution at the lowest possible cost.

When a technology is new or is changing rapidly, standardization is not always a good idea, and the developers of such technologies are hardly ever eager to take the time needed to agree on standard solutions for their technical problems. However, as a technology matures, the lack of standard solutions becomes more cumbersome and can even act to slow down further development of the technology. When this happens, standardization work is seen to have a pay-off because, in providing a stabilizing effect for certain aspects of the technology, it allows more time and energy to be spent on those aspects where innovation remains productive.

An illustrative example may be taken from photographic technology. We are aware that photography is a well standardized technology worldwide. We can purchase film that will fit our cameras virtually everywhere in the world. The light sensitivity of the film is expressed in a standardized way as are lens properties and mechanical shutter speeds. Nobody sees any sense in changing these standard solutions and their existence is clearly an aid to further development and refinement of photographic technology.

Given that standardization is a key factor in technological development, it is of interest to consider how it is accomplished on a practical basis. The usual procedure is to get experts together to discuss and agree on standard solutions to their recurring technical problems. The solutions that are found to be acceptable are written in documents which are usually called standards. These documents normally consist of rules and technical requirements which codify some part of the technology.

In the present century (setting aside certain well-kept secrets of military technology) it is rather clear that technology cannot be considered as belonging to any one company or nation. Of course, we have patent systems which give short-term advantages to inventors by allowing a kind of head start in developing fresh ideas, but in a historical perspective this has a very small effect in holding back the worldwide spread of any technology.

It is easy to find examples of technologies which blossom first in one country and then again in another. In Japan we have seen the rapid uptake and improvement of technologies for steel production and electronics — technologies which had previously been blossoming most clearly in Europe and America. Not so long ago, the development of textile processing technology seemed to be very much a British affair, but today it would be very difficult to associate the development of this technology with any single country.

Many other examples could be given. However, my point here is straightforward. Technology is international, it belongs to the total human community. It follows, of course, that standardization should also be international, whenever possible, if it is to best serve its intended function in technological development.

- OLLE STUREN

Excerpts from the address given by Mr Olle Sturen, Secretary-General, International Organization for Standardization (ISO), on the occasion of the American Society of Mechanical Engineers (ASME) Code and Standards Centennial at New Orleans (USA) on 12 December 1984.

NORMS AND VALUES

Lead in Fruit and Vegetables

Lead is now recognized as a widespread hazard to health, particularly to the mental development of growing children. People absorb small quantities of lead from many sources, such as food cooked in utensils containing lead, fruit and vegetables which have grown in soil with various levels of lead content — some occurring naturally and others as a result of contamination by human activities.

Lead, thus absorbed, accumulates in the tissues and blood, and then acts as cumulative poison. Treatment is available for such a condition, but preventive measures in the community are regarded as essential.

Determination of lead content in food materials and avoidance of those containing lead above the maximum permissible limits is one way of preventing lead poisoning in human beings. An internationally agreed method for this purpose has been finalized by the International Organization for Standardization (ISO) and incorporated in an International Standard (ISO 6633) published recently. This high precision spectrometric method is expected to be found useful by all interested in the proper determination of lead in fruit and vegetable products.



Lighting the Way Out of Danger

When a sudden disaster, such as a fire or an explosion, strikes a public building, people inside tend to panic while trying to find an escape route in total or semi darkness, particularly when they are in unfamiliar surroundings. To help them find their way to safety — and reduce panic which often causes unnecessary injuries and even deaths — a British firm has developed a self-activating and self-adhesive luminous PVC material which provides essential information in the form of words or universally recognized symbols. Examples include an arrow pointing to an exit point, a fire extinguisher or a fire-escape door. Word messages can be in any language. The symbols and legends have the additional advantage of being clearly visible during daylight hours. Apart from being supplied in the

form of symbols and legends, the material is available in strips for marking escape routes along corridors to indicate the path of a staircase or to mark the outline of doorways. It is also available in large sheet form for use as a backdrop to indicate the position of emergency apparatus, such as fire extinguishers and telephones. In addition, it can be had as a water-based emulsion paint for use on walls, ceilings and overhead projections, such as pipes and ducting.



This semi-rigid material can be simply attached to any surface wherever required — in hotels, factories, office buildings, hospitals, underground installations, ships, aircraft and in any other enclosed spaces where people congregate. The luminous pigment used has a specially formulated crystalline structure, enabling it to continually absorb and charge itself from the light waves transmitted by daylight or artificial lighting. It is said to activate itself the moment the light source is eliminated, emitting a glow which will remain at optimum brightness during those vital minutes required to evacuate a blacked-out area and remain visible for several hours thereafter. When the light source is restored, the material will immediately re-charge itself in readiness for any future emergency. The pigment is claimed to be non-toxic and the self-activating process as natural and completely safe



Textile Fabrics : Resistance to Attack by Microorganisms

Textile materials made of cotton, jute or flax are liable to deterioration by the action of microorganisms and their evaluation for resistance to attack by microorganisms is an important aid to their proper preservation. To make available standard methods for evaluating such material, the Indian Standards Institution took up work in this field way back in the sixties. As a result, standard methods have been developed for testing resistance to attack by microorganisms in respect of cotton fabrics (IS : 1389-1984), flax fabrics (IS : 3836-1966), and jute fabrics (IS : 1623-1960).

The textile materials may get infected with microorganisms due to exposure to humidity and warm atmosphere or contamination with damp soil for a long time. While infection with microorganisms on account of exposure to humid and warm atmosphere can be evaluated with the help of a number of methods grouped together as accelerated mildew infection methods, resistance to attack by microorganisms due to contamination with damp soil can be tested through soil burial method.

The standard for testing cotton fabrics for resistance to attack by microorganisms prescribes four different accelerated mildew infection methods besides the soil burial method. The accelerated mildew infection methods specified in the Standard are humidity chamber method, pure culture method, mixed culture method and *Aspergillus niger* method. The humidity chamber method is intended for determining qualitatively susceptibility of cotton fabric to the growth of microorganisms associated with attack on cellulose. The pure culture and mixed culture methods are meant for testing quantitatively resistance of the fabric to fungal attack by infecting it with microorganisms capable of destroying cellulose. The *Aspergillus niger* method helps assess resistance of waterproofed fabrics to the fungus *Aspergillus niger* which is typical of microorganisms capable of destroying waterproofness. The soil burial method is intended for judging the behaviour of cotton fabrics under conditions of contact with damp soil for a long period.

The Standard for testing jute fabrics for resistance to attack by microorganisms prescribes two methods, namely, mixed culture method and soil burial method. In the first method, a mixture of spores of five different fungi, which are frequently the cause of deterioration of jute fabrics, is used. The second method requires the jute fabric to be subjected to the action of a much greater variety of microorganisms, both fungi and bacteria, normally found in the soil.

For testing flax fabrics for resistance to attack by microorganisms two quantitative methods, namely, soil burial method and mixed culture method, have been specified in the concerned standard. The soil burial method is intended for testing rotproofness of the treatment involving burial in composted soil enriched with two specific fungi while the mixed culture method determines the resistance of flax fabric to fungal attack by infecting it with *Penicillium sp* and *Memnoniella echinata*. As these materials are often stored, transported

and used under conditions favourable for the growth of microorganisms, numerous preservative treatments have been developed and their number is constantly on the increase. None of them can, however, impart adequate protection from microorganisms as each treatment has some distinct advantages and disadvantages. The selection of a specific preservative treatment depending on its end-use is, therefore, of utmost importance. Besides, it is essential to keep in view the possibility of adverse interaction between treated textile and other materials which it comes in contact with during transportation, storage or use. Recognizing the need for utmost care essential in the selection of a preservative treatment and subsequent handling of treated textiles, the Indian Standards Institution has prepared a draft standard specification on the subject for the guidance of the users. It prescribes the methods of various preservative treatments, in-process control parameters and known and suggested uses of preservative chemicals and provides guidance on the selection of various preservative treatments along with their adverse interaction with other articles coming in contact with them.



Drive Against Detergents

What is more important: clean clothes or clean lakes ?

The Swiss are opting for the lakes with their decision to ban detergents containing phosphates, beginning 1 January 1986, according to a report from Norris Willatt in the Tribune.

What concerns the Swiss is the damage being done to their lakes and rivers by discharge into them of effluents from millions of commercial and home washing machines containing phosphates which are said to destroy the algae on which fish feed, thereby promoting their death and touching off an oxygen depleting process that eventually could turn a limpid lake into a stagnant pond.



With the new ruling coming into force, detergent users in Switzerland may have to revert to good old soap which has been the standard cleansing agent for ages. Or, maybe, an alternative to the key phosphorus compound used in detergent may have to be evolved. And once this comes about a new standard specifying substitute materials for detergent manufacture may not be far behind.



CONSUMER NEWS

QUALITY BEVERAGES TO BEAT THE SUMMER

When out in the scorching heat of the sun on a hot summer day, one often craves for a cold drink to quench the thirst and get some relief from oppressive heat. The choice normally falls on one of the carbonated beverages a wide variety of which is available in the market. At home, the preference is for squashes, synthetic syrups and canned juices apart from the good old *nimbupani*. With so much at stake in terms of health in the consumption of these beverages, quality naturally becomes an important consideration in the choice of cold drinks. If the colours, flavours and preservatives used are not of an acceptable quality and the various beverages are not manufactured under proper hygienic conditions, their consumption may lead to food-borne infections or poisoning, causing distress to the consumer.

To protect the consumers from these hazards and help the industry in producing safe beverages, the Indian Standards Institution took up work on the formulation of standards in this field way back in the sixties. The Indian Standards since published for the purpose include those for carbonated beverages (IS : 2346-1973), fruit squashes (IS:4936-1968), synthetic syrups (IS : 4935-1968), orange juice (IS : 5800-1970), tomato juice (IS: 3881-1966) and mango juice (IS : 8713-1978). Besides, codes for hygienic conditions

for soft drink manufacturing units (IS : 5837-1970) and fruit and vegetable canning units (IS : 6542-1972) have been formulated.

The standard on carbonated beverages, which is applicable to soda water as well as sweetened and flavoured carbonated beverages, not only specifies the quality of potable water and other ingredients, but also restricts the limits for caffeine, preservatives, antioxidants and sugar. The minimum volume of carbon dioxide that a carbonated drink should have is also specified.

The standards for fruit, squashes and syrups prescribe the quality of ingredients, additives and preservatives. According to these standards, they should not contain any artificial sweetening agents and should be free from poisonous metals, such as arsenic, lead and zinc in excess of the prescribed limits. While the standard for squashes prescribes the minimum fruit content as 25 percent, that for syrups stipulates that the total soluble solid content should not be less than 65 percent by mass.

The standards for juices specify their quality characteristics along with their methods of sampling and test besides stipulating the maximum permissible limits for poisonous metals. Specifically, the orange juice is required to be free from preservatives and mango juice from colouring matter and flavouring and synthetic sweetening agents as well as additives. The standard for

tomato juice, which covers requirements for two different grades, specifies that the juice be made from tomatoes containing at least 5 percent of total soluble solids.

To ensure consumer appeal, the squashes, syrups and juices have to be subjected to an organoleptic test in which a panel of judges is expected to award scores to test samples for colour, taste and flavour and absence of defects. Scoring is based on the criteria specified in the concerned standards.

The standards relating to hygienic conditions for the manufacture of soft drinks and canning of fruits and vegetables specify the requirements for site, lighting and ventilation of buildings and stipulate the norms for cleanliness of equipment and containers as well as employees working in these units.

The standards for carbonated beverages, syrups, squashes and juices formulated by ISI give due consideration to the provisions of the *Prevention of Food Adulteration Act, 1954* and *Rules* framed thereunder as well as *Fruit Products Order, 1955* and are subject to the restrictions imposed under these Acts, wherever applicable.



CODES OF BUSINESS ETHICS

Of late, there has been increasing awareness in Government circles and the public at large about the

need for protecting consumer interests in the country. This concern for the consumer also seems to have percolated to some business and industry associations — at least for the record. A welcome manifestation of this new trend is the formulation of guidelines for consumer protection by two of the country's premier organizations representing a number of industrial and commercial units. The first set of guidelines comes in the form of Consumer Code formulated by the Association of Indian Engineering Industry (AIEI) while the second is from the Federation of Indian Chambers of Commerce and Industry (FICCI) which calls them 'Norms of Business Ethics'.

The AIEI Consumer Code outlines the do's and don'ts for manufacturers in regard to safety, warning, warranties, performance guarantee, advertisement and promotional material and is designed to provide a fair deal to the consumer by giving better service to customers and users of engineering products. The guidelines suggested in the Consumer Code are as under:

- Safety norms should be in accordance with accepted standards as laid down by statutory bodies (for example, IS, DIN, BS or any other relevant industry standards).
- In case of deviation from these norms, suitable 'warnings' must be placed in a manner to be clearly 'visible'. Depending on the product, the warning may be marked 'boldly' on

the product itself or stated in the Instruction Manual.

- All 'warranties' must be explicitly stated, especially if they do not cover 'bought-outs'.
- In case the 'warranty' does not cover bought-outs, the remedy against 'defects / non-performance' of bought outs should be explicitly stated.
- All 'warranties' should be 'explicit' and not 'implicit'.
- The procedure for invoking a warranty should be given in clear terms.
- It should be ensured that distributors are 'reasonably stocked' with warranty spares to ensure prompt remedy against customer complaint.
- Performance guarantee in respect of capital goods should be explicitly stated either at the bidding stage or at contract finalization stage as it is subject to fulfilment of certain pre-conditions by the customer (for example, correct foundations, air purity, water chemical analysis, etc).
- In advertisements and other promotional media, merits of one's own products and/or likely advantages to the buyer may be mentioned but likely competitors should not be compared in any manner which explicitly decries their products.
- Information of a 'misleading' nature should not be given in promotional media (advertisements, leaflets, etc) and the technical data should be specific, not vague.
- Use of 'sex symbols' should be avoided unless relevant to the product.
- Market research data should be used with qualifications and not in a manner which can be misleading.
- Industries should ensure that they are following environmental protection norms as specified by regulatory boards like the State Water Pollution Boards and the Central Water Pollution Board.

The Association of Indian Engineering Industry pro-

poses to develop the Consumer Code further over a period of time and continuously refine it in the light of experience.

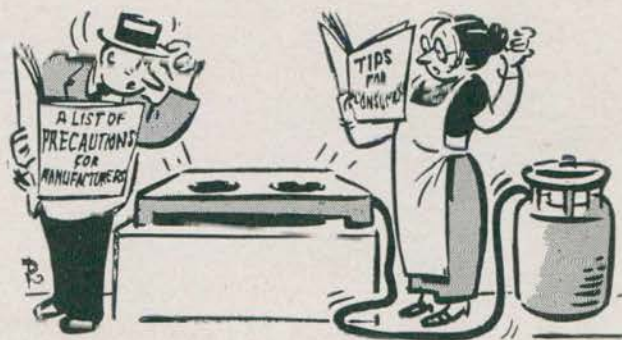
The 'Norms of Business Ethics' formulated by FICCI as a measure of self-regulation require the business community:

- to ensure the quality of articles manufactured, processed or sold and adhere to standards specified.
- not to manufacture, store or sell adulterated goods.
- to maintain accuracy in weights and measures of goods offered for sale.
- to support free distribution of goods and avert creation of artificial scarcity.
- not to deal knowingly in smuggled or spurious products.
- to avoid publishing misleading advertisements.
- to ensure that warranty of a product or service is based on adequate data or test.
- to conform to specified standards or accepted norms for ensuring safety of products.
- to provide effective after-sales service for consumer durables.
- to encourage setting up of Consumer Affairs Cells in industrial houses to attend to consumer complaints and get proper feedback.

The Federation of Indian Chambers of Commerce and Industry has also set up a Consumer Business Forum to oversee the implementation of these 'Norms'.

RUBBER TUBING FOR LPG APPLIANCES

Rubber tubing is the most delicate link between a gas appliance and the gas cylinder. If this vital link is not strong enough and of proper quality, it will not be able to withstand the internal and external stresses and strains which it is expected to bear during its use in the kitchen. Besides normal wear and tear of the tube, deterioration



may set in as a result of the ambient heat, or chemical reaction between the rubber of the tube and the gas flowing through it. All this can cause leakage of gas and result in fatal accidents.

To prevent such accidents in the kitchen and guide the manufacturers in producing safe and durable rubber tubing for LPG appliances, the Indian Standards Institution has recently brought out a standard for flexible rubber tubing for liquefied petroleum gas (IS: 10908-1984). This standard, which covers requirements for tubing suitable for installation when the working pressure does not exceed 0.05 MPa, specifies the diameter and wall thickness of the tubing to match with the nozzle of the gas regulator and the LPG appliance. For testing the tubing against leakage, the standard specifies tests in regard to gripping, effect of pressure, resistance to iso-octane and effect of crushing under a force of 125 N.

As a further safeguard the Standard recommends the following precautions to be taken by the appliance manufacturers:

- The design of the appliance should be such that the rubber tubing, when fitted, is not subjected to bend radius less than 75 mm for 6.3 mm and 96 mm for 8.0 mm nominal bore tubing.
- Clips, clamps or spigots used to retain the tubing on the fittings should be free from any rough edges.
- The tubing should not come in direct contact with those parts of the

appliance which become hot during use.

- The tubing should not be placed in a situation where the ambient temperature is greater than 60°C.

Even if all the provisions and recommendations given in the Standard are followed by the manufacturers, accidents may still occur if the consumer is not sufficiently vigilant. It is seen that the following tips, if scrupulously observed by the consumer, will go a long way in ensuring safe functioning of the rubber tubing:

- Clips, clamps or spigots used to retain the tubing on the fittings should not be overtightened as this may have a deleterious effect on its functioning.
- A heater or any other appliance which is a source of high temperature should not be used near the tubing.
- The tubing should not be allowed to come in contact with sharp or pointed objects.
- The LPG appliance should be placed in such a position that the tubing is not bent at a sharp radius and is not likely to be jerked or pressed.
- The tubing should be regularly checked for its continued useworthiness and if any deterioration is observed or its grip on the LPG appliance or the regulator nozzle has become loose, it should be immediately replaced.

The role of standards in ensuring protection against electrical hazards is well recognized as can be seen from the large number of standards developed on the subject at both national and international levels. The author describes in this context the methodology of formulating electrical safety standards in India and calls for proper appreciation of the integrated approach to electrical safety adopted therein in the interest of improved implementation of Indian Standards in the field — Ed.

Electrical Safety — Towards An Integrated Approach Through Standardization

K. GANESH
India Standards Institution
New Delhi

■ There is little doubt about the growing need for standards that can be used for judging the safety of electrical equipment in a uniform manner. Particular attention has, therefore, been paid at the national and international levels to the manner in which safety standards are drafted and how best they can be utilized in practice. Standards formulated by the Indian Standards Institution deal exclusively with safety aspects or cover both safety and performance specifications. Over the years, an integrated approach to safety and related aspects has emerged in the formulation of standards and a cognizance of this fact, with particular reference to the current set of specifications and codes, would be helpful in their improved implementation.

LEAST UNDERSTOOD CONCEPT

Safety, contrary to what is generally believed, is an oft-spoken but least understood concept. This is partly because almost everyone is interested in the subject and partly because it is interrelated with other issues; specifically in the case of electrical safety, these may relate to reliability, energy conservation and economics. Though little importance is given to anything that would detract from the safety of the ultimate user, the need for proper sifting and analysis of all the relevant factors makes formulation of safety standards a demanding task. This task is made further difficult by changing technology which in its wake brings in entirely new materials, products and processes required to be taken into account.

Moreover, for the large number of users and laymen, electrical safety is understood to mean only protection

from electric shock and, as a consequence, too much stress is being laid on implementation of equipment standards alone. Protection is also generally thought to imply merely safety for persons from a malfunctioning apparatus whereas protection of equipment itself from environmental hazards, which in turn might lead to danger to life, is not being emphasized. Adequate appreciation of the latter and hence emphasis on implementation of a different set of standards, namely, guides and codes which would lead to better selection and application is equally essential.

Technical Committees of ISI formulating safety standards in the field of electrotechnology use the following broad guidelines in their work:

a) The essential characteristics are so stipulated that their recognition and observance will ensure that electrical equipment is used safely and in applications for which it is meant;

b) Rules for electrical equipment, together with those for its component parts, are laid down in such a way as to ensure that it can be safely and properly assembled and connected;

c) Adequate guidance is given for the design and manufacture of equipment to ensure protection against hazards arising from equipment and those caused by external influences on it. This includes protection to persons, domestic animals and property against danger of injury or other harm caused by indirect or direct electrical contact; from harmful temperatures, arcs, fire or radiation; and from non-electrical dangers caused by equipment as revealed by experience.

These guidelines, also known as Low Voltage Directives, are widely accepted the world over as a model for engineers engaged in the formula-

tion of safety standards. They encompass a wide variety of situations and equipment and, needless to say, a large number of issues on any given subject have to be brought into focus and resolved before a good safety standard can emerge.

Today, standards on safety — even those in the limited area of electrical engineering — concern safety of persons, surroundings, livestock and domestic animals besides personal protection against electric shock, effects of excessive temperature, radiation, explosion, implosion, mechanical instability and moving parts as well as protection against fire. These electro-technical standards aim at total safety through:

a) protective measures in the equipment itself;

b) erection of a safe installation with in-built protective features; and

c) guidelines for electrical workmen engaged in erection, operation and maintenance of installations.

These three approaches, which are respectively dealt with by product standards, installation codes and safety procedure guides, cover a range of appropriate protective measures against various electrical hazards including recommendations on their choice and judicious application. Table 1 lists the different types of protection desired and the measures recommended to ensure it as given in the various Indian Standards.

The following points are important in this context:

a) The emphasis is not merely on a safe equipment operated in a safe environment but on safety under adverse circumstances including misuse or inadequate maintenance;

b) The installation features are required to be coordinated with the

TABLE 1 PROTECTIVE MEASURES AGAINST ELECTRICAL HAZARDS AS SPECIFIED IN INDIAN STANDARDS

NATURE OF PROTECTION DESIRED	RECOMMENDED MEASURES
	<i>Against Electric Shock</i>
Against shock in normal service and in case of fault (direct and indirect contact)	<ol style="list-style-type: none"> 1. Use of safety extra low voltage principle 2. Limitation of highest voltage 3. Use of safety isolating transformers, batteries, etc 4. Proper arrangement of circuits of different voltages 5. Adequate separation of conductors 6. Use of special plugs/sockets 7. Use of barriers or enclosures 8. Limitation of discharge energy through limitation of discharge current (to 0.7 mA) and stored charge (to 1 mC)
Against shock in normal service (direct contact)	<ol style="list-style-type: none"> 1. Insulation of live parts (from contact) 2. Use of barriers or enclosures and of tools necessary for the removal of enclosures 3. Use of obstacles and prevention of their unintentional removal 4. Placing live parts out of arm's reach to prevent unintentional contact 5. Use of residual current devices for automatic disconnection when the current exceeds the limit
Against shock in case of fault (indirect contact)	<ol style="list-style-type: none"> 1. Use of fault-protective devices for automatic disconnection of supply 2. Use of Class II equipment 3. Proper arrangement of conductive parts 4. Creation of non-conducting locations, such as insulated floors/walls 5. Use of earth-free equipotential bonding technique 6. Adequate separation of conductors together with use of protective conductors 7. Use of isolating transformers and limitation of supply voltage
	<i>Against Thermal Effects</i>
Against fire	<ol style="list-style-type: none"> 1. Limitation of surface temperature of equipment in addition to proper mounting, screening and cooling 2. Limitation of arcing or sparking through proper techniques of use of equipment totally enclosed (or screened in arc-resistant material) 3. Adequate separation of equipment from combustible materials 4. Limitation of flammable liquids and prevention of spreading of fire by drainage methods 5. Choice of suitable materials in design that can withstand combustion
Against burns	Limitation of temperature of accessible parts (parts within arm's reach which may come into unintentional contact)
Against overheating (in heating systems)	<ol style="list-style-type: none"> 1. Protection by design or erection 2. Use of temperature-sensitive tripping devices
	<i>Against Overcurrents</i>
Against overload currents	Automatic disruption of current beyond limits through the use of circuit-breakers (with overload release) or fuses
Against short-circuit currents	Automatic disruption of current in the case of fault through the use of circuit-breakers or fuses
	<i>Against Overvoltage/Undervoltage</i>
Against insulation faults with installation at high voltage	<ol style="list-style-type: none"> 1. Use of proper earthing system 2. Adequate separation of circuits
Against overvoltages of atmospheric origin or due to switching	Use of surge arresters and proper insulation coordination
Against undervoltage	Automatic disconnection of supply through suitable switchgear with undervoltage release

product design feature in most cases. Experience shows that, in certain situations, safety is adequately ensured through use of a safe equipment (say, Class II equipment, with double or reinforced insulation) while in others, proper choice of additional protective measures in the installation design is necessary; and

c) The choice of a particular protective measure would be dictated by the degree of safety desired and its economic implications. It is not just 'safety at any cost', but obtaining 'maximum safety for the expenses incurred'.

ADEQUACY OF SAFETY

In deciding the adequacy of safety necessary in any given situation, users may have to refer to more than one standard. This calls for attention to the question of how safety standards are to be drafted. There are several views on this.

In electrical engineering, especially in laying down requirements for products, a number of practical difficulties arise while trying to distinguish safety matters from functional performance aspects. However, noting the growing interest of statutory bodies (which need clear statements) in safety aspects and to help the Government in introducing selective legislation concerning safety matters, it is generally agreed that safety requirements should, wherever possible, be the subject of

separate standards which are procedurally convenient to work with. This is specifically recommended in the case of ready-to-use equipment and components with inherent safety characteristics (say, cathode ray tube). For other equipment, standards are generally prepared in the usual way. There is also a growing demand for standards covering non-electrical hazards as part of electrical safety; these may find favour on account of the legal convenience they offer, especially in relation to settlement of insurance claims. However, non-availability of ready expertise on all matters within any specialized expert group and the need for bringing out standards expeditiously are the main constraints in meeting this demand.

Consequently, as to the method of presentation, the user may find that both the extreme approaches given below are in vogue:

a) Formulation of completely self-contained standards which enable the user to find all the relevant information on safety in a single booklet, and

b) Adoption of a hierarchical structure under which each specification is restricted to specific aspects and makes reference to standards at higher levels for all other relevant information.

The existing practices, together with model guidelines for drafting safety standards in the electrotechnical field, are available in documented form as 'IEC Guide 104 Guide to the draft-

ing of safety standards and the role of committees with safety pilot functions' prepared by the Advisory Committee on Safety (ACOS) of the International Electrotechnical Commission (IEC). With this guide as the basis, existing Indian Standard specifications are periodically reviewed to bring out a set of publications that are consistent and integrated in approach. Any organization engaged in the formulation of safety standards in the field can derive assistance from this guide.

All the efforts at preparation of safety standards would bear fruit only if they are backed up by sound legislative measures. For various reasons, the existing supervisory mechanism in the country seems to cover, by and large, only installation safety through the approving authorities at the State government level (Electrical Inspectorate) vested with the requisite powers under the *Indian Electricity Act*. However, the desired degree of control on quality and safety of electrical equipment is inadequate. It is true that no control can possibly exist except in certain categories of installations where equipment would be connected to them in their service life. This factor could be indirectly controlled through a well-planned supervisory scheme at the level of the manufacturers of electrical equipment. In the days to come, efforts should be made to concentrate on this area as well on ensuring total safety. □

OLYMPIA PRIZE FOR SHRI K. K. FRAMJI

■ Shri K. K. Framji, Chairman and Managing Director of Consulting Engineering Services (India) Private Limited and Secretary General of the International Commission on Irrigation and Drainage, has been awarded the Olympia Prize for 1985 for his important contribution in world-wide efforts for protection of the environment and for his activities in promoting important changes in the concepts of water resources on earth. The Award carries a cash prize of \$ 100 000 which Shri Framji shares with the Commission of the Royal Netherlands Academy of Arts and Sciences.

Instituted by the Alexander S. Onassis Public Benefit Foundation, the Olympia Prize is awarded to persons or institutions who have made a notable contribution to the preservation of nature or to safeguarding cultural inheritance or to associated scientific progress.

Shri Framji is also a recipient of the K. L. Moudgill Prize (1979) of ISI for his distinguished services in advancing the discipline of standardization, both nationally and internationally, in liquid flow measurement in open channels. He has been closely associated with ISI for over three decades as Chairman of its Fluid Flow Measurement Sectional Committee (BDC 17) and Terminology Relating to River Valley Projects Sectional Committee (BDC 46). He is also Chairman of the Technical Committee of the International Organization for Standardization (ISO) on Measurement of Liquid Flow in Open Channels (ISO/TC 113) and its Subcommittee on Sediment Transport (SC 6).



Marks Scheme in cement manufacturing units in Andhra Pradesh and hoped that the industry would implement ISI schemes of testing and inspection in totality. He said that the problems encountered in implementing the schemes, if any, might be referred to the relevant technical committees of ISI for possible modifications, if warranted.

During the discussions that followed, Shri D. Ajitha Simha, Deputy Director General, ISI, stressed the need for segregating pozzolanic material of flyash from thermal stations and testing it for conformity to the relevant specification before its use in portland pozzolana cement. He summarized the recommendations of the Seminar as under:

- a) Suitable accelerated test methods may be evolved for physical testing of cement and incorporated in the relevant specifications,
- b) An Indian Standard specification may be prepared for coal to be used in the cement industry,
- c) ISI may develop standards for high grade cement for export purposes, and
- d) Suitable alternate material for packing cement may be identified and an Indian Standard specification prepared for it.

SEMINAR ON STANDARDIZATION AND CERTIFICATION OF LPG CYLINDERS

The Indian Standards Institution organized a Seminar on Standardization and Certification of LPG Cylinders in collaboration with the Institute of Standards Engineers (SEI) in Hyderabad on 7 February 1985. The Seminar was attended by delegates representing LPG cylinder manufacturing units in the Southern Region.

Shri Rajendra Nath, General Manager (Works), M/s Gannon Pressure Vessels Limited, Bombay gave in his keynote paper an account of manufacturing practices for LPG cylinders and described the critical aspects to be inspected at various stages of production as well as final inspection of finished cylinders. He also emphasized the importance of inward inspection of brought-out components.

Shri B. R. Dave, Chief Controller of Explosives, highlighted the significance of safety as related to highly explosive items like LPG cylinders and said that manufacturers should try to improve upon the existing practices of manufacture, inspection and testing of cylinders through concerted R & D efforts.

Representatives of oil companies said that their experience in the recent

past had indicated a gradual decline in the quality of cylinders and appealed to the manufacturers to tighten their process controls to ensure that no defective cylinder left their premises.

The discussions that followed covered issues pertaining to training of personnel deployed by the various units; lack of adequate facilities for imparting training in the field of inspection and testing of cylinders; and poor practices of transportation, handling and storage of cylinders. It was agreed that suitable measures would be taken to ensure that the safety of cylinders was not impaired.

Presiding over the concluding session, Shri R. B. Rao, Chairman, Institute of Standards Engineers (Hyderabad Section), highlighted the significance of company standardization and quality control at the manufacturing level.

A review meeting of ISI licensees for LPG cylinders (Southern Region) was also held under the chairmanship of Shri A. S. Cheema, Additional Director General, ISI. The meeting discussed problems related to operation of the ISI Certification Marks Scheme in the field of LPG cylinders.

BOMBAY LABORATORY OF ISI—Testing Facilities Augmented

The Indian Standards Institution has expanded its Regional Laboratory at Bombay by augmenting the testing facilities already available.

Inaugurating the laboratories for testing diesel engines, electric motors, cement and PVC/HDPE pipes on

15 February 1985, Dr B. N. Singh, Additional Director General, ISI, said that the Planning Commission had allocated Rs 85 million for the development of ISI laboratories in the Seventh Five-Year Plan. With increased funds available to ISI for the purpose, Dr Singh felt, it would be possible to expand the ISI laboratories significantly, thus reducing the Institution's dependence on outside laboratories. He added that substantial savings had been achieved in fuel consumption on account of ISI certification of diesel engines.

Shri M. G. Korgaonkar, Joint Director of Industries, Government of Maharashtra, who was the Chief Guest on the occasion, said that 'Q' marking of products by the State Government was very helpful in switching over to the ISI Certification Marks Scheme as the units using 'Q' Mark on their products gained sufficient experience in quality control methods for the purpose of ISI certification. He hoped that ISI would also expand its testing facilities in other fields as well.

Earlier, Shri S. R. Kuppappa, Deputy Director General (Western Region), ISI, traced the history of the development of ISI laboratories and said that it would now be possible to get test results in respect of diesel engines, electric motors, cement and PVC/HDPE pipes quicker, which would be helpful in better monitoring of the ISI Certification Marks Scheme.

Shri Gayendra Vasa, Vice-President, Kolhapur Engineering Association, called upon ISI to equip its laboratories with the latest sophisticated equipment.



Visitors to the ISI Stall in the Eighth All-India Ideal Home Exhibition held in Madras during 28 December 1984—8 January 1985. The Stall depicted various activities of the Institution through photographs, charts and tables besides displaying a number of ISI-marked consumer products.

Shri B. U. Mehta (Rajkot Engineering Association), suggested the establishment of one more diesel engine testing laboratory at Rajkot as 70 small scale units manufacturing diesel engines under the ISI Certification Marks Scheme were located there. He also wanted ISI to organize quality control training programme more frequently for the benefit of small units.

BOOK FAIR, CALCUTTA

The Indian Standards Institution participated in the Tenth Calcutta Book Fair organized by the Publishers and Booksellers Guild during 30 January-10 February 1985. On display at the ISI Stall were a number of Indian Standards as well as special publications brought out by the Institution.

The Book Fair was inaugurated by Dr Santosh Bhattacharyya, Vice-Chancellor, University of Calcutta, who evinced keen interest in ISI activities. Among the important visitors to the ISI Stall were Shri Jahawar Sarkar, Director of Industries (Cottage and Small Scale), Government of West Bengal; Shri Bimal Roy, Senior Deputy Commissioner, Calcutta Corporation; Shri S. K. Chatterjee (State Transport Corporation); and Shri H. R. Chipalkatti (Berger Paints).

AHARA 1985 EXHIBITION

The Indian Standards Institution participated in the AHARA 1985 Exhibition organized by Trade Fair Authority of India in New Delhi during 25 January-3 February 1985. The ISI Stall explained through write-ups,

charts and photographs, the activities of the Institution and had on display a wide range of ISI-certified products relating to food, such as milk powder, condensed milk, coffee, biscuits, food colours, chewing gum and bubble gum besides ISI handbooks of food analysis along with related Indian Standards. Among the important visitors to the ISI Stall were ambassadors of Egypt, Yemen and Tunisia who evinced keen interest in the work being done by ISI with specific reference to promotion of standardization and quality control in India.

ISO STANDARDS ON PASSENGER AND SERVICE LIFTS

The current programme of the International Organization for Standardization to provide International Standards for lift installations has reached the final phase with the publication of Part 6 of 'ISO 4190 Passenger lifts and service lifts' which deals with planning and selection of passenger lifts to be installed in residential buildings and gives rules for permitting the number of lifts and their main characteristics to be defined at the very beginning of a building design. It recommends, for example, that lifts be provided when there are more than three levels above the main floor or if the distance from the main floor to the top floor is more than 8 metres. This part of the Standard also contains graphs from which a designer can establish needs based upon likely usage requirements.

The first three parts of the Standard published earlier give the basic

dimensional specifications for five classes of lifts according to given rated loads and speeds. Of these, Classes I, II and III are passenger lifts — I for people only, II for people and goods, and III specially for the transport of beds. Class IV lifts are designed mainly for the transport of goods which are generally accompanied by people. Class V are 'service lifts', that is, those which are inaccessible to people on account of their dimensions and means of construction. Part 5 of the Standard standardizes the control devices, signals and additional fittings for Classes I to IV, essential to the proper and safe operation of lifts.

Another International Standard (ISO 7465-1983) prescribes specifications for guide rails for lifts and T-type counterweights.

EIGHTEENTH INTERNATIONAL TRAINING PROGRAMME IN STANDARDIZATION FOR DEVELOPING COUNTRIES

The Eighteenth International Training Programme in Standardization for Developing Countries is being organized by the Indian Standards Institution in New Delhi during 20 November 1985-31 January 1986. Aspiring participants should be graduates in science, engineering or technology with two years' professional experience in the field of standardization and quality control.

Organized annually, the Training Programme affords the participants a unique opportunity to undertake a comprehensive study of the principles, procedures and techniques of standardization and quality certification, and to observe personally the impact of these activities on trade and industry. The Programme will consist of four phases: (a) acclimatization (one week), (b) study (six weeks), (c) practicals (two weeks), and (d) review of reports (one week).

To enable the participants to cover their expenses including cost of air travel, the Government of India offers a number of fellowships under the Colombo Plan, Special Commonwealth African Assistance Plan (SCAAP) and the Indian Technical and Economic Cooperation Programme (ITEC). Further information regarding these fellowships can be obtained from Indian diplomatic or consular missions.

Sponsoring governments may send their nominations to the High Commission/Embassy of India in their country by 19 August 1985 in the prescribed form available with the respective Indian High Commission/Embassy.



A view of the various panels in ISI Stall in the Ahara 1985 Exhibition explaining the different aspects of ISI working including ISI Certification Marks Scheme and testing of products



A display of ISI-certified consumer products in the ISI Stall in the NIMA Industrial Exhibition held at Nasik

NIMA INDUSTRIAL EXHIBITION

The Indian Standards Institution participated in the Industrial Exhibition organized by the Nasik Industries and Manufacturers' Association (NIMA) at Nasik during 21-25 February 1985. The ISI Stall in the Exhibition explained through charts and photographs, the activities of the Institution and displayed a number of ISI-marked consumer and engineering products besides standards of interest to industries.

The Exhibition was inaugurated by Seth Lalchand Hirachand, Chairman, M/s Walchand Nagar Industries Limited, Nasik, who evinced keen interest in the standardization and quality control activities of ISI.

SEMINAR ON MODERN CONCRETE CONSTRUCTION PRACTICES

The Indian Concrete Institute, Madras, is organizing a Seminar on Modern Concrete Construction Practices in Vizag, Panaji and Guwahati in August and September 1985 respectively.

Intended to familiarize active on-site engineers with modern developments in concrete construction, the Seminar will cover topics, such as forms and scaffolding, concrete supply and placing, concrete accessories and chemicals, reinforcement fabrication, new concrete products, concrete production techniques, repairs and renovation, and testing and control services.

Further information can be had

from: The Secretary General, Indian Concrete Institute, CSIR Campus, Taramani P. O., Madras 600113.

ANNOUNCEMENT

Shri M. P. Wagh, General Manager, Larsen and Toubro Limited, has taken over as President of the Electrical Research and Development Association (ERDA) from Shri S. G. Ramachandra. He has been closely connected with ERDA since its early stages and was its Senior Vice-President during 1982-84.

Shri Wagh is actively associated with ISI as a member of its Sectional Committees on Electrotechnical Standards (ETDC 1) and Low Voltage Switchgear and Controlgear (ETDC 57).

ISONET DIRECTORY

The International Organization for Standardization (ISO) has recently published the ISONET Directory which lists all information centres operating within the ISO Information Network (ISONET) with details of how they may be contacted, the types of information they are able to provide and the information processing means which they employ. The Directory also includes, where relevant, the names and addresses of the enquiry points established under the GATT Agreement on Technical Barriers to Trade.

ISO coordinates the exchange of information about standards, technical regulations, certification systems and related matters through ISONET which links the information centres of national standards bodies with each other and with the ISI information Centre in Geneva.

The ISONET Directory, therefore, constitutes a complete world-wide guide to the main sources of information on standards, technical regulations, certification systems and related matters.

STANDARDIZATION

ECHOES AND IMAGES

Need for Better Safety Standards in Mines

The Vice-President, Shri R. Venkataraman, has expressed satisfaction at the decreasing trend in mining accidents but feels that the frequency rate of injuries continues to be high.

Shri Venkataraman was speaking at the first National Safety Awards (Mines) function held in New Delhi on 14 February 1985.

The Vice-President said that control and preventive action for injuries was necessary not merely as a social objective but also as an economic necessity. He added that safety objectives and plans should be included and clearly spelt out in the management policies of every organization and called upon all concerned to undertake definite measures to achieve better safety standards in mines. This would include the very important role leaders of trade unions could play in this regard by lending active support to all programmes relating to safety and health.

— The Times of India, 15 February 1985



Industrialists Asked to Adopt Total Quality Control

Industrialists should adopt the concept of total quality control in their corporate spheres, said the President, Shri Zail Singh, at 90th anniversary celebrations of the Association of Indian Engineering Industry (AIEI) in Calcutta on 12 February 1985.

Speaking as Chief Guest, the President said that this was necessary if the industries were to maintain their own in the international market.

Shri Zail Singh said that engineering industry had a share in all growth parameters of the country.

Shri Veerendra Patil, Union Minister for Industry, Fertilizers and Chemicals, said that, with the Seventh Plan about to begin a fresh boost to the pace of industrialization was bound to come. Absorption of modern technology as well as fuller utilization of capacity were of utmost importance. Along with these, the question of quality and price control was one that the engineering industry should examine.

— The Hindu, 13 February 1985



Stricter Law to Test Goods Quality Urged

The law Commission of India has recommended enactment by Parliament of a law providing for testing the quality of consumer goods.

In its 105th report tabled in the Lok Sabha on 30 January 1985, the Commission, chaired by Justice K. K. Mathew, has taken the view that the existing law is 'inadequate' and needs to be strengthened to meet a situation where a purchaser intends to ensure the quality of goods at the time of purchase.

The Commission, therefore, has recommended the enactment of a law to ensure that the quality of goods sold is according to the standards laid down under the proposed law.

The proposed law should provide for the constitution of advisory councils with reference to particular classes of goods or particular industries.

It should also provide for the appointment of public analysts for such areas as may be assigned, with power to examine any notified goods and sold in the market, to ensure that they conform to the quality laid down under the Act.

With a view to giving a concrete shape to its recommendations, the Commission has annexed a draft Bill to its report.

— The Hindustan Times, 30 January 1985



Perfume Units to Set Up Test Laboratory

Manufacturers of perfumes and flavours with an aggregate turnover of over Rs 1 000 million are planning to set up a Quality Control and Test Laboratory.

Of the 600 producers, less than 80 are in the organized sector, with about a dozen dominating the scene. The bigger producers account for 50 percent of the production.

Even with the proposed Rs 50 million laboratory, manufacturers may still have to go by the American GRAS code and use imported material valued at about Rs 60-70 million without duties. According to Shri Mukund R. Shah, President of the association of perfumery units testing the ingredients fully would cost millions of rupees and hence it would be impossible for any Indian outfit to do the testing. Analysis of imported

material is done before it is passed on for the use of makers of perfumes and flavours.

Asked whether testing the suitability of these materials for tropical conditions is not a necessity, the Association leaders said; 'What is good for the West could be good for India also'. They further argued that Indian Standards were applicable to perfumes. Again, only 5 percent of the perfumes were sold as perfumes and the rest were used in diverse products like soaps, soft drinks and other consumables. Technically, the Indian Toxicological Research Institute and some other laboratories could be used for analysis and testing. But implementation of Indian Standards were not mandatory for the producers and no toxicity test was undertaken.

Shri Shah said that the reason for the move for establishing research and development facilities was that 'quality-wise we can make products as good as any that come from the West'.

— The Business Standards, 7 February 1985



Safety Measures at Space Installations

The Department of Space (DOS) that handles hundreds of tonnes of explosives and toxic chemicals has tightened safety systems to prevent accidents in space installations, DOS sources said in Bangalore on 10 February 1985.

The sources said that DOS had set up a three-tier safety management system with a safety office at the apex and a committee and officers in each of its centres.

The objective was to ensure employees' safety, avoid and prevent damage to property and equipment, and ensure protection to the public and environment from accidents that may release toxic chemicals into the air.

The sources said that DOS was implementing rigorous anti-pollution measures at its Mahendragiri complex near Kanyakumari where it was setting up a liquid engine test facility.

The facility would store highly toxic and corrosive propellants, such as nitrogen tetroxide, unsymmetrical dimethyl hydrazine and mono-methyl hydrazine whose permitted concentrations in air vary from 0.35 to 6 milligrams per cubic metre.

The Mahendragiri site had been selected for the test facility because it is bordered by hills on three sides, has a low water table and has no streams nearby.

DOS has estimated that in worst conditions, about 20 tonnes of toxic nitrogen tetroxide might escape producing a toxic cloud. It is planned to neutralize the cloud by injecting ammonia and water in the event of such an accident.

— The Times of India, 11 February 1985



Drug Industry Move to Codify Production Practices

Shrimati Mohsina Kidwai, Union Minister for Health and Family Welfare, said in Bombay on 2 February 1985 that the task force appointed by the Ministry of Health and Family Welfare had recommended that good manufacturing practices should be codified and included in the Drugs and Cosmetics Rules.

In her inaugural address at the annual meeting of the Indian Drug Manufacturers Association, she said that the Government was taking necessary action to amend the Drugs and Cosmetics Rules accordingly.

She regretted that the manufacturers had done away with package inserts altogether on grounds of cutting costs. In developed countries, consumer awareness and consumer movements had compelled the pharmaceutical manufacturers in those countries to give full information regarding warnings, cautionary statements and contra-indications in their literature. As a responsible industry with social obligations, it was its duty to see that doctors and patients were fully informed.

Referring to quality of the drugs produced in the country, she said that about 15 percent of the samples tested in Government laboratories were reported to be not of standard quality. This figure was rather high and the industry should take steps to ensure the quality of its products.

— The Hindu, 3 February 1985



Science and Technology Centre for New Delhi

Non-aligned nations have taken a major step towards setting up a Science and Technology Centre for themselves and other developing nations in New Delhi by adopting a statute for its establishment.

The 32-articed statute, specifying the functions and other details of the Centre, was signed by India and 15 other non-aligned nations on 4 February 1985 at the Movement's plenipotentiary conference. The Centre is likely to start functioning from next year.

The Centre, first approved by the 1973 non-aligned Algiers summit, is aimed at helping the developing nations draw on scientific knowhow and data available among themselves. Such a move will not only make them less dependent on developed nations, but also give them easy access to technology tailored to suit their own circumstances and needs.

— The Hindu, 6 February 1985



REVIEWS

■ ISO/IEC GUIDE 38-1983 GENERAL REQUIREMENTS FOR THE ACCEPTANCE OF TESTING LABORATORIES

P 8. Price CHF 18 (Rs 95.00)

■ ISO/IEC GUIDE 39-1983 GENERAL REQUIREMENTS FOR THE ACCEPTANCE OF INSPECTION BODIES

P 7. Price CHF 24 (Rs 125.00)

■ ISO/IEC GUIDE 40-1983 GENERAL REQUIREMENTS FOR THE ACCEPTANCE OF CERTIFICATION BODIES

P 3. Price CHF 24 (Rs 125.00)

International Organization of Standardization, Geneva

A quality mark on a product or certificate of conformity to given specifications is indeed an assurance of its quality which plays an important role in national and international trade. While certification is a major function of national standards bodies similar services are also offered by inspection bodies. For a quality mark or a certificate to be dependable, it has to be supported by a well-organized and competent system of inspection and assisted by reliable laboratories. Sometimes, external laboratories may also have to be recognized to undertake testing for the purpose.

To provide guidance on these matters, the ISO Committee on Certification (ISO/CERTICO) has prepared a series of three guides as joint

ISO/IEC documents laying down general requirements for the acceptance of testing laboratories (ISO/IEC Guide 38), inspection bodies (ISO/IEC Guide 39) and certification bodies (ISO/IEC Guide 40).

ISO/IEC Guide 38 sets forth the general procedures and administrative conditions necessary for a system of assessment and acceptance of testing laboratories for providing testing services to its users. It also recommends the information to be provided by a testing laboratory while applying for recognition. The Guide may be used for accrediting, certification and other governmental or non-governmental bodies in granting recognition for technical competence of these laboratories.

ISO/IEC Guide 39 lays down the

criteria intended to ensure that the services of inspection bodies are conducted with technical competence and thoroughness, careful observation and accurate reporting by competent, qualified staff. A recommended format for providing the necessary information is also given including the organization and facilities required for the proper functioning of an inspection body. This guide may be used by individuals, Central and State governments and certification and other concerned organizations.

ISO/IEC Guide 40 is concerned with the competence and reliability of a certification body to operate a third-party certification system in the context of its acceptance or recognition on a national or international basis. The Guide details the requirements for the administrative structure, documentation control, maintenance of records, and testing and inspection facilities besides assurance of confidentiality of a certification body.

An important addition to literature on certification, inspection and laboratory accreditation, these guides will, no doubt, be found useful by a large body of people functioning in these areas.

P. BAJAJ

■ STRATEGY FOR ENGINEERING EXPORTS AND PROJECTS

Engineering Export Promotion Council, New Delhi. P 378. Price Rs 100.00

The essential criteria for successful exports are timely delivery, competitive pricing *vis-a-vis* quality, attractive and durable packaging and an effective marketing strategy. The present compendium describes the factors influencing India's exports besides giving an idea of the country's performance and share in world exports and identifies efforts needed in marketing, production, raw material management, finance, transportation, shipping, technology development, infrastructural changes and data management. It also outlines a selective approach in target markets as well as specified products.

The countries identified for selective approach are Australia, Federal Republic of Germany, France, United Kingdom, United States of America and the USSR among developed countries and Indonesia, Malaysia, Srilanka, Iran, Iraq, Libya, Saudi Arabia, Ivory Coast, Kenya, Nigeria, Tanzania, Uganda, Zaire, Zambia and Zimbabwe from the developing world. The various aspects discussed in respect of these countries relate to their economy, developmental plans, foreign trade, import potential, trade agreements, import policy and promotional measures.

It is a useful compendium for all

potential entrepreneurs in the field. However, one feels that enough information has not been given about the pricing policies of the various countries and their commercial geography indicating transit handling facilities available at the ports for deciding on the packaging specifications. Also missing is any reference to the contribution of national and international standards bodies in the field which have paved the way for formulating trouble-free contracts and international quality assurance efforts. The information given in some of the tables is also obsolete.

It is hoped that the next edition will cover all these aspects making the volume more comprehensive and useful.

S. M. AURORA

COMMITTEE MONTH

This month, we report the proceedings of 31 committees which held their meetings during the month of January 1985.

TABLE OF MEETINGS

AGRICULTURAL AND FOOD PRODUCTS DEPARTMENT

AFDC 13 TOBACCO AND TOBACCO PRODUCTS New Delhi 1985-01-23

Chairman Dr N. C. Gopalachari
Central Tobacco Research Institute
Rajahmundry (AP)

Draft finalized for publication— Code of practice for construction of flue-curing tobacco barns (*first revision of IS : 4469*).

AFDC 28 STORAGE STRUCTURES AND STORAGE MANAGEMENT New Delhi 1985-01-04

Chairman Dr K. Krishnamurthy
(for the meeting) Joint Commissioner
Ministry of Food and Civil Supplies
New Delhi

Drafts finalized for publication— Code of practice for fumigation of agricultural produce: Part 5 General requirements. Method for assessment of post-harvest grain losses by rodents: (a) Part 1 General considerations, direct measurement techniques and biological aspects of survey procedures; (b) Part 2 Loss determination by population assessment and estimation procedures. Determination of carbon dioxide in the inter granular atmosphere. Test methods for determination of storability (safe storage life) of food grains.

Drafts approved for wide circulation— Storage of cereals and pulses: (a) Part 1 General considerations in keeping cereals; (b) Part 2 Essential requirements; and (c) Part 3 Control of attack by vertebrate and invertebrate animals.

New subject— Transit storage sheds.

AFDC 31 BAKERY AND CONFECTIONERY INDUSTRY New Delhi 1985-01-31

Chairman Shri R. B. Rao
Uttam Biscuit Company
Pvt Ltd
Hyderabad

Drafts finalized for publication— Methods of sampling

and analysis for sugar confectionery (*first revision of IS : 6287*). Specification for milk bread.

AFDC 50 SOIL WORKING EQUIPMENT New Delhi 1985-01-04

Chairman Dr A. Alam
Indian Council of Agriculture Research
New Delhi

Drafts finalized for publication— Specifications for agricultural tillage discs: (a) Part 1 Concave type, and (b) Part 2 Flat type.

Draft approved for wide circulation— Test code for puddler.

New subjects— Cultivator, rotovator, weeder, and wheel tool carrier.

AFDC 54 SLAUGHTER HOUSE AND EQUIPMENT New Delhi 1985-01-18

Chairman Dr A. K. Chatterjee
Joint Commissioner
Ministry of Agriculture
New Delhi

Drafts approved for wide circulation— Specifications for: (a) Gambrel for sheep and goats, and (b) Sheep dressing hook.

New subjects— Bleeding shackle, electrical stunning device for pigs, sheep dressing hook, and sheep spreader.

CHEMICAL DEPARTMENT

CDC 53 AIR QUALITY Madras 1985-01-30

Chairman Dr B. B. Sundaresan
National Environmental Engineering Research Institute, New Delhi

Drafts finalized for publication— Code of practice for control of air pollution in iron-steel plants. Limits for emission from man-made fibre plants: Part 1 cellulosic fibres (*first revision of IS : 9233*). Methods for measurement of emission from stationary sources: (a) Particulate matter; and (b) Sulphuric acid.

Drafts approved for wide circulation — Code of practice for control of air pollution in: (a) Cement plants, (b) Integrated aluminium industries, and (c) Sulphuric acid plants. Emission limits for refractories industry. Limits for emission of particular matter from cement plants: Part 2 Raw grinding mill, cement mill, coal mill and dryer.

CIVIL ENGINEERING DEPARTMENT

BDC 10 MODULAR COORDINATION New Delhi 1985-01-08

Chairman Shri J. Durai Raj
D1/141 Satya Marg
New Delhi

Drafts approved for wide circulation — Recommendations for modular coordination in building industry: (a) Horizontal coordination (*first revision of IS : 7921*), (b) Principles and application (*amalgamated revision of IS : 6820 and IS : 1233*), and (c) Vertical coordination (*first revision of IS : 7922*). Recommendations for modular coordination, coordinated sizes for doorsets and windowsets.

BDC 12 FUNCTIONAL REQUIREMENTS IN BUILDINGS New Delhi 1985-01-08

Chairman Shri G. C. Mathur
National Buildings Organization
New Delhi

Drafts approved for wide circulation — Recommendations for: (a) Calculation of solar radiation on buildings, and (b) Buildings and facilities for the physically handicapped (*first revision of IS : 4963*).

BDC 15 BUILDER'S HARDWARE New Delhi 1985-01-21

Chairman Shri Sahib Singh
(for the meeting) M. C. Mowjee and
Company Pvt Ltd
Calcutta

Drafts finalized for publication — Specifications for: (a) Sliding locking bolts for use with padlocks (*first revision of IS : 7534*), and (b) Steel backflap hinges (*first revision of IS : 3843*).

Draft approved for wide circulation — Specification for continuous (piano) hinges (*second revision of IS : 3818*).

BDC 23 SOIL ENGINEERING New Delhi 1985-01-25

Chairman Shri Samsher Prakash
Director
Central Building Research
Institute
Roorkee

Drafts finalized for publication — Methods of test for soils: (a) Part 4 Grain size analysis (*second revision of 2720*), and (b) Part 5 Determination of liquid and plastic limits (*second revision of IS : 2720*). Specifications for: (a) Equipment for determination of liquid limit of soils — cone penetration methods, (b) Mould assembly for determination of permeability of soils, and (c) Shear box for testing of soils.

Drafts approved for wide circulation — Code of practice for

thin-walled tube sampling of soils (*second revision of IS : IS : 2132*). Methods of test for soils: (a) Part 13 Direct shear test (*second revision of IS : 2720*), (b) Part 15 Determination of consolidation properties (*first revision of IS : 2720*), and (c) Part 17 Laboratory determination of permeability (*first revision of IS : 2720*). Code of practice for thin-walled tube sampling of soils (*second revision of IS : 2132*). Specifications for: (a) Shear box (large) for testing of soils, and (b) Thin-walled sampling tubes.

BDC 30 CLAY PRODUCTS FOR BUILDING New Delhi 1985-01-17

Chairman Shri M. V. S. Rao
(for the meeting) Senior Architect
CE(P) FY (MES)
6th Floor, Chanderlok
Complex
111 Sarojinidevi Road
Secunderabad

Draft finalized for publication — Specification for heavy duty burnt clay building bricks (*second revision of IS : 2180*).

Draft approved for wide circulation — Guide for manufacture of burnt clay building bricks semi-mechanized process.

BDC 32 PREFABRICATED AND COMPOSITE CONSTRUCTION New Delhi 1985-01-23

Chairman Shri A. Ramakrishna
General Manager (Civil)
Larsen & Toubro Limited
ECC Construction Group
Madras

Drafts finalized for publication — Code of practice for: (a) Composite construction in structural steel and concrete (*first revision of IS : 3935*), (b) Construction of floors and roofs using precast concrete waffle units, and (c) Construction with large panel prefabricates.

BDC 46 GLOSSARY OF TERMS RELATING TO RIVER VALLEY PROJECTS New Delhi 1985-01-23

Chairman Shri K. K. Framji
Consulting Engineering
Services (India) Private Ltd
New Delhi

Drafts finalized for publication — Glossary of terms relating to river valley projects: Part 11 Hydrology, Section 6 Ground water, and (b) Part 13 Operation, maintenance and repairs of river valley projects.

Draft approved for wide circulation — Glossary of terms relating to river valley projects: Part 10 Civil works of hydro-electric generation system including water conductor systems (*first revision of IS : 4410*).

BDC 53 DAMS (OVERFLOW AND NON-OVERFLOW) New Delhi 1985-01-30

Chairman Shri M. S. Reddy
(for the meeting) Director (CMDD-1)
Central Water Commission
West Block No. 2
R. K. Puram
New Delhi

Drafts approved for wide circulation — Specifications for (a) Graduated drinking vessels for lifeboats and liferafts for sea going ships (*first revision of IS : 5314*), (b) Signalling mirror for lifeboats and liferafts for sea-going ships, and (c) Signalling whistle for lifeboats and liferafts for sea-going ships.

MCPD 8 AIR CARGO HANDLING Bombay
1985-01-16

Chairman Shri K. N. S. Krishnan
Directorate General of Civil
Aviation
New Delhi

Drafts finalized for publication — General requirements of lower deck containers/pallets loader of aircraft. Specification for aircraft seat rails and pins.

Drafts approved for wide circulation — Ground equipment requirements for compatibility with aircraft unit load devices. General requirements for ground handling and transport system equipment for air cargo unit load devices. Functional requirements for air cargo unit load devices transport vehicle.

Standards reviewed and reaffirmed — 'IS : 7074 (Part 2)-1978 Specification for air cargo pallets: Part 2 Testing'; 'IS : 8396-1977 Specification for air cargo base sandwich panel'; and 'IS : 8762-1978 General requirements and testing of certified, lower-deck half-size containers for high capacity aircraft'.

New subjects — Air and airland cargo pallets, air cargo — minimum requirements for future wide body aircraft cargo system and compartments (intermodal), aircraft cargo containers, airland cargo pallet nets, aircraft — self propelled gantry for lifting air cargo containers and outside cargoes — functional requirements, aircraft towbar connection to tractor, and baggage conveyor.

MCPD 9 LIFTING CHAINS,
ASSOCIATED FITTINGS AND
COMPONENTS Bombay
1985-01-22

Chairman Shri P. K. Nevatia
(for the Chief Executive
meeting) Indian Link Chain
Manufacturers Ltd, Bombay

Draft finalized for publication — Specification for ratchet lever hoists.

Draft approved for wide circulation — Specification for hand operated chain pulley blocks (*second revision of IS : 3832*).

New subject — U-links

MCPD 11 PLASTIC CONTAINERS Bombay
1985-01-24

Chairman Shri A. S. Athalye
Technology Transfer
Bombay

Drafts finalized for publication — Glossary of terms relating to sacks made from thermoplastic films. Method of measurement and expression of the dimensions of sacks made from thermoplastic films.

Drafts approved for wide circulation — Flexible pouches for

packing of *vanaspati*. Specification for heavy duty valve-type LDPE/HDPE sacks.

New subjects — Multi-laminated collapsible tubes, and plastic honey jars.

MCPD 21 FISHING VESSELS Bombay
1985-01-21

Chairman Shri R. Balasubramanian
(for the Central Institute of Fisheries
meeting) Technology (CIFT)
Willingdon Island
Cochin



Draft finalized for publication — Specification for performance requirements and testing of marine diesel engine for fishing vessels (*first revision of IS : 8013*).

Draft approved for wide circulation — General requirements for otter boards: Part 4 Application standard.

MECHANICAL ENGINEERING DEPARTMENT

EDC 36 OPTICAL AND
MATHEMATICAL INSTRUMENTS New Delhi
1985-02-01

Chairman Lt Gen K. L. Khosla
M 70 Greater Kailash, Part II
New Delhi

Drafts finalized for publication — Procedure for basic climatic and durability tests for optical instruments: (a) Part 10 Bump test, (b) Part 11 Vibration test, and (c) Part 12 Shock test. Specification for metric scale for use with drafting machines (*second revision of IS : 1482*).

Drafts approved for wide circulation — Procedure for basic climatic and durability tests for optical instruments: (a) Part 13 Dust test, (b) Part 14 Driving rain test, (c) Part 15 Drop test. Specifications for: (a) Stencil templates and pentips, (b) Tripods for surveying instruments (*first revision of IS : 8330*), and (c) 4 Meter levelling staff telescopic.

Standards reviewed and reaffirmed — 'IS : 5415-1969 Code of practice for packing and packaging of optical and mathematical instruments and components'; 'IS : 7020-1973 Crystals and dielectric materials used in instrument industry'; 'IS : 7047-1973 Timbers used in instrument industry'; 'IS : 7078-1973 Plastics used in instrument industry'; 'IS : 7265-1973 Coating materials (metals, alloys and dielectrics) used in optical instruments industry'; 'IS : 8248-1976 Antireflection coating on glass optical components'; 'IS : 8670-1978 Triangular scales'; 'IS : 8680-1978 Engineers' drawing instruments, compass bow pen, double knee jointed with sector head joint'; and 'IS : 8681-1978 Engineers' drawing instruments, compass bow pencil double knee jointed with sector head joints'.

New Subjects — IR distance meter, multi-layer coatings on class optical components, stencil templates for geometrical figures, and telescopic alidad.

STRUCTURAL AND METALS DEPARTMENT

SMDC 13 PRECIOUS METALS

Bombay
1985-01-08

Chairman Shri J. R. Sil
Chief Assayer
India Government Mint
Bombay

Drafts finalized for publication — Specifications for: (a) Dental casting gold alloys non-porcelene bonding (*first revision of IS : 4799*), (b) Dental cobalt-chromium casting alloy (*first revision of IS : 7225*), (c) Dental gold alloy wire (*first revision of IS : 3578*), (d) Dental gold foil (*first revision of IS : 3610*), (e) Dental gold solders (*first revision of IS : 3571*), (f) Dental mercury (*first revision of IS : 5954*), and (h) Silver-tin dental amalgam alloy (*first revision of IS : 4704*).

SMDC 14 WELDING GENERAL

New Delhi
1985-01-15/16

Chairman Shri D. S. Honavar
D & H Secheron Electrodes Pvt Ltd
Indore

Drafts finalized for publication — Aluminium and aluminium alloy welding rods and wires for magnesium alloy welding rods. Comparison of Indian and overseas classification and coding of welding filler Materials: Part 1 Flux coated mild steel and medium tensile steel stick electrodes for manual metal arc welding. Methods of testing fusion welded joints and weld metal in steel: (a) Part 1 Cruciform fillet weld tensile test, (b) Part 2 Beam impact (charpy V-notch) test, (c) Part 7 Longitudinal root and face bend test on butt welds, and (d) Part 9 Macro and micro examination.

Draft approved for wide circulation — Determination of diffusible hydrogen content of deposited weld metal from covered electrodes in welding metal.

OBITUARIES

Two staff members of ISI — Shri Rajkumar Kapoor, Peon, and Shri Swaraj, Safai Karamchari, at the Institution's Headquarters in New Delhi — have expired recently.



Shri Kapoor, who was in the Building Maintenance Section, passed away on 20 February 1985. He was only 45. He had joined the Institution in 1961 and had worked in different departments of the Institution. He was held in esteem by his colleagues for his devotion to duty and amiable disposition.

Shri Swaraj (49), who was a Safai Karamchari in the Security Section, expired on 27 March 1985 after being hospitalized for the treatment of asthma. He had served the Institution



for a decade and a half with diligence and devotion and will be remembered for his helpful and cooperative nature.

CERTIFICATION MARKS

During October 1984, the Institution granted 28 new licences. Particulars of all these, as well as additional varieties of products included in the existing licences and the licences cancelled/lapsed are given in the tables which follow:

NEW LICENCES GRANTED

LICENCE No. AND DATE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1347346 1984-10-05	Bangalore Wire Rod Mill, Whitefield Road, Mahadevapur Post, Bangalore 560048 (Office: 1-7-293, M.G. Road, Secundrabad 500003)	IS : 2879-1975
CM/L-1347447 1984-10-08	Swarup Industries, Village Rajau Paraspur, Tehsil Faridpur, Dist Bareilly (Office: Swarup Bhawan, 35-A Civil lines, Bareilly)	IS : 458-1971
CM/L-1347548 1984-10-08	Allied Anodizers, 25 Radhamadhav Dutta Garden Lane, Calcutta 700010	IS : 204 (Part 2)-1978
CM/L-1347649 1984-10-17	NICCO Orissa Ltd, Hamilton Garden, Post Box 27, P.O. Baripada 757001, Dist Mayurbhanj (Orissa)	IS : 1554 (Part 1)-1976
CM/L-1347750 1984-10-08	SMP Pvt Ltd, Padugupadu, Kovir Taluq, Nellore (AP) (Office: 16/609 Brindavanam, Nellore 524001)	IS : 7121-1973
CM/L-1347851 1984-10-08	Solar Syndicate, Dungri 396375, Dist Bulsar (Gujarat)	IS : 1486-1978
CM/L-1347952 1984-10-08	Bangalore Pesticides Ltd, 16th km, Tumkur Road, Bangalore 560073 (Office: 170, 10th Main, 2nd Cross, Rajamahal Vilas Extension, Bangalore 560073)	IS : 8446-1977
CM/L-1348045 1984-10-08	Shivalik Rasayan Ltd, Village Kalhupani, P.O. Chandanwari, Dehradun 248007	IS : 3903-1975
CM/L-1348146 1984-10-08	Jayco Chemicals India, 21 Industrial Estate, Dhirkhera, Dist Meerut (Office: Kishanganj, Hapur 245101)	IS : 562-1978
CM/L-1348247 1984-10-08	Unique Kitchen Aids Pvt Ltd, B-32, Sector-6, Noida, Dist Ghaziabad (U P)	IS : 4246-1978
CM/L-1348348 1984-10-08	Sharavathy Petro Chemicals Pvt Ltd, 9th Old Mile, Old Madras Road, Virgongar, Bangalore 560049	IS : 335-1972
CM/L-1348449 1984-10-17	Moti Electric Industries (P) Ltd, 6 MIDC Industrial Area, Hingna Road, Nagpur	IS : 694-1977
CM/L-1348550 1984-12-17	Premier Cable Company Ltd, Karukutty, P.O. Angamally 683572, Dist Ernakulam (Kerala)	IS : 7098 (Part 1)-1977
CM/L-1348651 1984-10-10	Jaiswal Plastics Tubes Ltd, O.T. Road, Gopabandhu Sarani, Balasore (Orissa) (Office: Januganj, Balasore, Orissa)	IS : 4985-1981
CM/L-1348752 1984-10-11	Shree Mahavir Ispat Ltd, Plot F-5, MIDC Industrial Area, Tarapur, Village Boisar, Dist Thane (Office: 42-A, Mittal Tower, Nariman Point, Bombay 400021)	IS : 226-1975
CM/L-1348853 1984-10-17	Goel Cables, 1/359, Street No. 3, Friends Colony, Industrial Area, G.T. Road, Shahdara, Delhi 110032	IS : 694-1977
CM/L-1348954 1984-10-11	Kusum Ispat and Wire Products Pvt Ltd, Plot E-37, MIDC Industrial Area, Chikalhana-Aurangabad (Office: 29-30 Vaswani Mansion, 6th floor, 120 Dinshaw Vachha Road, Bombay 400020)	IS : 280-1978
CM/L-1349047 1984-10-11	Vijaya Foundry, 5 Puliyakulam Road, P.N. Palayam, Coimbatore 641037	IS : 6595-1980
CM/L-1349148 1984-10-11	Trimurti Moulds (P) Ltd, Plot No. 4, MIDC Industrial Area, Nagpur (Office: 5 Temple Road, Civil Line, Nagpur 440001)	IS : 651-1980
CM/L-1349249 1984-10-11	Himalaya Spun Pipe Company, 33 Industrial Estate, Gaddopur, Faizabad	IS : 458-1971
CM/L-1349350 1984-10-11	Rama Spun Pipe Company, Village-Ram Nagar Umari, Saraon, Allahabad (Office: 87 G/6 Sarvodaya Nagar, Allahabad)	IS : 458-1971

LICENCE No. AND DATE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1349451 1984-10-11	Sarvottam Spun Pipes, Jagdish Industrial Estate, Sector-4 (Amethi), Rae-Bareilly [Office: 85 Mohiley Nagar (Allahpur), Allahabad 211006]	IS : 458-1971
CM/L-1349552 1984-10-11	The Indian Iron and Steel Company Ltd (A Subsidiary of Steel Authority of India Ltd), Burnpur Works, P.O. Burnpur 713325 (Office: 50 Chowringhee Approach, Calcutta 700071)	IS : 432 (Part 1)-1982
CM/L-1349653 1984-10-11	Auto Springs (P) Ltd, 2 (A), Zone B, Mancheswar Industrial Estate, Bhubaneswar 751009 (Orissa)	IS : 1135-1973
CM/L-1349754 1984-10-11	Satya Udhog, Rambagh, Agra 282006 (UP)	IS : 10001-1981
CM/L-1349855 1984-10-11	Toe India, 358 Gajju Purwa, Opposite Zaz Tannery, Zazmau, Kanpur (UP)	IS : 5852-1977
CM/L-1349956 1984-10-8	Panki Packaging E-2 Panki Industrial Area, Kanpur 208022 (UP)	IS : 7406 (Part 2)-1980
CM/L-1350032 1984-10-29	Solan Sprayers, Jonaji Road, Solan (HP) 173212	IS : 3652-1982

ADDITIONAL VARIETY OF PRODUCT INCLUDED IN THE EXISTING LICENCES

Sl. No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L/1311426	Shriram Foods and Fertilizer Industries, New Delhi	IS : 1065-1971	New variety of bleaching powder stable Grade 2 included in the licence with effect from 1984-10-10

LICENCES CANCELLED

Sl. No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-0812746	V.K. Paint Industries, New Delhi	IS : 428-1969	Cancelled with effect from 1984-04-01 as the firm is not interested in holding the licence
2	CM/L-1141124	Modern Re-rollers, Pondicherry	IS : 226-1975	Cancelled with effect from 1984-08-01 as the firm is not interested in holding the licence
3	CM/L-1171537	do	IS : 1786-1979	do
4	CM/L-1180740	Express Tin Containers (P) Ltd, Calcutta	IS : 916-1975	do
5	CM/L-1252941	President Industries, Naroda	IS : 4323-1980	Cancelled with effect from 1984-06-01 as the firm is not interested in holding the licence

LICENCES LAPSED

Sl. No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-0212722	Jairamdas Udyog Limited, Bangalore	IS : 5103-1969	Renewal was deferred after 1983-08-15; the licence now stands lapsed after that date
2	CM/L-0276647	Indo Japan Steel Ltd, Calcutta	IS : 5872-1973	Renewal was deferred after 1983-06-15; the licence now stands lapsed after that date
3	CM/L-0278045	do	IS : 3975-1979	do
4	CM/L-0288856	Steel Authority of India Ltd, Madras	IS : 1786-1979	Renewal was deferred after 1984-01-31; the licence now stands lapsed after that date
5	CM/L-0305022	Southern Engineering Industries, Coimbatore	IS : 325-1978	Lapsed after 1983-04-30
6	CM/L-0316027	Mahavir Industries, Bhavnagar	IS : 916-1975	Lapsed after 1984-08-15

SL No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
7	CM/L-0328034	Ruston and Hornsby(I) Ltd, Pune	IS : 10001-1981	Renewal was deferred after 1984-01-15; the licence now stands lapsed after that date
8	CM/L-0350229	Romer and Company (India), Lucknow	IS : 789-1971	Renewal was deferred after 1984-02-15; the licence now stands lapsed after that date
9	CM/L-0378049	Indo Japan Steel Ltd, Calcutta	IS : 6914-1978	Renewal was deferred after 1983-06-15; the licence now stands lapsed after that date
10	CM/L-0378150	do	IS : 6915-1978	do
11	CM/L-0524943	Golden Chemical Works, Amritsar	IS : 96-1950	do
12	CM/L-0581955	Singh Engineering Works, Kanpur	IS : 1786-1979	Renewal was deferred after 1984-02-15; the licence now stands lapsed after that date
13	CM/L-0666660	Jayant Copper and Steel Wire Products, Bilaspur	IS : 398 (Parts 1 & 2)-1976	Renewal was deferred after 1982-07-31; the licence now stands lapsed after that date
14	CM/L-0674659	Shri Bajrang Iron Industries, Calcutta	IS : 1977-1975	Renewal was deferred after 1984-02-15; the licence now stands lapsed after that date
15	CM/L-0734550	GECO Trading Corporation, Kolhapur	IS : 10001-1981	Renewal was deferred after 1983-06-15; the licence now stands lapsed after that date
16	CM/L-0747862	Chattisgarh Pesticides, Raipur	IS : 561-1978	Renewal was deferred after 1984-01-31; the licence now stands lapsed after that date
17	CM/L-0755053	Romer and Company (India), Lucknow	IS : 868-1956	Renewal was deferred after 1984-02-29; the licence now stands lapsed after that date
18	CM/L-0761755	Tropical Agro Systems (P) Ltd, Madras	IS : 7121-1973	Renewal was deferred after 1984-03-15; the licence now stands lapsed after that date
19	CM/L-0789571	Polypharm Pvt Ltd, Kalyan	IS : 2214-1977	Lapsed after 1984-08-15
20	CM/L-0797776	Apex Cable Industries, Bilimora	IS : 1554 (Part 1)-1976	Renewal was deferred after 1982-09-15; the licence now stands lapsed after that date
21	CM/L-0797978	Mukesh Metal Box Company, Rajkot	IS : 916-1975	Lapsed after 1984-09-15
22	CM/L-0798374	Apex Cable Industries, Bilimora	IS : 694-1977	Renewal was deferred after 1982-09-15; the licence now stands lapsed after that date
23	CM/L-0827254	Millet Rochas Pvt Ltd, Madras	IS : 3959-1978	Renewal was deferred after 1983-12-31; the licence now stands lapsed after that date
24	CM/L-0851756	Polypharm Private Ltd, Kalyan	IS : 8540-1977	Lapsed after 1984-08-15
25	CM/L-0860151	Super Industries, Naroda	IS : 2568-1978	Renewal was deferred after 1981-04-15; the licence now stands lapsed after 1984-03-31
26	CM/L-0865565	Universal Industries & Cotton Mills Ltd, Calcutta	IS : 8052-1976	Renewal was deferred after 1983-04-30; the licence now stands lapsed after that date
27	CM/L-0880056	Bharat Pulversing Mills, Bombay	IS : 1469-1970	Renewal was deferred after 1984-07-31; the licence now stands lapsed after that date
28	CM/L-0905349	Blue Punk Industries, Wadliwan	IS : 325-1978	Renewal was deferred after 1981-10-15; the licence now stands lapsed after that date
29	CM/L-0920850	Tansi Polish Unit, Madras	IS : 3447-1965	Renewal was deferred after 1983-12-15; the licence now stands lapsed after that date
30	CM/L-0930550	Standard Colour Match Works, Sivakasi	IS : 2653-1980	Renewal was deferred after 1984-01-15; the licence now stands lapsed after that date

SL No.	LICENCE NO.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
31	CM/L-0981870	Garware Plastics and Polyester Limited, Bombay	IS : 10(Part 1)-1976	Renewal was deferred after 1983-07-31; the licence now stands lapsed after that date
32	CM/L-1020718	M.K. Engineering Company, Chandausi	IS : 1538 (Part 10)-1976	Lapsed after 1983-12-31
33	CM/L-1033020	Auckland International Ltd, Calcutta	IS : 3790-1971	Renewal was deferred after 1984-03-15; the licence now stands lapsed after that date
34	CM/L-1046130	M.K. Engineering Company, Chandausi	IS : 1538 (Part 19)-1976	Lapsed after 1984-03-15
35	CM/L-1046231	do	IS : 1538 (Part 21)-1976	do
36	CM/L-1067138	Kalsi Agricultural Corporation, Moga	IS : 9020-1979	Renewal was deferred after 1984-04-15; the licence now stands lapsed after that date
37	CM/L-1080433	Fort Gloster Industries, Calcutta	IS : 434 (Part 2)-1964	Renewal was deferred after 1984-05-31; the licence now stands lapsed after that date
38	CM/L-1087952	Giriraj Udyog Ltd, Lucknow	IS : 1786-1979	Renewal was deferred after 1983-06-15; the licence now stands lapsed after that date
39	CM/L-1116630	Kakkar Steel Forgings, Mohali	IS : 6118-1971	Renewal was deferred after 1983-09-30; the licence now stands lapsed after that date
40	CM/L-1147136	Devidayal Stainless Steel, Bombay	IS : 4246-1976	Renewal was deferred after 1984-01-15; the licence now stands lapsed after that date
41	CM/L-1148744	J. Beedi Factory, Ranipet	IS : 1925-1974	Renewal was deferred after 1984-01-15; the licence now stands lapsed after that date
42	CM/L-1170030	Vidyut Cables Industries, Bhiwadi	IS : 5950-1971	Lapsed after 1984-03-15
43	CM/L-1182845	Coimbatore Premier Corporation Pvt Ltd, Coimbatore	IS : 1520-1980	Renewal was deferred after 1984-04-30; the licence now stands lapsed after that date
44	CM/L-1195147	Suphala Laminators, Calcutta	IS : 7406 (Part 2)-1980	Renewal was deferred after 1984-06-15; the licence now stands lapsed after that date
45	CM/L-1211220	Scientific Insecticides Company, Tiruchirappally	IS : 561-1978	Lapsed after 1984-07-31
46	CM/L-1222124	E.I.D. Parry (India) Ltd, Madras	IS : 2052-1979	Lapsed after 1984-08-15
47	CM/L-1222225	do	IS : 1374-1979	do

CORRIGENDUM

ISI BUL; V37, N 1; JANUARY 1985

INDIAN STANDARDS

The standards listed below have been classified departmentwise.

NEW AND REVISED INDIAN STANDARDS

AGRICULTURAL AND FOOD PRODUCTS DEPARTMENT

IS : 1827-1984 *Liquid amine salts of 2,4-D* (first revision). Gr 3

IS : 3284-1984 *Organo mercurial dry seed-dressing formulations* (first revision). Gr 3

IS : 10618-1983 *Pictorial representation for cautionary notices for threshers*. Gr 2

IS : 10974 (Part 3)-1984 *Code for hygienic conditions for production, transport, storage and distribution of indigenous milk products: Part 3 Coagulated products chhana and chhana based sweetmeats*. Gr 3



IS : 10974 (Part 4)-1984 *Code for hygienic conditions for production, transport, storage and distribution of indigenous milk products: Part 4 Frozen products kulfi*. Gr 3

IS : 10974 (Part 5)-1984 *Code for hygienic conditions for production, transport, storage and distribution of indigenous milk products: Part 5 Fermented products shrikhand*. Gr 3

IS : 11020-1984 *Methods for determination of carbosuran residues in crops, soil and water*. Gr 2

IS : 11033-1984 *Animal drawn potato digger, ridger type*. Gr 3

IS : 11081-1984 *Half cage wheel for agricultural tractors*. Gr 2

IS : 11082-1984 *Technical requirements of agricultural tractors for wet land cultivation*. Gr 2

IS : 11102-1984 *Class bottles for sugar standards*. Gr 1

CHEMICAL DEPARTMENT

IS : 566-1984 *Disodium phosphate, dodecahydrate* (second revision). Gr 4

IS : 3448-1984 *Rice bran oil* (second revision). Gr 2

IS : 8171-1984 *Glossary of terms relating to polishes and related materials* (first revision). Gr 2

IS : 10500-1983 *Drinking water*. Gr 6

IS : 10982-1984 *Strontium sulphate for electroplating*. Gr 4

IS : 11087-1984 *Paper for magnetic ink character recognition cheque printing*. Gr 4

CIVIL ENGINEERING DEPARTMENT

IS : 2906-1984 *Sluice valves for water works purposes (350 to 1 200 mm size)* (third revision). Gr 7

IS : 2925-1984 *Industrial safety helmets* (second revision). Gr 4

IS : 4643 *Suction wrenches for fire brigade use* (first revision). Gr 2

IS : 5312 (Part 1)-1984 *Swing check type reflux (non-return) valves for water works purposes: Part 1 Single-door pattern* (first revision). Gr 4

IS : 5751-1984 *Precast concrete coping blocks* (first revision). Gr 3

IS : 8273-1984 *Fibrous gypsum Plaster boards* (first revision). Gr 3

IS : 10905 (Part 1)-1984 *Recommendations for basic requirements of general hospital buildings: Part 1 Administrative and hospital services department buildings*. Gr 6

IS : 10905 (Part 3)-1984 *Recommendations for basic requirements of general hospital buildings: Part 3 Engineering services department buildings*. Gr 5

IS : 11089-1984 *Code of practice*

for design and construction of ring foundation. Gr 4

CONSUMER PRODUCTS AND MEDICAL INSTRUMENTS DEPARTMENT

IS : 3707-1984 *Refill, ball point pen* (second revision). Gr 3

IS : 7419-1983 *Requirements for stairs for physical rehabilitation* (first revision). Gr 1

IS : 11044-1984 *Acrylic trimmers, dental*. Gr 3

IS : 11045-1984 *Metal trimmers, dental*. Gr 2

IS : 11088-1984 *Guide for retrieval and analysis of metallic orthopaedic implants*. Gr 3

ELECTRONICS AND TELECOMMUNICATION DEPARTMENT

IS : 4570 (Part 6)-1984 *Crystal unit holders: Part 6 Metal, solder seal, two-pin crystal unit holder type EX*. Gr 1

IS : 5000 (OD 38)-1984 *Dimensions of semiconductor devices device outline OD 38*. Gr 1

IS : 8271 (Part 4/Sec 3)-1984 *Quartz crystal units used for frequency control and selection: Part 4 Series AB for oscillators, Section 3 Quartz crystal unit type AB-03*. Gr 1

IS : 9002 (Part 8)-1984 *Equipment for environmental tests for electronic and electrical items: Part 8 Dust chamber*. Gr 3

IS : 9002 (Part 11)-1984 *Equipment for environmental tests for electronic and electrical items: Part 11 Drop, toppling and free fall test machine/platform*. Gr 2

IS : 11014 (Part 1)-1984 *Piezoelectric ceramic materials: Part 1 General aspects and methods of measurements*. Gr 3

IS : 11014 (Part 2)-1984 *Piezoelectric ceramic materials: Part 2 Types 1 and 5*. Gr 1

IS : 11024-1984 *Standard reference*

zero for the calibration of puretone bone-conduction audiometers and guidelines for its practical application. Gr 5

IS : 11051-1984 Methods of measurements for television sweep generators. Gr 2

IS : 11075 (Part 2/Sec 1)-1984 Radio frequency connectors of BNC, TNC and UHF series: Part 2 BNC series, Section 1 Straight plug, male, cabled, type XXXX IS — 01-01 to 04 and 50 to 53. Gr 2

ELECTROTECHNICAL DEPARTMENT

IS : 1248 (Part 6)-1983 Direct acting indicating analogue electrical measuring instruments and their accessories: Part 6 Ohmmeters (Impedance meters) and conductance meters (second revision). Gr 3

IS : 3855 (Part 5)-1984 Rectangular and square enamelled copper conductors: Part 5 Wires with temperature index 180 (first revision). Gr 2

IS : 9335 (Part 3/Sec 3)-1984 Cellulosic papers for electrical purposes: Part 3 Specification for individual materials, Section 3 Crepe paper. Gr 2

IS : 10242 (Part 3/Sec 3)-1984 Electrical installations in ships: Part 3 Equipment, Section 3 Transformer for power and lighting. Gr 2

IS : 11039-1983 Requirements for mounting on rail in switchgear and controlgear installations. Gr 7

IS : 11067-1984 dc standard resistors. Gr 2

IS : 11071 (Part 1)-1984 Inset type aerodrome lighting fittings: Part 1 General requirements and tests. Gr 4

IS : 11086-1984 Speedometer/odometer systems for automotive applications. Gr 3

MARINE, CARGO MOVEMENT AND PACKAGING DEPARTMENT

IS : 4190-1984 Eye bolts with collars (first revision). Gr 4

IS : 5604-1984 Hand-operated universal gearless pulling and lifting machines (first revision). Gr 3

IS : 10106 (Part 2/Sec 3)-1984 Packaging code: Part 2 Packaging materials, Section 3 Plastic materials. Gr 5

IS : 10106 (Part 3/Sec 1)-1984 Packaging code: Part 3 Ancillary materials, Section 1 Cushioning materials. Gr 7

IS : 10924-1984 Guidelines for selection of marine valves and cocks. Gr 3

IS : 11052-1984 Methods of test for vertical impact drop test on paper sacks. Gr 3

IS : 11076-1984 Guide for palletization of cashew kernels for export. Gr 2

IS : 11094-1984 Strength performance requirements of service brake components of powered industrial trucks. Gr 1

MECHANICAL ENGINEERING DEPARTMENT

IS : 4025-1983 Gauging practice for rolling bearings (first revision). Gr 5

IS : 6864-1984 Metal marking punches (first revision). Gr 2

IS : 8433-1984 Code of practice for visual inspection of dissolved acetylene gas cylinders (first revision). Gr 2

IS : 10968-1984 Drawing practice for simplified presentation. Gr 1

IS : 10980 (Part 1)-1984 Aerospace bolts and nuts (MJ threads): Part 1 Basic profile. Gr 1

IS : 10988-1984 Methods of measuring noise from machine tools (excluding testing in anechoic chambers). Gr 5

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DOCUMENTATION (TC 46)

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Guidelines for the establishment and development of multilingual thesauri

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ISO 4523-1985 Metallic coatings — Electrodeposited gold and gold alloy coatings for engineering purposes

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Semistatic method

ISO 7346/3-1984 Water quality — Determination of the acute lethal toxicity of substances to a freshwater fish [*Brachydanio rerio* Hamilton-Buchanan (*Teleostei, Cyprinidae*)]: Part 3 Flow-through method

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ISO 2553-1984 Welds — Symbolic representation on drawings

ISO 6848-1984 Tungsten electrodes for inert gas shielded arc welding and for plasma cutting and welding — Codification

ISO 7284-1984 Resistance welding equipment — Particular specifications applicable to transformers with two separate secondary windings for multispot welding, as used in the automobile industry

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THE COVER — Sprinklers for Irrigation. A number of Indian Standards are available for the manufacture of these and other items of irrigation equipment, such as pumps, tubewells and hydrams to ensure their reliable operation (see also page 128).

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NORMS AND VALUES

Criteria for Edibility of Oils and Fats

Most of the fats and oils being utilized today for edible purposes are traditional items that have become accepted through centuries of usage. Sesame, rape, mustard and coconut oils are perhaps the oldest of these, followed by groundnut and its oil introduced by the Portuguese in the sixteenth and seventeenth centuries. Other local traditional edible oils are those of safflower and niger, and in a smaller way of sal, dhupa, kokum, linseed, etc.

In recent times, new oils have been introduced whose edibility was primarily established by usage elsewhere and were, therefore, accepted without question in India as being edible. Examples of such materials are refined cottonseed oil, sunflower seed oil, soybean oil, palm oil and tobacco seed oil.

Recently, however, new developments have taken place. Certain minor oils used in local diets, such as sal seed fat, mango kernel fat and kokum butter have been commercialized. Other fats about which less is known and whose edibility has not been traditionally established are also becoming available. These include seed oils of the citrus family, watermelon, pumpkin, tea and coffee. However, even fats that are known to have been consumed by human beings cannot be automatically assumed to be beneficial to health on unrestricted consumption.

A certain protocol of testing is in vogue today for determining the edibility or otherwise of any ingested product by human beings. Ideally, this involves a stepwise examination of analytical characteristics, biological testing on rats, biological testing on two other animal species including a non-human primate, and final testing on human volunteers. Certain steps may, however, be omitted if the item is already in edible use and rat tests are normal.

Based on these guidelines, the Indian Standards Institution has recently published an Indian Standard laying down criteria for edibility of fats and oils (IS : 11068-1984). It outlines the procedures for stepwise examination of a fat or oil under consideration for edible use and highlights the various steps and their significance, followed by broad experimental directions relating to each step.

The Standard should be found useful by food

technologists and others concerned while considering introduction of newer sources of fats and oils in the market.



Standardization Message on Wheels

The PSA Mobile — a specially designed van of the Product Standards Agency (PSA) of Philippines — has been taking rounds of different parts of the country since 8 October 1984, the opening day of National Standards Week in Manila. Designed for an intensive educational and promotional campaign on standardization and metrication, it is 6.22 metres wide and 11.78 metres long and features a large exhibition area (40 sq m) with a modular, flexible exhibition system. This area can also be used for technical consultancy sessions between PSA and its clients. The front passenger section serves as an audio-visual room for small audiences and a mini office for the PSA crew.

A wide array of PS-certified products; audio visual materials including films, slides and video tape recording on standardization and PSA's functions and services; reference materials, such as local and overseas standards publications; and measuring equipment are being carried by the PSA Mobile during its tour to all regions of the country.

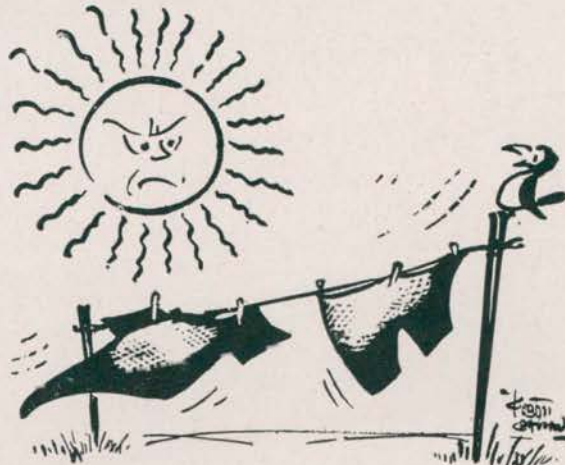
- The PSA Mobile is being utilized to:
- conduct seminars on industrial quality control and metrication even in remote areas nationwide with maximum use of audio-visual materials;
 - introduce the general public, through product exhibits, to the growing range of products that have obtained the PS Certification Mark for consistent compliance with performance and safety standards;
 - provide simple calibration services for measuring equipment and devices used in manufacturing and trade; and
 - strengthen public awareness of PSA's functions and services to encourage manufacturers and consumers to participate in national standards development work and make full use of standards and PSA's certification process in upgrading the quality and safety of locally made goods.



COLOUR FASTNESS OF TEXTILE MATERIALS TO DAYLIGHT AND WEATHERING

Textile materials are subjected to long exposure of sun and weathering in their normal use and their colour, even if otherwise fast, may no more be fast to sunlight and weathering. Nothing could, therefore, be more disgusting for a consumer than the experience of finding bright and colourful clothes becoming dull and faded after only a few days' wear. This leaves him in an unenviable position, for he can neither use such clothes anymore nor can he afford to throw them away. Colour fading assumes a much greater significance in the case of defence textile stores like field area dresses, camouflage tents and tarpaulins which are so dyed and printed as to mix with the surrounding natural environment.

The Indian Standards Institution became alive to this problem quite early in its career and has already formulated standards for the determination of colour fastness of textile materials to daylight (IS : 686-1957), artificial light (xenon lamp) (IS : 2454-1967), weathering by outdoor exposure (IS : 5951-1970) and weathering by xenon arc lamp (IS : 6152-1971). These standards are currently undergoing revision to incorporate some changes relating to sampling, specimen size and apparatus and to align them with the



corresponding International Standards.

The standard for determination of colour fastness of textile materials to daylight, which is suitable for all kinds (cotton, wool and silk) and forms of textiles (fibre, yarn and fabric), requires the specimen to be exposed to daylight under prescribed conditions, including protection from rain, along with eight blue-dyed wool standard patterns. Fastness of colour is assessed by comparing the change in the colour of the specimen with that of the standard patterns. As daylight exposure takes a long time to complete a test, a quick method for determining colour fastness to light is by the use of artificial light (xenon lamp). The standard for this method is based on the principle of exposing the specimen under prescribed conditions along with eight dyed wool standard patterns to light from

a xenon arc lamp. Colour fastness is assessed by comparing the fading of the specimen with that of standard patterns.

The standard method for determination of colour fastness of textile materials to weathering is by outdoor exposure. In this, test specimens of textiles are exposed under specified conditions in the open without any protection from weathering. At the same time and in the same place, eight blue-dyed standard wool patterns are exposed to daylight but are protected from rain, snow, etc, by a sheet of window glass. Colour fastness of the textile material is assessed by comparing the fading of the test specimen with that of standard patterns. Quick results can be achieved by simulating the weather conditions and using artificial light (xenon lamp). The standard for this method requires the test specimen

to be exposed under specified conditions to light from a xenon arc lamp and water spray. At the same time and in the same cabinet, eight blue-dyed wool standard patterns are exposed to light but are protected from water spray by a sheet of window glass. Colour fastness of the textile material is assessed by comparing the fading of the sample with that of standard patterns.

It is likely that results obtained by the outdoor exposure method may differ from those obtained by accelerated exposure to artificial light (xenon lamp) and simulated weathering. In case of dispute, it is recommended that outdoor exposure method should be preferred.

These standards are helpful to producers in manufacturing textile materials with fast colour which can stand the rigours of sunlight and weathering and to bulk consumer like defence services in checking their supplies of textile materials for colour fastness.

CONSUMERISM DEFINED

A social movement which seeks to safeguard and strengthen the right of the consumer in relation to the producer or supplier of goods and services.



The IEC President, Mr A. Dejou (second from left), and General Secretary, Mr C. J. Stanford (extreme left), in discussion with Rao Birendra Singh, Union Minister for Food and Civil Supplies and President ISI (third from left). Others in the picture are (sitting from right): Shri B. K. Sinha, Joint Secretary, Department of Civil Supplies; Dr B. N. Singh, Additional Director General, ISI; and Shri K. C. Pandeya, Secretary, Department of Civil Supplies.

IEC President and General Secretary in India

■ The recent visits to India of Mr A. Dejou, President, and Mr C. J. Stanford, General Secretary, International Electrotechnical Commission (IEC), provided a welcome opportunity for an appreciation of the development of standardization activity at national and international levels, and application of standards in industry as well as their role in international trade. Undertaken at the invitation of ISI, these visits paved the way for closer cooperation between IEC and ISI. While Mr Dejou was in India during 28-29 March 1985 Mr Stanford was here during 26 March-7 April 1985.

The main objective of the visit of the two dignitaries to India was an exchange of views and experience in the fields of electrotechnology and electronics, the fields in which IEC formulates International Standards. Since India is at the threshold of development of electronics industry, experience in standardization at international level could provide the necessary fillip to its upcoming industries. International Standards have now acquired a new status with the GATT Standards Code, making it mandatory for signatory governments to adopt them in national standards and technical regulations. In this background, greater involvement of ISI in IEC technical work is necessary to ensure that International Standards do not prove detrimental to the development of Indian industry and export trade.

The IEC — one of the two premier organizations devoted to international

standardization — was founded in 1906 with the objective of promoting international cooperation and understanding in regard to standardization and related matters in the field of electrical and electronics engineering. The Commission achieves these objectives by issuing publications, including recommendations, in the form of International Standards which national committees are expected to use for their work on national standards insofar as national conditions permit. Though India's participation in IEC activities goes back to early 1920's it has been entrusted with Secretariat responsibilities for some of the IEC Committees and Subcommittees since 1949.

DISCUSSIONS

The President and General Secretary, IEC, had separate meetings with the Minister for Food and Civil Supplies, Rao Birendra Singh, and Secretary, Department of Civil Supplies, Shri K. C. Pandeya. The Indian side expressed its desire and willingness for greater involvement in IEC work in areas of direct relevance to the country's trade and technology development, which was appreciated by the IEC dignitaries. India, they felt, was in a position to take a leading part in IEC's technical work, particularly with respect to the needs of countries with tropical climates and having developing economies.

During discussions with ISI

consumption of farm produce conducted by operative Ahmadabad, leum Conservation, New about 95 pe sampled were nical knowho guidelines for operation and an Indian Sta has been pu covering selection and ma pectively.

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officials, the President and General Secretary of IEC reiterated that India was in a position to represent in IEC Technical Committees the views and experience of industrializing nations as well as countries situated in the tropical and sub-tropical regions. It was agreed that a few Technical Committees and Subcommittees be identified by ISI for India's increased and sustained participation in IEC work. Areas in which India could accept Secretariat responsibilities could also be identified, keeping in view this country's trade and level of technological development.

A discussion meeting was also organized by ISI in collaboration with the Institute of Standards Engineers (ISE) and the Institution of Electronics and Telecommunications Engineers

(IETE). The President and General Secretary addressed the members of these professional bodies and apprised them of the latest developments in the field of standardization at the international level in relation to electro-technology. They spoke about the origin of IEC, mechanics of formulation of International Standards, impact of IEC standards on electrical industry and recent introduction of international certification in the field of electronics. The participants also exchanged views with the two dignitaries on various aspects of standardization and quality control of electronics and electrical goods and on the linkage between technology and standardization.

The General Secretary, Mr Stanford, also had discussions with the General

Secretary, Indian Electrical Manufacturers' Association, on the status of electrical industry in India. The latter apprised him of the extent of application of IEC standards in the industry and said that IEC publications were indirectly in use in India as a number of Indian Standards were based on them.

TECHNICAL VISITS

While in India, Mr Stanford visited the Central Electronics Limited (CEL), Sahibabad; National Physical Laboratory (NPL), New Delhi; Escorts Limited, Faridabad; NGEF, Bangalore; Cable Corporation, Bombay; and J & K Cements Limited (Khrew) and Wuyan Cement Works (Wuyan), Srinagar.

ISO COMMITTEE ON CONFORMITY ASSESSMENT — New Title and Terms of Reference for CERTICO

■ In view of international developments on subjects relating to product certification, laboratory accreditation and quality assurance assessment, the ISO Council has decided to expand the terms of reference of Committee on Certification, hitherto known as CERTICO. The Committee, now under the title Committee on Conformity Assessment (CASCO), has the following terms of reference:

- To study means of assessing the conformity of products, processes, services and quality systems to appropriate standards or other technical specifications;
- To prepare international guides relating to the testing, inspection and certification of products, processes and services, and to the operation and assessment of testing laboratories, inspection bodies, certification bodies and quality systems; and
- To promote mutual recognition and acceptance of national and regional conformity assessment systems, and the appropriate use of International Standards for testing, inspection, certification, quality systems and related purposes.

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STANDARDS NEWS

THERMAL INSULATION— ISO SUBCOMMITTEE MEETINGS IN NEW DELHI

India hosted meetings of two subcommittees of the ISO Technical Committee on Thermal Insulation (ISO/TC 163), namely, Subcommittee for Insulation Products for Building Applications (ISO/TC 163/SC 3) and Subcommittee for Insulation Products for Industrial Applications (ISO/TC 163/SC 4) as well as their working groups in New Delhi during 15-22 February 1985. The meetings were attended by over 30 delegates from Belgium, Canada, Denmark, France, Federal Republic of Germany, India, Japan, Sweden, the United Kingdom and the United States of America.

Discussions at these meetings resulted in proposals on standards for bonded preformed mineral fibre pipe sections and calcium silicate slabs being recommended to the ISO Central Secretariat for registration as draft International Standards and draft proposals on specifications for mineral fibre mats for ventilated roof spaces and mineral fibre board for overdeck insulation of roofs being approved for circulation among members as second draft proposals. Besides, a working draft for mineral fibre loose fill for ventilation roof spaces and a report on bonded mineral fibre slabs were approved for registration as draft proposals. It was also decided to submit a new work item on man-made mineral fibre metal mesh faced mats and mattresses to members of ISO/TC 163 for voting.

Besides, it was agreed to set up a joint working group of ISO/TC 163/SC 3 and ISO/TC 61/SC 10 Subcommittee for Cellular Materials to deal with organic cellular thermal insulation materials which are within the purview of the ISO Technical Committee on Plastics (ISO/TC 61). From India, Shri N. Srinivas (Punj Sons Pvt Ltd), who was earlier nominated on the Working Group for Mineral Fibre Pipe Insulation and Calcium Silicate



At the meetings of two of the Subcommittees of ISO/TC 163 Thermal Insulation (from left): Ms Margareta Andersson, Secretary, ISO/TC 163; Mr Terence B. Melski, Secretary ISO/TC 163/SC 3 Subcommittee for Insulation Products for Building Appliances; Mr C. J. Shilliffe Chairman, ISO/TC 163/SC 3; Dr B. N. Singh, Additional Director General, ISI; Mr Randolph W. Gerrish, Secretary, ISO/TC 163/SC 4 Subcommittee for Insulation Products for Industrial Applications; and Mr Jack Barnhart, Chairman, ISO/TC 163/SC 4.

Block Insulation (ISO/TC 163/SC 4/WG 1), has been made a member of the joint working group proposed to be established

The representatives from India took active part in the deliberations of the meetings. India is an exporter of thermal insulation materials and is also carrying out installation and fabrication jobs in other countries. The importance of thermal insulation materials, which are primarily used for conservation of energy, maintenance of manufacturing process conditions and provision of better living and working conditions, has increased of late, particularly due to world-wide hike in petroleum prices and the pressing need for devising measures for energy conservation.

TRAINING PROGRAMME ON COMPUTER AWARENESS AND RELATED APPLICATIONS

The ISI Computer Centre organized its first in-house training programme on 'Computer Awareness and Related Applications' during 25 February 1985-6 March 1985 at the Institution's Headquarters in New Delhi. The Programme, which was attended by 39 middle level officers (Senior Deputy Directors and Deputy Directors) working in different depart-

ments of ISI like those engaged in standards development, certification, standards promotion and international relations, Central Laboratory and regional and branch offices, was designed to inculcate computer culture among them to see that the relevance of computer as a tool for increasing productivity percolates to all levels.

The programme contents included topics, such as computer concepts, electronic data processing, file organization and management, system analysis, and designing methods and tools. Practical sessions organized on the occasion included visits to ISI Computer Centre and Computer Centre, Department of Statistics, Government of India.

Inaugurating the Programme, Shri B. K. Sinha, Joint Secretary, Union Ministry of Food and Civil Supplies, said that computer was an aid to management and would help bridge information gap in the fields of standards formulation, standards promotion, certification marking, laboratory administration and quality assurance in ISI.

Shri K. C. Pandeya, Secretary, Union Ministry of Food and Civil Supplies, presided over the valedictory function. Shri Pandeya emphasized the relevance of computerization to timely response in respect of expectations of

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society, industry and the consumer with regard to formulation of standards and operation of the ISI Certification Marks Scheme and called upon the officers just trained in computer applications to act as a catalyst for spreading the computer culture within ISI. Shri Pandeya also distributed certificates to 39 ISI officers who had successfully completed the training programme.

Earlier, Dr B. N. Singh, Additional Director General, ISI, outlined the details of phased expansion plan in regard to computerization and development of computer systems in ISI. He also emphasized the role of computer in different functional areas of ISI in the Seventh Plan.

The faculty for the Training Programme consisted of Shri T. N. Misra, Director (Computer Centre); Shri D. S. Ahluwalia, Director (General Services); and Shri A. S. Chandrasekaran, Senior Deputy Director (Computer Centre), ISI. Besides, Brig V. M. Sundaram (International Computers Indian Manufacture Ltd); Wing-Cdr M. K. Challu (Computer Maintenance Corporation of India); and Shri Y. N. Reddy (Police Computer Centre, Government of India) delivered guest lectures. Shri B. B. Gupta, Deputy Director, and Shri Saroj Ray, Assistant Director (Computer Centre), organized the visits to Computer Centres.

STATISTICAL QUALITY CONTROL TECHNIQUES IN PAPER INDUSTRIES

The Indian Standards Institution organized a Training Programme on the Application of Statistical Quality Control Techniques in Paper Industries in the premises of M/s J. K. Paper Mills, Jaykaypur, Koraput (Orissa) during 25-28 March 1985. The Programme was attended by 16 trainees from the industry.

Inaugurating the Training Programme, Dr B. L. Bihani, Vice-Chairman, J. K. Paper Mills, said that the quality of paper was important for paper industry as the consumer had become quality-conscious and a healthy competition had come to stay in the industry. He added that the printing technology had made sufficient advances in the country. This called for a better quality of paper to achieve the desired result in printing.

Shri R. K. Bhartari, Head, Bhubaneswar Branch Office, ISI, highlighted the universal application of statistical quality control techniques in planning, processing and interpretation of scientific studies. Referring to the scarcity of raw material used by



Shri N. Sankar, Senior Deputy Director, ISI, explaining the scope of statistical quality control in paper industries. Others on the dais are (from left): Dr D. K. Chaudhuri, Assistant Director, ISI; Shri R. K. Bhartari, Head, Bhubaneswar Branch Office, ISI; Dr B. L. Bihani, Vice-Chairman; and Shri Jeevendra, Manager, J. K. Paper Mills, Jaykaypur.

the paper industry, he said that the industry would have to depend more and more on non-conventional raw materials like hardwood.

Shri N. Sankar, Senior Deputy Director, ISI, conducted the Training Programme.

NRDC AWARDS FOR MERITORIOUS INVENTIONS

The National Research Development Corporation of India (NRDC) has announced awards totalling Rs 75 000 for five inventions and certificates of merit for three. Besides, financial assistance of Rs 10 000 has been granted for one invention. Among the award winners, Shri K. S. G. Doss (Madras); Shri Chowdhury Nath Saikia (Regional Research Laboratory, Jorhat); Dr Rajendra Kumar and Shri C. S. Siva Ramkrishnan (National Metallurgical Laboratory, Jamshedpur); and Dr Vijay P. Bhatkar (Electronics Research and Development Centre, Trivandrum) are associated with the work of ISI as members of its various sectional

committees, subcommittees and panels.

Shri K. S. G. Doss contributes to ISI work through the Institution's Sectional Committee on Primary Cells and Batteries (ETDC 10) besides being a member of its Panel for Accelerated Life Test for Primary Cells and Batteries (ETDC 10 : P 7).

Shri Chowdhury Nath Saikia represents the Regional Research Laboratory, Jorhat, on ISI's Paper Sectional Committee (CDC 15).

Dr Rajendra Kumar is a member of the Panel on Tube Galvanizing (SMDC 28 : P 2) while Shri Siva Ramkrishnan represents the National Metallurgical Laboratory on the Sectional Committees for Copper and Copper Alloys (SMDC 11) and Lead, Zinc, Tin, Antimony and their Alloys (SMDC 12).

Dr Vijay P. Bhatkar represents the Electronics Research and Development Centre on the ISI Sectional Committee for Computers, Business Machines and Calculators (LTDC 24) and its Subcommittee for Computer Hardware (LTDC 24 : 1).



Visitors to the ISI Stall in the Exhibition organized by Tamil Nadu Electrical Contractors' Association in Madras during 22-24 March 1985, evincing keen interest in the Institution's publications including Indian Standards on electrical and electronic items.

WORKSHOPS ON DESIGN AND MANUFACTURE OF FERRO-CEMENT PRODUCTS AND TESTING OF CONCRETE

Two Workshops on Design and Manufacture of Ferrocement Products and Testing of Fresh and Hardened Concrete are being organized by the Indian Concrete Institute in collaboration with the Structural Engineering Research Centre in Madras during 28-30 August 1985 and 4-6 September 1985 respectively. These Workshops aim at imparting in-depth knowledge and on-the-job experience

to those engineers and middle level personnel who are engaged in day-to-day construction activities and quality control.

Topics for the Workshop on Ferrocement Products include principles and composition of materials; properties and possible applications of ferrocement; design parameters and tests; and demonstrations on manufacture of selected products.

The Workshop on Testing of Fresh and Hardened Concrete will highlight Indian codes of practice and other testing methods, such as those of the American Society for Testing

and Materials (ASTM) besides demonstrating various tests in laboratory on cement, mortar and concrete specimens; non-destructive and partially destructive tests; estimation of cement content in fresh concrete; investigation procedures for fire damages; strain and deformation measurement under loads, etc.

Further information can be had from: Shri Zacharia George, Secretary-General, Indian Concrete Institute, CSIR Campus, Taramani P. O., Madras 600113.

NATIONAL BUILDING CODE OF INDIA — REVISED VERSION AVAILABLE

■ Indian Standards Institution (ISI) has just published a revised version of the National Building Code of India. The Code was first published in 1970.

The National Building Code is a single document in which, like a network, the information contained in various Indian Standards is woven into a pattern of continuity with the interdependent requirements of sections carefully analyzed and fitted in to make the whole document a cogent continuous volume. It represents the present state of knowledge on various aspects of planning and building construction. A continuous thread of 'preplanning' is woven into the document, which in itself contributes considerably to economies in construction, particularly in building and plumbing services.

The Code contains regulations which can be immediately adopted or enacted for use by various departments, municipal administrations and public bodies. It lays down a set of minimum provisions designed to protect the safety of the public with regard to structural sufficiency, fire hazards and health aspects of buildings; so long as these basic requirements are met, the choice of materials and methods of design and construction is left to the ingenuity of the architect and the engineer.

The Code also covers aspects of administrative regulations, development control rules and general building requirements; fire protection requirements; stipulations regarding materials and structural design; rules for design of electrical installations, lighting, airconditioning and lifts; regulations for ventilation, acoustics and gas supply; measures to ensure safety of workers and public during construction; and rules for erection of signs and outdoor display structures.

The Code has been revised to incorporate the comments and useful suggestions received for modification as a result of its usage by the concerned agencies and revision of building byelaws of some of the States. Besides, a number of new Indian Standards have been formulated since the publication of the Code and quite a few standards on which some parts/sections of the Code were based have undergone substantial changes. Important modifications incorporated in the present Code include addition of development control rules, requirements for green belts and landscaping including norms for plantation of shrubs and trees, special requirements for low income housing and fire safety regulations for high-rise buildings; revision of structural design sections based on new and revised codes, such as concrete codes, earthquake code and masonry code; addition of outside design conditions for important cities in the country and requirements relating to noise and vibration, air filter, automatic control and energy conservation for airconditioning; and guidance on the design of water supply system for multi-storied buildings.

The Code will serve as a model for adoption by Public Works Departments and other Government construction departments, local bodies and construction agencies. Existing PWD codes, municipal byelaws and other regulatory media could be either replaced by the National Building Code or suitably modified to cater to local requirements in accordance with the provisions of the Code.

The Code is available either as a single volume (priced at Rs 400.00) or in five separate groups. Group 1 (Rs 110.00) deals with administration, development control rules, general building requirements, fire protection, building materials, and signs and outdoor display; Group 2 (Rs 170.00) concerns structural design of all elements of a building using various material media like wood, masonry, concrete and steel; Group 3 (Rs 45.00) relates to constructional practices and safety; Group 4 (Rs 100.00) contains building services including lighting and ventilation, electrical installation, airconditioning and heating, acoustics sound insulation and noise control, and installation of lifts and escalators; and Group 5 (Rs 65.00) covers plumbing services and deals with water supply, drainage, sanitation and gas supply.

Copies of the Code can be had from ISI Headquarters at New Delhi and its Regional and Branch Offices at Bombay, Calcutta, Madras, S. A. S. Nagar, Ahmadabad, Bangalore, Bhopal, Bhubaneswar, Hyderabad, Jaipur, Kanpur, Patna and Trivandrum as also the Inspection office at Pune.

Indigenization of Medical Tools Stressed

The Engineering Industry has identified medical and hospital equipment manufacturing as a high technology area with good scope for diversification and attainment of self-reliance.

A Seminar on Business Opportunities in Medical Equipment organized by the Association of Indian Engineering Industry (AIEI), Southern Region, in Madras on 1 March 1985 threw light on the neglect of the bio-engineering section by both the industry and the concerned authorities, which had forced the country to depend largely on imports to meet the demand for these products.

This situation could no longer be allowed to persist because of the astronomical increase in the import cost of sophisticated equipment and its non-adaptability to local treatment conditions. Moreover, quality was poor and spares were not supplied in time, participants observed. They were also of the unanimous view that interaction to work out a common strategy was lacking between both the engineering and medical colleges and the universities and industry.

The Seminar identified nine areas for indigenous promotion. These included medical and surgical instruments and equipment; general hospital and operating room equipment; laboratory and scientific instruments; electro-medical equipment; radiation instruments; patient-aid equipment; and ophthalmological equipment.

Initiating the discussion, Shri Suresh Krishna, Chairman of AIEI (Southern Region), agreed that duty-free or concessional imports of equipment helped in meeting the growing demand for medical services. However, in view of the rapid obsolescence in medical instrumentation, imports from different sources would create a staggering inventory of instruments without services back-up or spares support, he feared. He, therefore, felt the need to develop a strong infrastructure by way of manufacturing facilities within the country. Shri Krishna wanted the Tamil Nadu Government to take the initiative by constituting a monitoring committee with representatives from industry, officials and medical experts. He also urged the State Government to take the lead in providing incentives for new units and also in promoting an exclusive complex with quality control and testing facilities.

At the national level, he suggested that a development council could be floated to assess the

prospects for the sector and recommend standardization of products range.

Dr H. V. Hande, Health Minister, Government of Tamil Nadu, emphasized the need for starting bio-engineering sections and repair cells in all colleges. In purchasing medical equipment, he felt that doctors should resist pressures from salesmen and consult qualified engineers for ensuring quality of products.

— The Financial Express, 2 March 1985



Fire Safety Rules Must be Strictly Enforced

The Lt-Governor of Delhi, Shri M. M. K. Wali, stressed the need for a legislation to strictly enforce the unified building bye-laws to ensure fire safety in high-rise buildings at a Workshop on Fire Prevention and Fire Safety for Engineers and Architects held in New Delhi on 12 March 1985.

Inaugurating the Workshop, Shri Wali said that the problem of fire safety in high-rise buildings first attracted the Government's attention in the early seventies after a few buildings were involved in mishaps. A national level seminar was organized in 1974 on in-built fire protection system in all high-rise buildings and the Indian Standards Institution was requested to formulate minimum fire safety requirements for such buildings.

Shri Wali pointed out that unified building bye-laws for the entire Union Territory of Delhi were finalized in 1976 but were not implemented for various reasons till a major fire broke out in a high-rise building in June 1983. Soon after this incident, the unified building bye-laws were adopted by all concerned authorities and notified to the public. An Advisory Committee to examine the fire safety measures in the existing high-rise buildings was also set up. The architectural design and the built-in fire protection systems in almost all buildings have so far been inspected. The Committee recommended that fire safety must be included in the curriculum of architects and engineers so that they may incorporate fire safety features in the design and construction of buildings.

— The Times of India, 13 March 1985



Industrial Safety Vital

The Minister of State for Labour, Shri T. Anjaiah, has emphasized the importance of safety in work environment and suggested that employers and workers should take appropriate steps for safety in the interest of human life and general welfare of all.

In his message to workers, employers, their organizations and general public on the eve of National Safety Day celebrations on 4 March 1985, the Minister said that 1985 should be accident-free and risks to life and limbs as a result of occupational hazards should be eliminated or reduced to the absolute minimum.

Referring to observance of the provisions of the Factories Act, he said that all manufacturing units carrying out dangerous manufacturing processes should appoint safety officers irrespective of the number of persons employed. He added that the States had been advised to reorganize and strengthen the factory inspection set-up so that industries were frequently inspected. There was also a need for proper monitoring of the work environment and adoption of preventive and corrective steps.

— The Financial Express, 4 March 1985

Steps to Check Substandard Electric Items

The Delhi Administration has decided to take legal action against manufacturers and sellers of unmarked electrical household appliances which is an offence under the Household Electrical Appliances (Quality Control) Order, 1981 of the Essential Commodities Act, 1955.

The Administration allows sale of only such appliances as either bear the manufacturers' certificate allotted by the Directorate of Industries or carry the ISI Certification Mark for consumer safety.

The Directorate of Industries, Delhi Administration, has been issuing warnings to the manufacturers of such appliances and has simultaneously started sampling the equipment being made available to consumers in the market.

— The Hindustan Times, 5 March 1985

National Alliance of Young Entrepreneurs Urges Greater Patent Protection

The National Alliance of Young Entrepreneurs (NAYE) has called upon the Government to initiate and support measures aimed at providing small enterprises with the advantages of a greater range of legal protection for their inventions than has been the case in the past.

In a memorandum to the Union Minister for Science and Technology and the Union Minister or Law and Justice, NAYE has said that expansion of legal protection for inventions, above and beyond existing procedures, as well as strengthening of legal safeguards for other industrial achievements was in the interest of small firms.

NAYE has also urged that small and medium sized enterprises should have the easiest possible access to information on technical development. Such information should be accessible to them on a decentralized basis. The patent documentation centres in various States could serve as possible purveyors of such vital information to small entrepreneurs.

— The Financial Express, 5 March 1985

Regulatory Mechanism on Pesticides Urged

Dr T. N. Khoshoo, Secretary, Department of Environment, has called for a stringent regulatory mechanism and provisions for punitive action to ensure the environmental safety of toxic chemicals including pesticides. He has also stressed the need for a constant review of the use of existing pesticides as more information on their toxicity and hazards becomes available. Many insecticides banned in developed countries are still being used in India.

In his keynote address at a Convention on Potential for Joint Action in Pest Management held in New Delhi on 6 February 1985, Dr Khoshoo urged the pesticides exporting countries not to follow double standards when it came to supplying products to developed and developing countries. The multinationals installing pesticide plants in developing countries must ensure that design and safety standards were not in any way inferior to those in advanced countries.

Dr Khoshoo said that these companies should not take advantage of the laxity in regulatory controls and export low-cost and outmoded technology involving a high degree of risk.

The Bhopal disaster showed the fragility of the industrial safety system, Dr Khoshoo told the Convention organized by the Indian Pest Control Association. Any accident could set in motion change affecting the delicately balanced ecological system by poisoning air, water or land and thus the very life support system. He said that in India the consumption of pesticides had increased eight-fold during the last two decades. A WHO report had recorded that developing countries accounted for half the cases of accidental pesticide poisoning. In India, several cases of indirect toxic effects due to toxic residues had also been recorded. One such case referred to the presence of DDT detected in human adipose tissue as well as in human milk.

— The Times of India, 7 February 1985

for 2 radial brushes), RAB (single brush-holder for 1 radial brush). Commutation tests on rating electrical machines for traction. Measurement and evaluation of vibration of rotating electrical machines (*first revision of IS : 4729*). Permissible limits of noise level for rotating electrical machine. Specifications for carbon brush for electrical machines: Part 1 Test methods for brush material (*first revision of IS : 2003*), (b) Stepping motors, and (c) Three-phase induction motors for machine tools.

Standards reviewed and reaffirmed — 'IS : 325-1978 Three-phase induction motors (*fourth revision*)', 'IS : 996-1979 Single-phase small ac and universal electric motors (*second revision*)', 'IS : 2972 (Part 1)-1979 Loom motors', 'IS : 2972 (Part 2)-1979 Card motors', 'IS : 2972 (Part 3)-1979 Spinning frame motors (*first revision*)', 'IS : 3003 (Part 1)-1977 Definition and nomenclature (*first revision*)', 'IS : 3003 (Part 2)-1977 Test methods for brush materials (*first revision*)', 'IS : 3003 (Part 3)-1978 Dimensions and requirements (*first revision*)', 'IS : 3003 (Part 4)-1978 Dimensions of chamfers, bevels and terminators (*first revision*)', 'IS : 4728-1975 Terminal marking and direction of rotation for rotating electrical machinery (*first revision*)', 'IS : 7538-1975 Three-phase squirrel cage induction motors for centrifugal pumps for agricultural applications', 'IS : 7816-1975 Guide for testing insulation resistance of rotating machines', 'IS : 8151-1976 Single-speed three-phase induction motors for driving lifts', 'IS : 8223-1976 Dimensions and output-ratings for foot-mounted rotating electrical machines with frame numbers 355 to 1000', 'IS : 8789-1978 Values of performance characteristic for three-phase induction motors', 'IS : 9283-1979 Motors for submersible pumpsets', 'IS : 9320-1979 Guide for testing direct-current (dc) machines'.

New subjects — Electrotechnical vocabulary — electric-traction, diesel generators sets, rules for rotating electrical machines for rail and road vehicles, rules for the testing of electric rolling stock on completion of construction and before entry into service, and single-phase alternators.

ETDC 34 INSTRUMENT TRANSFORMERS New Delhi 1985-02-25

Chairman Shri J. S. Negi
General Manager (R&D)
Post Office Chemical Industries
Vadodara

Draft finalized for publication — Method for partial discharge measurement in instrument transformers.

Draft approved for wide circulation — Electrotechnical vocabulary: Part 28 Instrument transformers (*first revision of IS : 1885*).

MARINE, CARGO MOVEMENT AND PACKAGING DEPARTMENT

MCPD 2 INLAND AND HARBOUR CRAFT Calcutta 1985-02-22

Chairman Shri T. C. Dutt
Chairman
Calcutta Port Trust
Calcutta

Drafts approved for wide circulation — Specification for cable-lifters for stud-link anchor chains for inland vessels. Specifications for couplings for disposal of oily waste water for inland vessels: (a) Part 1 Flange couplings, (b) Part 2

Quick release couplings, (c) Part 3 Adapters flange end piece, and (d) Part 4 Adapters flange bush. Specifications for single-lock automatic couplings for push tows for inland navigation: (a) Part 1 General requirement, (b) Part 2 Type A couplings, and (c) Part 3 Type B couplings.

Standards reviewed and reaffirmed — 'IS : 4647-1968 Detachable steel ladder for inland vessels', 'IS : 8820 (Part 1)-1978 Towing hooks: Part 1 Scale of tractive efforts', 'IS : 8821 (Part 1)-1978 Steering gear: Part 1 Values of torquest', and 'IS : 8848-1978 Rope tubs'.

MCPD 14 PAPER AND FLEXIBLE PACKAGING New Delhi 1985-02-18

Chairman Shri K. Viswanathan
Jardine Handerson Ltd
Calcutta

Drafts finalized for publication — Specifications for: (a) Composite containers for dry products, and (b) Multi-ply paper sacks for carbon black.

Draft approved for wide circulation — Specification for multi-wall paper sacks for cement.

New subjects — Corrugated fibreboard cartoons for packing of apples, grapes, and multi-wall paper sacks for bulk packing of tea for export.

MCPD 24 PACKAGING CODE Bombay 1985-02-15

Chairman Shri P. V. Narayanan
(for the Indian Institute of Packaging meeting) Bombay

Drafts finalized for publication — Packaging codes: (a) Part 2 Packaging materials, Section 1 Metals, and (b) Part 3 Ancillary materials, Section 3 Tensional strapping.

Drafts approved for wide circulation — Packaging code: (a) Part 1 Product packaging, (1) Section 3 Tobacco and tobacco products, (2) Section 4 Textiles fabrics and allied products; (b) Part 2 Packaging materials, Section 4 Fabrics/textiles; (c) Part 3 Ancillary materials, Section 2 Adhesive closing and sealing tapes; (d) Part 4 Packages, Section 5 Wooden container; and (e) Part 4 Packages, Section 6 Fabrics/textiles.

MECHANICAL ENGINEERING DEPARTMENT

EDC 20 DRAWINGS Hyderabad 1985-02-21

Chairman Dr R. Vasudevan
General Manager (Specialist)
Bharat Heavy Electricals Limited
Tiruchchirappalli

Draft approved for wide circulation — Drawing practice for axonometric projections: Part 2 Diametric projections.

ISO Standards approved for adoption as National Standards — 'ISO 406-1982 Technical drawings — Liner and angular tolerancing — Indications on drawings'; 'ISO 1101-1983 Geometrical tolerancing, tolerancing of form, orientation, location and runout — Generalities, symbols, indications on drawings'; 'ISO 1660-1982 Technical drawings — Dimensioning and tolerancing of profiles'; 'ISO 6411-1982 Technical drawings — Simplified representation of centre holes';

'ISO 6428-1982 Technical drawings — Requirements for microcopying'; 'ISO 7573-1983 Technical drawings — Item list'; 'ISO 7200-1984 Technical drawings — Title block'; 'ISO 3098/2 Technical drawings — Lettering: Part 2 Greek characters'; and 'ISO 3952/4-1984 Kinematic diagrams — Graphical symbols, Part 4'

New subjects — Course material for each section of drawing, Educational material on drawings standards in various parts, and Video programme on lettering practice and lines.

EDC 32 WIRE ROPES AND WIRE PRODUCTS New Delhi 1985-02-27

Chairman Shri A. V. Maheshwari
(for the meeting) Usha Martine Black Ltd Ranchi

Drafts approved for wide circulation — Specifications for: (a) Galvanized strand for earthing, and (b) Steel wire ropes for aerial ropeways: Part 2 Track ropes.

EDC 45 SMALL TOOLS Hyderabad 1985-02-25

Chairman Shri M. Rangashai
Chief Engineer (Standards)
Hindustan Machine Tools Ltd
Bangalore

Draft finalized for publication — Dimensions for sintered carbide pallets used on heading dies.

Drafts approved for wide circulation — Specifications for: (a) Arch round nose hard metal burrs, (b) Circular saws for wood working, (c) Cranked round nose turning tools, (d) Indexable carbide inserts with partly cylindrical fixation hole, (e) Miniature hand hacksaw blades, and (f) Straight round nose turning tools.

EDC 66 REFRIGERATION AND AIR-CONDITIONING New Delhi 1985-02-07

Chairman Shri V. P. Punj
Fedders Lloyd Corporation Pvt Ltd
New Delhi

Drafts finalized for publication — Specifications for: (a) Finned type heat exchanger for room air-conditioners; (b) Oil separator; (c) Refrigerant condensing units; (d) Self contained automatic ice makers; and (e) Thermostat for use in refrigerators.

Drafts approved for wide circulation — Code of practice for testing of water cooling towers. Specification for desiccant driers.

EDC 87 ARMS AND AMMUNITION FOR CIVILIAN USE Calcutta 1985-02-20/21

Chairman Maj-Gen R. L. Kapur
Directorate General of Inspection
Ministry of Defence
New Delhi

Drafts finalized for publication — Specifications for cartridges for shot guns: (a) Part 4 Cap filled, (b) Part 5 Anvil, and (c) Part 6 Propellant.

New subject — Air rifles spring operated side lever or under lever action type.

PETROLEUM, COAL AND RELATED PRODUCTS DEPARTMENT

PCDC 13 RUBBER PRODUCTS New Delhi 1985-02-06

Chairman Dr D. Banerjee
Escon Consultants Pvt Ltd
Calcutta

Drafts finalized for publication — Methods of sampling and test for carbon blacks (*first revision of IS : 7497*). Methods of test for vulcanized rubber: (a) Part 7 Resistance to flex cracking, and (b) Part 11 Determination of rebound resilience (*first revision of IS : 3400*). Specifications for: (a) High abrasion furnace (HAF) carbon black (*first revision of IS : 7497*), (b) Hospital rubber sheeting, (c) Mercaptobenzothiazole, (d) Phenyl naphthylamine, (e) Rubber gaskets for pressure cookers, (f) Rubber protective sheath (condoms) (*first revision of IS : 3701*), Rubber sealing rings for gas mains, water mains and sewers (*first revision of IS : 5382*), and Styrenated phenol (*first revision of IS : 7351*).

Drafts approved for wide circulation — Precipitated silica for rubber industry. Rubber hose for transferring anhydrous ammonia gas. Rubber hose, wire reinforced for sand and gravel suction and discharge services.

STRUCTURAL AND METALS DEPARTMENT

SMDC 3 METHODS OF PHYSICAL TEST New Delhi 1985-02-13/14

Chairman Shri P. K. Chakravarty
Adviser to Vice-Chairman
Tata Iron & Steel Company Ltd
Jamshedpur

Drafts finalized for publication — Methods for: (a) Accelerated life test of electrical resistance alloy for heating elements (*first revision of IS : 3394*), (b) Beam unnotched impact test grey cast iron (*first revision of IS : 5070*), (c) Bend test (*second revision of IS : 1599*), (d) Bend test on metallic tubes (in full section) (*first revision of IS : 2329*), (e) Drift expanding test on metallic tubes (*first revision of IS : 2335*), (f) Falling weight test on metallic materials, and (g) Reverse bend test for metallic wire (*second revision of IS : 1716*), and (h) Simple torsion test for metallic wire (*first revision of IS : 1717*). Methods of: (a) Hydrogen embrittlement test for copper (*first revision of IS : 6243*), (b) Rotating bar bending fatigue testing of steel (*first revision of IS : 5075*).

Drafts approved for wide circulation — Methods for: (a) Calibration of standardized blocks to be used for Vickers hardness testing machines HV 0.2 to 1 000 (*first revision of IS : 4133*), (b) Flanging test on steel tubes (*first revision of IS : 2330*), and (c) Vickers hardness test for metallic material: Part 3 Less than HV 0.2 (*second revision of IS : 1501*). Methods for elongation conversions for steel: (a) Part 1 Carbon and low alloy steels (*second revision of IS : 3803*), and (b) Part 2 Austenitic steels (*second revision of IS : 3803*). Method for verification of Rockwell hardness testing machines scale A-B-C-D-E-F-G-H-K (*first revision of IS : 3804*). Methods for verification of Vickers hardness testing machines (a) Part 1 HV 0.2 to 1 000 (*second revision of IS : 1754*), and (b) Part 2 Less than HV 0.2 (*second revision of IS : 1754*).

New subjects — Determination of R value by Charpy impact test, shear test for rivet wire and rivets, torsional bend fatigue testing, torsional stress fatigue testing, and verification of static uniaxial machines: Part 1 Tensile testing machine.

Chairman Shri L. D. Samant
General Manager (Mining Division)
Mormugao Harbour, Panjim

Drafts finalized for publication— Guidelines for: (a) Heat-hardened iron ore pellets for iron making in blast furnaces, (b) Laboratory discpelletisation of iron ore, fines, and (c) Laboratory pot-grate sintering tests for iron ore fines. Manganese ore for the production of iron and steel. Methods for: (a) Determination of relative reducibility of iron oxides: Lump ores, sinter and pellets, (b) Determination of softening point of iron ore, sinter and pellets, and (c) Measuring the apparent specific gravity and the porosity of iron ore pellets. Specification for bauxite for use in the production of alumina for the aluminium industry (*first revision of IS : 5953*).

Drafts approved for wide circulation— Classifications of: (a) Magnetite ore, and (b) Manganese ore, ferruginous manganese ore and manganiferous iron ore. Determination of apparent porosity on iron ore lumps and sinters. Guidelines for methods to be adopted for identifying the mineralogy of iron oxides: lump ores, sinter and pellets. Methods for: (a) Determination of crushing strength of iron ore pellets (*first revision of IS : 8625*), (b) Measuring bulk density of iron ore and iron ore agglomerates including sinters in a large container (applicable for size over 40 mm), and (c) Measuring bulk density or unit weights of iron ores, pellets and sinters less than 40 mm in size.

New subjects— Code of practice for the beneficiation of magnetite ore; copper, zinc and phosphate ores; and procedure for assessing the metallic iron content of steel plant waste.

Chairman Dr R. C. Sharma
The Eveready Flashlight Company
Lucknow

Drafts finalized for publication— Electroplated coatings for nickel and chromium on iron and steel (*second revision of IS : 1058*). Estimation of loss of absorptive power of anodic oxide coatings after sealing-dye spot test with prior acid treatment for anodized aluminium and its alloys. Method of testing corrosion resistance of: (a) Electroplated and anodized aluminium coating by acetic acid salt spray test (*first revision of IS : 6910*), (b) Electroplated and anodized aluminium coating by copper accelerated acetic salt spray (CASS) test (*first revision of IS : 5528*), and (c) Nickel-chromium plating by the corrockote test (*first revision of IS : 8038*). Recommended practice for electroplating (*first revision of IS : 3655*).

Drafts approved for wide circulation— Electroplated coatings of zinc on iron and steel (*first revision of IS : 1573*). Recommended construction practice of apparatus for spray cabinet for various salt spray tests. Recommended practice for chemical colouring for engineering components in general and for bicycle components. Specifications for: (a) Anodized wrought aluminium for external architectural applications, (b) Electroplated coatings of cadmium on iron and steel (*second revision of IS : 1572*), (c) Electroplated coatings of nickel, and (d) Electroplated coatings of silver for general engineering purposes (*first revision of IS : 1771*).

New subjects— Electroplated coating of rhodium, palladium, and platinum and gold anode for electroplating.

Chairman Shri C. P. De
Director
Naval Chemical and Metallurgical
Laboratory, Bombay

Drafts finalized for publication— Chromate conversion coatings on aluminium. Method for determination of resistance to inter granular corrosion of austenitic stainless steel.

Drafts approved for wide circulation— Code of practice for corrosion protection in fertilizer plants: Part 1 Phosphoric acid plant. Recommended practice for chromate treatments on aluminium.

Chairman Dr P. Rama Rao
Defence Metallurgical Research
Laboratory, Hyderabad

Drafts approved for wide circulation— Specifications for: (a) Electrical resistance metallic heating elements; (b) Soft magnetic iron rods, bars, flats and sections; (c) Soft magnetic iron strips; and (d) Tungsten wires for lamps and electron devices.

New subjects— Bimetal strips, control expansion alloys, molybdenum products, and thermocouple alloys.

TEXTILE DEPARTMENT

Chairman Shri J. C. Agrawal
(for the Director
meeting) Stovec Screens India Ltd, Bombay

Drafts finalized for publication— Specifications for: (a) Jockey pulleys used in ring spinning and doubling frames, (b) Nosebars for speed and ring spinning frames (*first revision of IS : 6686-1972*), (c) Roving bobbin holders, and (d) Silver cans used in textile mills: Part 4 Silver cans with castors.

Drafts approved for wide circulation— Specifications for silver cans used in textile mills: (a) Part 2 Vulcanized fibre silver cans (*first revision of IS : 7875*), and (b) Part 3 Aluminium alloy silver cans (*first revision of IS : 7875*).

Chairman Shri S. G. Parulkar
Chief Sales Manager
Indian Dyestuffs Industries Ltd, Bombay

Drafts approved for wide circulation— Methods for determination of strength of: (a) Disperse acetate dyes by exhaust dyeing, (b) Disperse dyes for polyester by exhaust dyeing, (c) Disperse dyes for polyester by screen printing, (d) Indigo on dyed textiles, and (e) Indigo in substance. Method for quantitative estimation of cationic dye-fixing agents.

Chairman Shri Suresh M. Mehta
Star Industrial and Textile
Enterprises Ltd, Bombay

Draft approved for wide circulation—Code of practice for fabrication of drying cylinders used in cylinder drying range for textile processing.

TDC 47 TEXTILE MATERIALS
MADE FROM POLYOLEFINS
(EXCLUDING CORDAGE)

Bombay
1985-02-15

Chairman Shri A. S. Athalye
Technology Transfer
Bombay

Drafts finalized for publication—Specifications for: (a)

HDPE monofilament twine door nets, (b) High density polyethylene (HDPE) woven sacks for packing fertilizers (*first revision of IS : 9755*), (c) Monoaxially oriented polypropylene tapes, and (d) Polypropylene (PP) woven sacks for packing fertilizers.

Drafts approved for wide circulation—Specifications for: (a) High density polyethylene (HDPE) woven sacks coated with paper, and (b) Paper coated high density polyethylene woven sacks for skim milk powder.

New subjects—HDPE and PP woven sacks for packing cement, and HDPE bags for packing flour.

LETTER

Implementation of Metric System

■ The metric system was adopted in the country in 1957 but even after lapse of such a long time, it has not been fully implemented. Neither the general public nor the manufacturers have been able to think fully in metric terms. Even the Government machinery is yet to be fully geared to the metric system. The Government should take immediate steps to implement the metric system under a time-bound programme.

First, all measuring instruments, such as clinical thermometers, which are still being calibrated in the erstwhile FPS system, must be compulsorily manufactured with calibrations in the metric system. Besides, items like measuring tapes used by housewives and tailors, which are presently being marked in both inch and centimetre scales, should be permitted to be manufactured only in metric measures. However, a reasonable period may be given for effecting this changeover, allowing use of conversion charts

printed on paper and supplied along with the measuring tapes in the interim period.

Another major hurdle to be surmounted is the practice of using packs containing material according to the old system of measurement, but indicating the contents in converted metric values. For instance, the 16.5-kg pack of *Vanaspati* has been replaced by 15-kg pack only recently. Still numerous packs indicating the measure in odd metric figures converted from the old measurement system are in prevalence. Cloth widths, such as 64 cm, 89 cm, 127 cm and 137 cm should be discouraged and only those which are in multiples of 10 cm should be permitted. Again, bottles of medicines and toiletries are at times seen with contents in odd metric measures. 'Dozens' and 'gross' are still very common in everyday life and should be replaced by tens and hundreds. Even All India Radio occasionally uses terms like 'dozens' in its news bulletins and some

Government housing agencies allot plots in metric convertibles of the old yard system. Also, advertisements for renting houses (including those by Government companies) can be seen in metric convertibles of the earlier FPS system.

Prices fixed by Government agencies for petrol and medicines are generally in odd figures like Rs 6.12 and Rs 7.34. This is irrational and improper, especially when coins of denominations below 5 paise are not being circulated any more.

For rationalization and systematic measurements, time must also be measured in metric units, say, 10 metric hours per day, each metric hour being sub-divided into 100 metric minutes and each metric minute having 100 metric seconds. It is, therefore, desirable that a proper system of metric time is developed to replace the existing month-week system.






SUBHASH AGRAWAL

ISI BULLETIN — VOL 37, APRIL 1985



During November and December 1984, the Institution specified standard marks for two products while the designs of the standard marks for three products were revised. Besides, 75 new licences were granted. Particulars of all these, as well as additional varieties of products included in the existing licences and the licences cancelled/lapsed are given in the tables which follow.

STANDARD MARKS

DESIGN OF THE STANDARD MARK	PRODUCT/CLASS OF PRODUCT AND NUMBER OF THE RELEVANT INDIAN STANDARD	GAZETTE OF INDIA, PART II, SECTION 3(ii) NOTIFICATION REFERENCE	
		S.O. No. and Date	Gazette Issue Dated
	*POWRAHS — IS : 1759-1980	319 1984-12-20	1985-01-26
	Ladies cardigans — IS : 4582-1968	4682 1982-11-27	1984-12-29
	*Stencil paper — IS : 5086-1981	4683 1982-11-30	1984-12-29
	Monoset pumps for clear, cold, fresh water for agricultural purposes — IS : 9079-1979	4684 1982-11-30	1984-12-29
	*Deep well hand pumps — IS : 9301-1982	28 1984-12-10	1985-01-05

*Revised design of the standard mark.

NEW LICENCES GRANTED

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1350133 1984-11-15	Poorvanchal Spun Pipes, Ram Nagar, Karanjaha (Deoria Road), Gorakhpur [Office: D54/16K, Jaddumandi (Lakshmi Kund), Varanasi]	IS : 458-1971
CM/L-1350234 1984-11-15	Gorakhpur Spun Pipe Company, Jangal Chouri, Deoria Road, Gorakhpur [Office: Jaddumandi (Lakshmi Kund), Varanasi]	do
CM/L-1350335 1984-11-15	Modi Alkalies & Chemicals Limited, SP 460, Matsya Industrial Area, Alwar 301030	IS : 1065-1971
CM/L-1350436 1984-11-15	Taj Traders, A-336, Nabi Karim, Pahar Ganj, New Delhi 110055 (Office: 1507/8, Sarai Khalil, Sadar Bazar, Delhi 110006)	IS : 2980-1979
CM/L-1350537 1984-11-15	Kapoor Engineering Works, B-56 and B-41 Mayapuri Industrial Area, Phase I, New Delhi-110064	IS : 4760-1979

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1350638 1984-11-15	S. S. R. Glass Industries, B-94, Sector V, Noida Complex, Dist Ghaziabad	IS : 1223-1982
CM/L-1350739 1984-11-15	Priyadarshani Cable Industries, 33A East Azad Nagar, Delhi 110051	IS : 9857-1981
CM/L-1350840 1984-11-15	Reliable (Fire Protection) Industries, 22 Sardar Partap Singh Industrial Estate '3' LBS Marg, Bhandup, Bombay 400078	IS : 934-1976
CM/L-1350941 1984-11-15	do	IS : 933-1976
CM/L-1351034 1984-11-15	B. L. Industries, F-218, Road No. 10, V.K.I. Area, Jaipur 302013 (Office: Inderprastha Bhavan, Chandpole Bazar, Jaipur)	IS : 1308-1974
CM/L-1351135 1984-11-15	Volrho Limited, Patancheru 502319, Dist Medak (AP) (Office: 115 Park Lane, Secunderabad 500003)	IS : 9372-1980
CM/L-1351236 1984-11-15	Bharat Industries, Ahiyapur, Near Zeromile, Muzaffarpur (Office: Jawaharlal Road, Post Box 42, Muzaffarpur)	IS : 6595-1980
CM/L-1351337 1984-11-17	Banaras Spun Pipes, S-3/95 Lalpur, Pandeypur, Varanasi	IS : 458-1971
CM/L-1351438 1984-11-17	Fusion Engineering Products Ltd, B-16, VI Phase, P. O. Gamera, Jamshedpur, Dist Singhbhum	IS : 814 (Part 1)-1974
CM/L-1351539 1984-11-17	Emmbee Forest Products Private Limited, Vil Turibari, P.O. Manabari, Dist Jalpaiguri (WB) [Office: 9 Dr Rajendra Prasad Sarani (Clive Row), Calcutta 700001]	IS : 10 (Part 2)-1976
CM/L-1351679 1984-11-17	Associated Cement Co Limited, Kymore Cement Works, P. O. Kymore 483880, Via Jukchi (MP)	IS : 8042-1978
CM/L-1351741 1984-11-15	Ficides (India), S-290 Mount Poonamalle Road, Ayyappanthangal, Madras 600056 (Office: 27 Purushothama Mudaliar Road, Lake Area, Nungambakkam, Madras 600034)	IS : 4323-1980
CM/L-1351842 1984-11-21	Kilpest Pvt Ltd, 7 Industrial Area, Govindpura, Bhopal 462023 (Office: Talwar House, Gandhi Medical College, Hostel Road, Bhopal 462001)	IS : 1307-1977
CM/L-1351943 1984-11-21	B. L. Industries, F-218, Road No. 10, V.K.I. Area, Jaipur 302013 (Office: Inderprastha Bhavan, Chandpole Bazar, Jaipur 302013)	IS : 8960-1978
CM/L-1352036 1984-11-23	Godrej Soaps Ltd, 8 Sivalaperi Road, Palayamkottai, Tirunelveli 627002	IS : 2052-1979
CM/L-1352137 1984-11-23	Aqua-vin Pipes Pvt Ltd, A-2 Industrial Estate, Marimalai Nagar, Dist Chenglepet 603209	IS : 4985-1981
CM/L-1352238 1984-11-23	Bharat Cement Industries, Plot No. 56, Phase I, GIDC Estate, Vatva, Ahmadabad	IS : 269-1976
CM/L-1352339 1984-11-28	Industrial House, Kankar Bagh Road, Patna 800020	IS : 9301-1982
CM/L-1352440 1984-11-28	Gedee Stoll Private Limited, 317 Avانشi Road, Gopal Bagh, Coimbatore 641018	IS : 7538-1975
CM/L-1352541 1984-11-28	Premier Paraffins, Suhirdnagar, Begusarai (Bihar) (Office: Post Box No. 25, Begusarai 851101)	IS : 4654-1974
CM/L-1352642 1984-11-28	Pawan Refiners, 124 Barauni Industrial Area, P. O. Tilrath, Dist Begusarai (Bihar)	do
CM/L-1352743 1984-11-28	Brij Engg Works, Sajjani, Dist Unnao (UP)	IS : 8794-1978
CM/L-1352844 1984-11-28	Saroj Pipe Udyog, 19.5 km, Kanpur Road, Banthara, Lucknow (Office: 10/1, Madan Mohan Malviya Marg, Lucknow)	IS : 458-1971
CM/L-1352945 1984-11-28	Gurudev Engg Company, Plot No. 27/3, Door No. 1-7-1054/3, Industrial Area, Azamabad, Hyderabad 500020 (Office: 4-3-129, Hill Street, Raniganj, Secunderabad 500003)	IS : 9301-1982
CM/L-1353038 1984-11-28	Fort William Co Limited, 47 and 48, R.N.R.C, Ghat Road, Sibpur, Howrah 711102 (Office: 14 Netaji Subhas Road, Calcutta 700001)	IS : 2580-1982
CM/L-1353139 1984-11-28	Kiran Electricals, 27 Prem Industrial Estate, Subhash Road, Jogeshwari (E), Bombay 400060	IS : 694-1977
CM/L-1353240 1984-11-28	Indian Cable Co Ltd, Cable House, Hidapsar Industrial Estate, P.O. Box 22, Pune 411001	IS : 9857-1981

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1353341 1984-11-28	Crompton Greaves Ltd, L.B.S. Marg, Bhandup, Bombay 400078	IS : 996-1979
CM/L-1353442 1984-11-28	Chirag Chemical, C/1, 193 GIDC Industrial Estate, Phase 2, Vatva, Ahmadabad 382445	IS : 4654-1974
CM/L-1353543 1984-11-28	Mech (India) Industries, B-34/9, G.T. Karnal Road, Industrial Area, Delhi 110033	IS : 2681-1979
CM/L-1353644 1984-11-28	Mercury Rubber Mills, G.T. Karnal Road, Rasoi, Dist Sonapatna (Office: 2/7 Desh Bandu Gupta Road, New Delhi 110005)	IS : 1891 (Part 4)-1978
CM/L-1353745 1984-11-28	Vayaz Indian Pesticides (P) Limited, 16 B Moula Ali, Industrial Estate, Hyderabad 500040	IS : 8028-1976
CM/L-1353846 1984-12-07	Soham Engineering Corporation, Plot No. 127/2, Door No. 1-7-1054/2, Industrial Area, Azamabad, Hyderabad 500020 (Office: 5-4-187/3 & 4 Sohan Mansion, M. G. Road, Secunderabad 500003)	IS : 9301-1982
CM/L-1353947 1984-12-07	Karnataka Aluminium Ltd, No. 1 K.R.S. Road, Metagally, Mysore 570016	IS : 7092 (Part 2)-1976
CM/L-1354040 1984-12-07	Bengal Hammer Industries (P) Ltd, 58/1 Malipanchghara Street (Kali Majumdar Road), P.O. Ghosury, Howrah (Office: 135 Girish Ghosh Road, Plot No. 35D, P.O. Belurmath, Howrah)	IS : 226-1975
CM/L-1354141 1984-12-01	Tekno Valve, 1 Chitpur Ghat Lane, Cossipore, Calcutta 700002	IS : 3745-1978
CM/L-1354242 1984-12-07	M. C. Mowjee & Co (P) Ltd, 118 T.C. Road, Calcutta 700053 (Office: 46 Ezra Street, Calcutta)	IS : 362-1982
CM/L-1354343 1984-12-07	P. G. Conductors, P.O. Pipalia Kalan 306307, Dist Pali (Rajasthan)	IS : 398 (Part 2)-1976
CM/L-1354444 1984-12-07	Krishna Metal Industries (P) Limited, 13-6-824/1 Karwan Road, Hyderabad 500267	IS : 1786-1979
CM/L-1354545 1984-12-07	Concord Arai Private Limited, Lattice Bridge, Mahabalipuram Road, Mettukuppam Village, Madras 600096	IS : 9562-1980
CM/L-1354646 1984-12-07	Moonlight Engineering Pvt Limited, 31 DLF Industrial Estate 1, Faridabad 121003	IS : 4246-1978
CM/L-1354747 1984-12-10	Ganga Steel Re-rolling Mill, Kumhari, Dist Durg (MP)	IS : 1786-1979
CM/L-1354848 1984-12-10	Indian Steel & Allied Industries, D-74, MIDC Industrial Estate, Satpur, Nasik 400007 (Office: 1213, Maker Chamber, 221 Nariman Point, Bombay 400021)	IS : 8737 (Part 2)-1978
CM/L-1354949 1984-12-10	Shree Mahavir Ispat Limited, Plot No. F-5, MIDC Industrial Area, Village Tarapur, Boisar, Dist Thane (Office: 42-A, Mittal Tower, Nariman Point, Bombay 400021)	IS : 1786-1979
CM/L-1355042 1984-12-10	Kusum Ispat and Wire Products Pvt Ltd, Plot E-37, MIDC Area Industrial Estate, Chikalhana, Aurangabad (Office: 29-30 Vaswani Mansion, 6th floor, 120 Dinshaw Vachha Road, Bombay)	IS : 6003-1983
CM/L-1355143 1984-12-10	do	IS : 6785 (Part 1)-1983
CM/L-1355244 1984-12-07	Cynamid India Limited, P.O. Atul 396020 Valsad (Office: Nyloc House, 254-D-2 Dr Annie Besant Road, Bombay 400025)	IS : 9359-1980
CM/L-1355345 1984-12-10	Shakti Cement Company Pvt Limited, Ramonbore, Taluka Chotila, Dist Surendranagar, (Office: Coins Corner, Dr Yagnik Road, Rajkot)	IS : 269-1976
CM/L-1355446 1984-12-10	Suyog Electricals Pvt Limited, 2205, GIDC Estate, Halol	IS : 694-1977
CM/L-1355547 1984-12-11	Central India Engineering Co, 1-7-1056/A, Industrial Area, Azamabad, Hyderabad 500020 (Office: 2153/5, Hill Street, Raniganj, Secunderabad)	IS : 9301-1982
CM/L-1355648 1984-12-11	Meera Industries, 1-7-1056/B, Industrial Area, Azamabad, Hyderabad 500020 (Office: 7846, Hill Street, Raniganj, Secunderabad 500003)	IS : 9301-1982
CM/L-1355749 1984-12-10	R. R. Windals, Plot No. 97-C, Govt Industrial Estate, Kandivali (W), Bombay 400067	IS : 4760-1981

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1355850 1984-12-11	Vinyl Cable Industries, F-17 Industrial Estate, Ambattur, Madras 600058	IS : 694-1977
CM/L-1355951 1984-12-11	Hans Pump Industries, H-31 Industrial Area, Govindpura, Bhopal 462023	IS : 9301-1982
CM/L-1356044 1984-12-11	Solan Sprayers, Jonaji Road, Solan 173212 (HP)	IS : 3906 (Part 1)-1982
CM/L-1356145 1984-12-11	The Hindustan Mineral Products Co Pvt Ltd, 27 Manganese Depot, Sewree, Bombay 400015 (Office: 111 Industrial Area, Sion, Bombay 400022)	IS : 562-1978
CM/L-1356246 1984-12-12	S. G. N. Cable Industries, E-58, Phase VIII, Industrial Area, SAS Nagar, Mohali	IS : 694-1977
CM/L-1356347 1984-12-12	J. K. Steel (A Division of J. K. Synthetics Ltd), Rishra, Dist Hooghly (WB) (Office: 7 Council House Street, Calcutta 700001)	IS : 226-1975
CM/L-1356448 1984-12-12	Maharaja Cables, 1024, Mahipalpur, Delhi 110037	IS : 694-1977
CM/L-1366549 1984-12-12	Universal Traders, Khasra No. 299, Gokalpur, P. O. Gokalpuri, Delhi 110094	IS : 5950-1971
CM/L-1356650 1984-12-12	Bhayanagar Asbestos Cement Products, Nizampet Road, Post Kukatpally, Hyderabad	IS : 1592-1980
CM/L-1356751 1984-12-12	Pesticides India, P. B. No. 20, Udaisagar Road, Udaipur	IS : 7976-1976
CM/L-1356852 1984-12-12	Kovai Pesticides, 4 Industrial Estate, Pollachi 642003	IS : 561-1978
CM/L-1356953 1984-12-12	The Quilon Co-operative Spinning Mills Limited, Karamcode, Chathanoor 691579, Dist Quilon	IS : 171-1973
CM/L-1357046 1984-12-12	Gisco Paints, Shed No. 24, Industrial Estate, Adhartal, Jabalpur 482004	IS : 2074-1979
CM/L-1357147 1984-12-12	Kilpest Pvt Limited, 7-C Industrial Area, Govindpura, Bhopal 462003	IS : 2865-1978
CM/L-1357248 1984-12-19	Vanaz Engineering Pvt Ltd, Sadavli (Deorukh), Siat, Ratnagiri	IS : 9798-1981
CM/L-1357349 1984-12-19	Steel Authority of India Limited (Durgapur Steel Plant), Durgapur 713203	IS : 10748-1984
CM/L-1357450 1984-12-19	Rajasthan Co-operative Dairy Federation Ltd, Opp H.M.T., Beawar Road, Ajmer 305003	IS : 1165-1975
CM/L-1357551 1984-12-20	Inalsa Private Ltd, 69 Rama Road, Najafgarh Road Industrial Area, New Delhi 110015 (Office: Surya Kiran, 19 Kasturba Gandhi Marg, New Delhi)	IS : 4246-1984

ADDITIONAL VARIETIES OF PRODUCTS INCLUDED IN THE EXISTING LICENCES

Sl. No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-0410827	Globe Super Parts, Faridabad	IS : 4246-1978	New varieties of domestic gas stoves for use with liquefied petroleum gases, cast iron body, painted, double burner, total gas consumption 332 g/h, ratings, 2 064 kcal/h and 1 554 kcal/h included in the licence with effect from 1984-11-10
2	CM/L-0696669	Hindustan Syringes Pvt Ltd, Faridabad	IS : 3319-1980	New varieties of blades, surgical, detachable (Bard Parker type), size 25 included in the licence with effect from 1984-11-17
3	CM/L-1093341	Sunflame Industries, Faridabad	IS : 4760-1979	New varieties of domestic cooking ranges including grillers for use with liquefied petroleum gases; total gas consumption of 1 179 g/h, 3 small burners of 1 688 kcal/h and 1 big burner of 2 010 kcal/h rating; grill burner of 2 546 kcal/h; and oven burner of 3 216 kcal/h rating included in the licence with effect from 1984-12-15

SL No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
4	CM/L-1105827	Agro Equipments (India), Faridabad	IS : 4246-1984	New varieties of domestic gas stoves for use with liquefied petroleum gases, CRC sheet body, single burner, total gas consumption 189 g/h, 2 064 kcal/h rating included in the licence with effect from 1984-11-17
5	CM/L-1210622	Faridabad Auto Industries Pvt Ltd, Faridabad	IS : 4760-1979	New varieties of domestic cooking ranges for use with liquefied petroleum gases, top surface ranges, CRC sheet body with two boiling burners, grill burner and oven burner; total gas consumption 583 g/h; ratings boiling burner, big 2 064 kcal/h; small 1 474 kcal/h; grill burner 1 608 kcal/h; oven burner 1 206 kcal/h included in the licence with effect from 1984-11-13
6	CM/L-1265142	Swan Enterprises, Delhi	IS : 4246-1984	New varieties of domestic gas stoves for use with liquefied petroleum gases nickel-chromium plated, CRC sheet body, double burner, total gas consumption 344 g/h, of ratings big burner 2 064 kcal/h, small burner 1 688 kcal/h; total gas consumption 285 g/h of ratings big burner 1 688 kcal/h, small burner 1 420 kcal/h rating; and single burner total gas consumption 155 g/h of rating 1 688 kcal/h included in the licence with effect from 1984-12-21

LICENCES CANCELLED

SL No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-0237132	Avadh Plywood Industries, Gonda	IS : 10 (Part 2)-1976	Cancelled with effect from 1984-06-16 as the firm is not interested in holding the licence
2	CM/L-0431027	Ganges Tin Works, Kanpur	IS : 916-1975	Cancelled with effect from 1984-09-01 as the firm is not interested in holding the licence
3	CM/L-0754859	Biswas Engineering Corporation, Calcutta	IS : 6595-1980	Cancelled with effect from 1984-07-30 as the firm is not interested in holding the licence
4	CM/L-1027126	Bengal Ferro Alloy & Steels Ltd, Calcutta	IS : 8054-1978	Cancelled with effect from 1984-09-04 as the firm is not interested in holding the licence
5	CM/L-1051527	National Insulated Cable Company of India Ltd, Calcutta	IS : 434 (Part 2)-1964	Cancelled with effect from 1984-07-01 as the firm is not interested in holding the licence

LICENCE LAPSED

SL No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-0016217	National Pipes & Tubes Company Ltd, Calcutta	IS : 291-1977	Renewal was deferred after 1982-05-31; the licence now stands lapsed after that date
2	CM/L-0016318	do	IS : 288-1960	do
3	CM/L-0054629	Varat Timber Assam (P) Ltd, Tinsukia	IS : 10 (Part 2)-1976	Renewal was deferred after 1982-04-30; the licence now stands lapsed after that date
4	CM/L-0055429	Annapurna Pulverising Mills, Eluru (AP)	IS : 561-1978	Lapsed after 1984-10-31
5	CM/L-0138837	J. K. Steel (A division of J. K. Synthetics Ltd), Hooghly	IS : 398 (Part 2)-1976	Renewal was deferred after 1983-06-30; the licence now stands lapsed after that date

SL No.	LICENCE NO.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
6	CM/L-0164232	Annapurna Pulverising Mills, Eluru (AP)	IS : 2567-1978	Lapsed after 1984-10-31
7	CM/L-0166438	Brooke Bond India Ltd, Secunderabad	IS : 2791-1972	Renewal was deferred after 1984-03-31; the licence now stands lapsed after that date
8	CM/L-0258140	Plant Protection Industries, Guntur	IS : 561-1978	Lapsed after 1984-09-15
9	CM/L-0281236	Raj Raman Industries, Kanpur	IS : 1989 (Part 1)-1978	Renewal was deferred after 1984-03-15; the licence now stands lapsed after that date
10	CM/L-0319942	The India Flour Mills Co, Delhi	IS : 2400-1976	Lapsed after 1984-10-31
11	CM/L-0348242	Madhav Engineering Works, Patna	IS : 1929-1961	Renewal was deferred after 1984-07-15; the licence now stands lapsed after that date
12	CM/L-0395958	U. P. Cable Co (P) Ltd, New Delhi	IS : 1596-1977	Renewal was deferred after 1982-09-30; the licence now stands lapsed after that date
13	CM/L-0425739	National Plywood Industries Pvt Ltd, Assam	IS : 10 (Part 2)-1976	Renewal was deferred after 1982-11-30; the licence now stands lapsed after that date
14	CM/L-0437746	Vijayasri Fertilizers, Insecticides & Fungicides, Guntur	IS : 633-1975	Lapsed after 1984-08-15
15	CM/L-0445341	Surendra Steel Rolling Mills, Mandi Gobindgarh	IS : 1977-1975	Lapsed after 1984-04-15
16	CM/L-0454039	H. D. Ajmera & Company, Dhanbad	IS : 1786-1979	Renewal was deferred after 1984-08-15; the licence now stands lapsed after that date
17	CM/L-0465751	Tropical Agrosystems (P) Ltd, Ottapalam	IS : 561-1978	Lapsed after 1984-09-30
18	CM/L-0465852	do	IS : 562-1978	do
19	CM/L-0473447	Bajsons, Bombay	IS : 4246-1978	Renewal was deferred after 1983-10-15; the licence now stands lapsed after that date
20	CM/L-0489866	Sri Vijayadurga Pulverising Mills, Bellary	IS : 562-1978	Lapsed after 1984-10-15
21	CM/L-0549959	Champdany Jute Co Ltd, Calcutta	IS : 7407 (Part 2)-1980	Renewal was deferred after 1983-08-31; the licence now stands lapsed after that date
22	CM/L-0550944	Mohatta & Heckel Ltd, Khopoli	IS : 398 (Part 2)-1976	Renewal was deferred after 1983-09-30; the licence now stands lapsed after that date
23	CM/L-0551744	Andhra Re-rolling Works, Hyderabad	IS : 226-1975	Renewal was deferred after 1983-03-15; the licence now stands lapsed after that date
24	CM/L-0573754	Plant Protection Industries, Guntur	IS : 633-1975	Lapsed after 1984-12-31
25	CM/L-0601329	Andhra Re-rolling Works, Hyderabad	IS : 1786-1976	Renewal was deferred after 1983-03-15; the licence now stands lapsed after that date
26	CM/L-0622943	Bhandari Capacitors Pvt Ltd, Dewas	IS : 2834-1964	Lapsed after 1984-07-15
27	CM/L-0629048	Shri Ishar Alloy Steel Pvt Ltd, Indore	IS : 1977-1975	Lapsed after 1984-07-31
28	CM/L-0633544	Tinmco Pvt Ltd, Vadodara	IS : 916-1975	Renewal was deferred after 1983-08-15; the licence now stands lapsed after that date
29	CM/L-0644953	Tracto Auto Industries (P) Ltd, Kanpur	do	Lapsed after 1984-09-30
30	CM/L-0665355	Cynamid India Ltd, Ahmadabad	IS : 5281-1969	Renewal was deferred after 1984-01-15; the licence now stands lapsed after that date
31	CM/L-0702234	J. K. Batteries, Bhopal	IS : 8144-1976	Lapsed after 1984-05-31
32	CM/L-0703135	Central Capacitors Co Pvt Ltd, Nagpur	IS : 2834-1964	Renewal was deferred after 1983-08-15; the licence now stands lapsed after that date

SL No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
33	CM/L-0716144	Apex Minerals and Chemicals, Khandivair	IS : 564-1975	Lapsed after 1984-08-31
34	CM/L-0763961	EID Parry (India) Ltd, Guntur	IS : 561-1978	Renewal was deferred after 1984-03-31; the licence now stands lapsed after that date
35	CM/L-0765359	Hindustan Mineral Products Co Pvt Ltd, Bombay	IS : 4783-1968	Lapsed after 1984-08-31
36	CM/L-0770453	S. Karra & Co (P) Ltd, Calcutta	IS : 1221-1971	Renewal was deferred after 1984-04-30; the licence now stands lapsed after that date
37	CM/L-0780456	Swastika Steel & Allied Products, Calcutta	IS : 1786-1979	Renewal was deferred after 1983-06-30; the licence now stands lapsed after that date
38	CM/L-0811643	National Tile Works Industries, New Delhi	IS : 2339-1963	Renewal was deferred after 1983-11-15; the licence now stands lapsed after that date
39	CM/L-0815550	The Scientific Insecticides Company, Tiruchchirappalli	IS : 7121-1973	Lapsed after 1984-11-30
40	CM/L-0837055	Kaushal Industries, Ahmadabad	IS : 3390-1977	Renewal was deferred after 1984-02-29; the licence now stands lapsed after that date
41	CM/L-0855158	Yamuna Wires & Cables Industries, Dewas	IS : 694-1977	Renewal was deferred after 1983-04-15; the licence now stands lapsed after that date
42	CM/L-0856968	Bajrangbali Steel Co (Pvt) Ltd, Assam	IS : 1977-1975	do
43	CM/L-0863157	K. C. A. Ltd, Jamnagar	IS : 1698-1974	Renewal was deferred after 1984-04-15; the licence now stands lapsed after that date
44	CM/L-0892467	Cynamid India Ltd, Valsad	IS : 5280-1969	Lapsed after 1984-08-31
45	CM/L-0914350	National Pipes & Tubes Co Ltd, Calcutta	IS : 613-1964	Renewal was deferred after 1982-11-30; the licence now stands lapsed after that date
46	CM/L-0914552	do	IS : 320-1962	do
47	CM/L-0920547	Agro Inputs Pvt Ltd, Harihar	IS : 562-1978	Lapsed after 1984-12-15
48	CM/L-0923755	Jay Iron & Steel Co, Durg	IS : 226-1975	Renewal was deferred after 1984-01-31; the licence now stands lapsed after that date
49	CM/L-0928866	National Tile Works Industries, New Delhi	IS : 3537-1966	Renewal was deferred after 1984-01-15; the licence now stands lapsed after that date
50	CM/L-0931350	Jay Iron & Steel Co, Durg	IS : 1786-1979	Renewal was deferred after 1984-01-31; the licence now stands lapsed after that date
51	CM/L-0932655	National Tile Works Industries, New Delhi	IS : 133-1975	do
52	CM/L-0943357	Farmers Pest Control (P) Ltd, Guntur	IS : 565-1975	Renewal was deferred after 1984-02-28; the licence now stands lapsed after that date
53	CM/L-0957065	Apex Electro-Statics, Vadodara	IS : 2834-1964	Renewal was deferred after 1984-03-31; the licence now stands lapsed after that date
54	CM/L-0972465	J. K., Batteries, Bhopal	IS : 9128-1978	Lapsed after 1984-06-15
55	CM/L-0991267	Perfect Engineering Corporation, Ahmadabad	IS : 2699-1964	Renewal was deferred after 1983 09 15; the licence now stands lapsed after that date
56	CM/L-0991671	Haryana Thermometer Industries, Muzaffarnagar	IS : 3055 (Part 1)-1977	Lapsed after 1984-09-15
57	CM/L-0993170	Tobu Enterprises Pvt Ltd, New Delhi	IS : 2540-1981	Renewal was deferred after 1983-09-15; the licence now stands lapsed after that date
58	CM/L-0996984	Jalgaon Re-rolling Industries Ltd, Jalgaon	IS : 1977-1975	Renewal was deferred after 1984-09-30; the licence now stands lapsed after that date
59	CM/L-0997380	Oriental Sports, Meerut	IS : 417 (Part 1 & 2)-1974	do

Sl No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
60	CM/L-0997582	Cannanore Spinning & Weaving Mills, Cannanore	IS : 171-1973	Lapsed after 1984-09-30
61	CM/L-1007120	Jem Butt-Welded Fittings Co, Calcutta	IS : 4310-1967	Renewal was deferred after 1983-07-31; the licence now stands lapsed after that date
62	CM/L-1009528	Gujarat Agro Chemical Mfg Co, Ahmadabad	IS : 4322-1967	Lapsed after 1983-11-30
63	CM/L-1021316	Unidor Cables, Jaipur	IS : 694-1977	Renewal was deferred after 1982-12-31; the licence now stands lapsed after that date
64	CM/L-1052731	Jairamdas Udyog Limited, Bangalore	IS : 7821-1975	Renewal was deferred after 1983-08-15; the licence now stands lapsed after that date
65	CM/L-1066439	Vishnu Carbons (India), Gorakhpur	IS : 1551-1976	Renewal was deferred after 1984-04-30; the licence now stands lapsed after that date
66	CM/L-1066540	do	IS : 3450-1976	do
67	CM/L-1067542	Sohna Agro Industries, Moga	IS : 9020-1979	Renewal was deferred after 1984-04-15; the licence now stands lapsed after that date
68	CM/L-1078042	Vipex Industries, Howrah	IS : 2257-1981	Renewal was deferred after 1984-05-31; the licence now stands lapsed after that date
69	CM/L-1090436	Shree Vijay Laxmi Rolling Mills, Calcutta	IS : 1786-1979	Renewal was deferred after 1983-06-30; the licence now stands lapsed after that date
70	CM/L-1092945	Dhingra Paints (India), Faridabad	IS : 419-1967	do
71	CM/L-1112824	Central Insecticides & Fertilizers, Bombay	IS : 562-1978	Lapsed after 1984-09-15
72	CM/L-1113725	Sadhu Singh & Sons, Goraya	IS : 9020-1979	do
73	CM/L-1116024	Gupta Steel Rolling Mills, Mandi Gobindgarh	IS : 226-1975	do
74	CM/L-1117026	Tata Yodogawa Ltd, Calcutta	IS : 8951-1978	Lapsed after 1984-09-30
75	CM/L-1124730	Himachal Pesticides & Chemicals, Barotiwala	IS : 1832-1978	Lapsed after 1984-10-15
76	CM/L-1127029	Shankar Chemical Industries, Nagercoil	IS : 3401-1979	Renewal was deferred after 1983-10-31; the licence now stands lapsed after that date
77	CM/L-1139440	Sharad Enterprises Pvt Ltd, New Delhi	IS : 4985-1981	Renewal was deferred after 1983-12-15; the licence now stands lapsed after that date
78	CM/L-1104421	Alcon Power Cables Ltd, Alwar	IS : 694-1977	Renewal was deferred after 1983-08-15; the licence now stands lapsed after that date
79	CM/L-1143633	Panama Match Industries, Sivakasi	IS : 2653-1980	Renewal was deferred after 1983-12-31; the licence now stands lapsed after that date
80	CM/L-1144433	Asian Industries, Calcutta	IS : 1786-1979	do
81	CM/L-1152634	Finsu Pipes Pvt Ltd, Noida	IS : 4985-1981	Renewal was deferred after 1984-01-31; the licence now stands lapsed after that date
82	CM/L-1167849	Farmers Pest Control (P) Ltd, Guntur	IS : 7122-1973	Renewal was deferred after 1984-03-15; the licence now stands lapsed after that date
83	CM/L-1170434	The Salem Co-op Spinning Mills Ltd, Salem	IS : 7866-1975	do
84	CM/L-1170535	The South India Co-op Spinning Mills Ltd, Tirunelvely	do	do
85	CM/L-1172741	Liberty Pesticides Industries, Udaipur	IS : 564-1975	Lapsed after 1984-03-31
86	CM/L-1177448	G. M. Agricultural Engineering Works, Moga	IS : 9020-1979	Lapsed after 1984-04-15



ISO STANDARDS

ACOUSTICS (TC 43)

ISO 389-1985 Acoustics — Standard reference zero for the calibration of pure tone air conduction audiometers

AIRCRAFT AND SPACE VEHICLES (TC 20)

ISO 2964-1985 Aerospace — Tubing — Outside diameters and thickness — Metric dimensions

ISO 7717-1985 Aircraft — Four-wheel-drive tow tractors — Performance requirements factors for design

ANAESTHETIC EQUIPMENT AND MEDICAL BREATHING MACHINES (TC 121)

ISO 5366/2-1985 Tracheostomy tubes: Part 2 Basic requirements

COMPUTERS AND INFORMATION PROCESSING (TC 97)

ISO 1864-1985 Information processing — Unrecorded 12.7 mm (0.5 in) wide magnetic tape for information interchange — 32 ftpmm, (800 ftpi) NRZ1, 126 ftpmm (3 200 ftpi) phase encoded and 356 ftpmm (9 042 ftpi) NRZ1

ISO 6068-1985 Information processing — Recording characteristics of instrumentation magnetic tape (including telemetry systems) — Interchange requirements

ISO 7065/2-1985 Information processing — Data interchange on 200 mm (8 in) flexible disk cartridges using modified frequency modulation recording at 13 262 ftrpad, 1.9 tpmm (48 tpi), on both sides: Part 2 Track format

ISO 7297-1985 Information processing — Magnetic disk for data storage devices — 96 000 flux transitions

per track, 200 mm (7.9 in) outer diameter, 63.5 mm (2.5 in) inner diameter

ISO 7487/1-1985 Information processing — Data interchange on 130 mm (5.25 in) flexible disk cartridges using modified frequency modulation recording at 7 958 ftrpad, 1.9 tpmm (48 tpi), on both sides: — Part 1 Dimensional, physical and magnetic characteristics

ISO 7487/2-1985 Information processing — Data interchange on 130 mm (5.25 in) flexible disk cartridges using modified frequency modulation recording at 7 958 ftrpad, 1.9 tpmm (48 tpi), on both sides: Part 2 Track format A

CYCLES (TC 149)

ISO 6742/1-1985 Cycles — Lighting and reflective devices — Photometric and physical requirements: Part 1 Lighting equipment

FERROUS METAL PIPES AND METALLIC FITTINGS—(TC 5)

ISO 8180-1985 Ductile iron pipes Polyethylene sleeving

FLUID POWER SYSTEMS AND COMPONENTS (TC 131)

ISO 5598-1985 Fluid power systems and components — Vocabulary

LABORATORY GLASSWARE AND RELATED APPARATUS (TC 48)

ISO 4791/1-1985 Laboratory apparatus — Vocabulary relating to apparatus made essentially from glass, porcelain or vitreous silica: Part 1 Names for items of apparatus

MEASUREMENT OF LIQUID FLOW IN OPEN CHANNELS (TC 113)

ISO 4365-1985 Liquid flow in

open channels — Sediment in streams and canals — Determination of concentration, particle size distribution and relative density

ISO 6416-1985 Liquid flow measurement in open channels — Measurement of discharge by the ultrasonic (acoustic) method

METALLIC AND OTHER NON-ORGANIC COATINGS (TC 107)

ISO 4522/1-1985 Metallic coatings — Test methods for electro-deposited silver and silver alloy coatings: Part 1 Determination of coating thickness

ISO 4522/2-1985 Metallic coatings — Test methods for electro-deposited silver alloy coatings: Part 2 Adhesion tests

ISO 4524/1-1985 Metallic coatings — Test methods for electro-deposited gold and gold alloy coatings: Part 1 Determination of coating thickness

ISO 4524/2-1985 Metallic coatings — Test methods for electro-deposited gold and gold alloy coatings: Part 2 Environmental tests

ISO 4524/4-1985 Metallic coatings — Test methods for electro-deposited gold and gold alloy coatings: Part 4 Determination of gold content

NON-DESTRUCTIVE TESTING (TC 135)

ISO 5580-1985 Non-destructive testing — Industrial radiographic illuminators — Minimum requirements

PLAIN BEARINGS (TC 123)

ISO 7148/1 1985 Plain bearings — Testing of the tribological behaviour of bearing materials: Part 1 Testing of the friction and wear behaviour of bearing material/mating material/oil combinations under conditions of boundary lubrication

PLASTICS (TC 61)

ISO 458/1-1985 Plastics — Determination of stiffness in torsion of flexible materials: Part 1 General method

ISO 458/2-1985 Plastics — Determination of stiffness in torsion of flexible materials: Part 2 Application to plasticized compounds of homopolymers and copolymers of vinyl chloride

ROAD VEHICLES (TC 22)

ISO 7628/1-1985 Road vehicles — Thermoplastic tubing for use in air braking systems: Part 1 Dimensions and marking

ISO 7706-1985 Road vehicles — Commercial vehicles — Clearance envelope for power take-offs (PTO)

ISO 7653-1985 Road vehicles — Commercial vehicles — Couplings bet-

ween power take-offs (PTO) and ancillary driven units

RUBBER AND RUBBER PRODUCTS (TC 45)

ISO 1817-1985 Rubber, vulcanized — Determination of the effect of liquids

SHIPBUILDING (TC 8)

ISO 4566-1985 Shipbuilding — Inboard — engined pleasure craft — propeller shaft ends and bosses

ISO 6765-1985 Shipbuilding — Shipborne barges, series 3 — Main dimensions

ISO 7222-1985 Shipbuilding — Shipborne barges, series 2 — Main dimensions

SMALL TOOLS (TC 29)

ISO 3937-1985 Cutter arbors with

tenon drive — Dimensions

TRACTORS AND MACHINERY FOR AGRICULTURE AND FORESTRY (TC 23)

ISO 5395/3-1985 Power lawn mowers, lawn tractors, and lawn and garden tractors with mowing attachments — Safety requirements and test procedures: Part 3 Requirements for rotary mowers

TYRES, RIMS AND VALVES (TC 31)

ISO 4251/3-1985 Tyres and rims (existing series) for agricultural tractors and machines: Part 3 Rims

WATER QUALITY (TC 147)

ISO 7704-1985 Water quality — Evaluation of membrane filters used for microbiological analyses

CERTIFICATION MARKS — *Continued from page 150*

LICENCES LAPSED — *Contd*

Sl No.	LICENCE No. AND DATE OF ISSUE	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
87	CM/L-1179048	Shree Hanuman Steel Rolling Mills Co Ltd, Calcutta	IS : 1786-1979	Renewal was deferred after 1984-04-15; the licence now stands lapsed after that date
88	CM/L-1179654	do	IS : 226-1975	Renewal was deferred after 1984-04-30; the licence now stands lapsed after that date
89	CM/L-1191947	Century Match Industries, Sivakasi	IS : 2653-1980	Renewal was deferred after 1984-06-15; the licence now stands lapsed after that date
90	CM/L-1196048	Supra Chem, Hyderabad	IS : 493 (Part 2)-1981	Renewal was deferred after 1984-02-15; the licence now stands lapsed after that date
91	CM/L-1202017	All India Medical Corporation, Ahmadabad	IS : 2865-1978	Renewal was deferred after 1984-06-30; the licence now stands lapsed after that date
92	CM/L-1228237	Multichem Pvt Ltd, Bombay	IS ^o : 4984-1978	Lapsed after 1984-08-31
93	CM/L-1231125	Nischa-Deep Enterprises Pvt Ltd, Madras	IS : 4246-1984	Renewal was deferred after 1984-09-15; the licence now stands lapsed after that date
94	CM/L-1239141	Namdhari Engineering Works, Dist Ludhiana	IS : 9020-1979	Lapsed after 1984-10-15
95	CM/L-1247039	Sudershan Aluminium Industries Ltd, Nasik	IS : 7092 (Part 2)-1976	Lapsed after 1984-11-15



SUSTAINING MEMBERS

ANIL CHEMICALS PVT LTD, J-18, MIDC, CHIKALTHANA, AURANGABAD 431210 — Manufacture explosives grade, high density, chemically coated and free flowing master blaster for efficient blasting with safety and economy. Product is also used for manufacture of nitrous oxide gas.

ESCOL ELECTROMECH LTD, DABHASA, TALUKA PADRA, DIST VADODARA 391440 — Manufacture time punching clocks, clock switches and motor starters. Their time system range includes central and satellite clocks.

J.K. METALLURGICAL SERVICES, 224 GOVINDAPPA NAICKEN STREET, MADRAS 600001 — Engaged in metallurgical consultancy and chemical analysis; undertake metallurgical study of steel, chemical analysis of ferrous and non-ferrous materials, testing of rubber and oil, chemical descaling of metal parts, and any special study on metals.

PRADIP RUBBER INDUSTRIES, P.O. CHAKULIA 832301, DIST SINGHBHUM (BIHAR) — Manufacture wear-resistant rubber liners, skirt rubber, industrial rubber rolls, rubber dock fenders, rubber lined equipments, supergrade cycle tubes and rubber lining contractors.

WEST BENGAL HOUSING BOARD, ABASAN, 105 S. N. BANERJEE ROAD, CALCUTTA 700014 — Set up in 1972, the primary objective of the Board has been to provide ownership housing at reasonable cost to people of different income groups in West Bengal. The Board envisages to provide 7 000 dwelling units during 1984-87.

ASSOCIATE MEMBERS

AGRO CHEMICALS, J-214-215, ROAD NO. 10, VISHWAKARMA INDUSTRIAL AREA, JAIPUR 302013 — Formulators of dust and liquid pesticides, such as DDT, Aldrin and Malathion.

CUPRO ALLOYS CORPORATION, POST BOX NO. 356, 213, LISARI GATE, MEERUT CITY 250002 — Manufacture non-ferrous alloys, white metals, silver brazing alloys, gas welding rods, rosin cored and solid solder wires, and phosphor bronze rods and wires.

DISCO ELECTRONICS PVT LTD, A-83 OKHLA INDUSTRIAL AREA, PHASE II, NEW DELHI 110020 — Set up in 1965, engaged in manufacturing television including colour, television.

ELECTRO PNEUMATICS, MIDC, NO. 72, CROSS ROAD C, OFF MAHAKALI CAVES ROAD, ANDHERI (EAST), BOMBAY 400093 —

Manufacture pneumatic control valves, cylinders, presses, CNC tube benders, honing machines, special purpose machines, etc.

FUSION ENGINEERING PRODUCTS LTD, JAMSHEDPUR — Manufacture mildsteel arc welding electrodes.

JAYADEV ELECTRO-MECH COMPANY, 217 RAVI INDUSTRIAL ESTATE, OFF MAHAKALI CAVES ROAD, ANDHERI (EAST), BOMBAY 400093 — Design, manufacture, erect and maintain elevators, material handling equipments, and undertake electrical wiring contracts for buildings and other household electrical appliances.

JAYADEV ELEVATOR CONSULTANTS, 205 MENKA, NALANDA — MENKA CO-OP HOUSING SOCIETY LTD, OFF J. P. ROAD, FOUR-BUNGALOW, ANDHERI (WEST), BOMBAY 400058 — Offer consultancy service to architects and builders for various building projects, propose to manufacture elevator components.

MANUFACTURING TECHNOLOGIES INDIA LTD, B-103, PHASE VIII, SAS NAGAR 160051 (PUNJAB) — Manufacture printed and double sided PTH and multilayer printed circuit boards.

MEHTA, GANDHI & ASSOCIATES, E-14 NDSE MARKET PART II, NEW DELHI 110049 — Established in 1966, undertake consultancy work in planning, architecture, engineering, etc.

PESTICIDES TESTING LABORATORY, TRIVANDRUM 695002 — Concerned with the implementation of statutory functions of analysis/tests of pesticide formulations for their conformity to specifications.

TIKI TAR INDUSTRIES, VILLAGE ROAD, BHANDUP, BOMBAY 400078 — Manufacture bituminous products.

VISAKA ASBESTOS CEMENT PRODUCTS, 6-31089/C GULMOHAR AVENUE, SOMAJIGUDA, HYDERABAD 500482 — Manufacture AC roofing sheets, roofing accessories and flat sheets.

ORDINARY MEMBERS

BIHAR TIMBER SEASONING PLANT, 11/92-A INDUSTRIAL AREA, BOKARO STEEL CITY 827014 — Manufacture kiln seasoned and chemically treated panelled door and battened doors.

CHAMUNDI MINERALS AND CHEMICAL INDUSTRIES, 24 THIGAPPA CHETTY STREET, MADRAS, 600021 — Manufacturer of burnt and hydrated lime and grinders of various kinds of minerals.

HARIHAR FERTILIZERS & PESTICIDES, 28-A

VIDHAN SABHA MARG, LUCKNOW 226001 — Manufacture pesticides, household insecticides, solvent chemicals, etc.

HOSPHERMA INDUSTRIES, C-8 BONANZA INDUSTRIAL ESTATE, ASHOK CHAKRAVORTY ROAD, KANDIVLI (EAST), BOMBAY 400101 — Manufacturers of equipment for hospitals, pharmaceutical and chemical industries, sterilization plants, distilled water plants, etc.

D. V. JOHN, 80 BHARATHI COLONY, PEELAMADU, COIMBATORE 641004 — Construction Engineer, handling engineering works.

STANDARD ENTERPRISE, 40/17 PANCHANANTALA ROAD, HOWRAH 711104 — Serve the rubber manufacturing units with economical rubber processing chemicals.

REGIONAL OFFICES

BOMBAY	400093 Manakalaya, E9 MIDC, Marol, Andheri (East) (Phone: 6 32 92 95)
CALCUTTA	700054 1/14 C. I. T. Scheme VII M, V. I. P. Road, Maniktola (Phone: 36 24 99)
MADRAS	600113 C. I. T. Campus (Phones: 41 24 42, 41 25 19 & 41 29 16)
S. A. S. NAGAR	160051 B69 Phase VII, Industrial Focal Point (Phone: 8 73 28)

BRANCH OFFICES

**ISI
REGIONAL
AND
BRANCH
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ments of mason's tools for plastering
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Managerial Effectiveness through Standardization

■ 'In the development of modern systems technology, whether industrial or space-oriented, pacing factor is management. This is a function which directs, coordinates and controls the many facets of the system.' These words from a well-known technical publication bring out effectively the importance as well as functions of management. Quite aptly, the 'directing' and 'controlling' functions are exercised mainly by the top management while the 'coordination' component is available to all levels, from the chief executive down to middle management. It is no exaggeration to say that managerial effectiveness at any level is directly proportional to the success achieved in managing the coordination element.

The coordination problems, to be tackled by the executives and engineers, may be inter-departmental or intra-departmental depending upon the level in the hierarchy of the organization from where they function. While some of them may be one-time problems, many would be repetitive. Some illustrative examples of repetitive problems involving coordination are decisions on abbreviations, symbols and conventions to be used in drawings to facilitate unambiguous understanding by design, production and quality control departments; consensus on the sizes and quality requirements of raw materials and consumables to be procured by the production department and kept in stock by the materials management department; formulation of checking, inspection and test methods which would not create controversies between production and quality control departments; agreement on sizes, types and grades of products which could form a long-term basis for consultation between production planning and marketing departments; and evolution of objective procedures and practices which are used again and again in dealing with problems of personnel management. Solutions to such recurring problems, arrived at by pooling the knowledge and experience of the concerned departments and personnel with differing but valid views on the problems, should be preferably documented. Documentation of solutions to repetitive problems, common to two or more functional areas, would be helpful in unambiguous understanding and wide dissemination of such solutions; effective implementation of these solutions in day-to-day work; improvements, wherever possible, on the basis of feedback from implementation; and delegation of responsibilities in related areas to junior levels so that senior level personnel could be kept free from routine work, leaving them with enough time for attending to other problems.

This team work approach to repetitive problems through the involvement of persons with differing viewpoints on the same issue is nothing but the consensus method followed in standardization. For this reason, standardization has come to be recognized as a useful tool for reaching higher levels of managerial effectiveness in industrial operations. It is as a result of this consciousness at the top that industrial units in the organized sector have mostly come to have separate standards departments. In the case of foreign collaborations, standards for materials, components, finished products, engineering practices, etc, normally find a place in collaboration agreements and the pace of progressive indigenization is determined by a company's experience in the field of standardization.

NORMS AND VALUES

Mason's Tools

The country is today passing through a period of boom in construction activity as a result of growth and development in all sectors of economy. This boom is further aided by sophisticated equipment and modern methods of construction. In the midst of all this, however, the mason — the central figure in all construction work since time immemorial — continues to occupy an important position in view of his indispensability to the job.

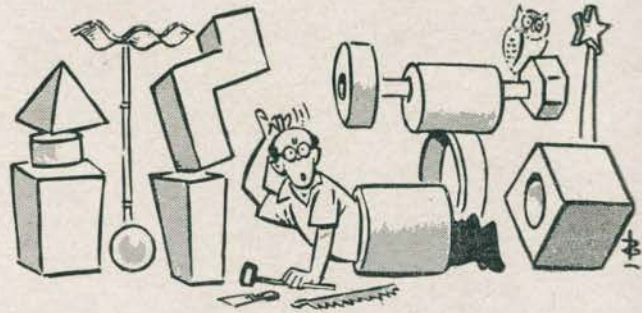
Besides his work experience, all that a good mason needs are his tools for effectively performing the various jobs forming part of brick-laying, plastering and pointing work. However, these tools often differ from region to region. To promote their mass production and improve their quality, it is essential to rationalize their dimensions and specify the materials for their manufacture.

Conscious of this need, the Indian Standards Institution formulated an Indian Standard specification for mason's tools for plastering and pointing work (IS : 1630) way back in the sixties. The Standard has been recently revised to update the various requirements. It not only specifies the materials, dimensions and criteria for workmanship and finish for different types of tools but also indicates the types of use for which they are best suited. Tools covered in the Standard include those used for the preparation of background for the first or subsequent coats, namely, raking needle, hacking tool, brush and scratcher; tools required for mixing and application of mortar which include a trowel and mortar pan; tools used for testing perpendicularity, checking the horizontal plane and setting out screeds, that is, plumb, spirit level and mason's square; pointing tools (naylas); and wooden floats or rules required for scouring, floating or finishing of the plaster.



Designs for Industrial Experimentation

Industrial organizations are constantly faced with the task of decision-making on several issues, such as product/process design, process



specifications, quality improvement, dominant factors affecting quality, cost reduction and import substitution. In all such problems, one is confronted with a number of choices and an alternative which satisfies the requirements at the minimum cost has to be selected. For taking the right decision in all such cases, an experiment may have to be carried out either to discover something about a particular process or to compare the effect of several conditions on the phenomenon under study.

The effectiveness of an experiment depends, to a large extent, on the manner in which data are collected. If an experiment is not properly designed, either no inferences may be drawn at all or those drawn may not provide the information sought by the experimenter.

Designing of an experiment essentially comprises determination of the pattern of observations to be collected. A good experimental design is one that answers efficiently and unambiguously questions required to be resolved and furnishes the requisite information with a minimum of experimental effort. For this purpose, the experiments may be statistically designed. Statistically designed experiments also enable the experimenter to isolate the effects of known extraneous factors, evaluate the inter-relationship or interaction between these factors, evaluate experimental error, determine before hand the size of the experiment for specified precision in the results, extract maximum information from the data and remove uncertainty from the conclusions.

To provide the needed guidelines on the subject, the Indian Standards Institution has brought out an Indian Standard on designs for industrial experimentation (IS : 10427-1982). This Standard provides methods of planning and conducting experiments under various conditions and describes the procedures for analyzing the data

recorded as a result of such experiments. The designs described in the Standard include completely randomized design, randomized block design, latin square design, balanced incomplete block design and factorial designs. The merits and demerits of each of these designs have also been enumerated to help an experimenter select an optimum method for resolving the specific problem.

Standard Flowchart Symbols

System flowcharts are now widely used to depict various types of information processing problems and their means of solution. They provide a graphic representation of definitions, analyses or methods of solution to various problems using symbols to indicate operations, data flow, equipment, etc. Though in-house rules may have to be devised to suit the particular process or data specifications, certain guiding principles, if followed, would enhance readability and expedite cross-reference to the text.

To strengthen professional understanding among programmers, the International Organization for Standardization (ISO) has recently published an International Standard 'ISO 5807 Documentation symbols and conventions for data, program and system flowcharts, program network charts and system resources charts'. This Standard consolidates the information given in two previously published standards, namely, 'ISO 1028 Flowchart symbols' and 'ISO 2636 Conventions for incorporating flowchart symbols in flowcharts' and in the process supersedes them.

ISO 5807 specifies the symbols to be used in information processing documentation and provides

guidance on conventions for their use in five types of flowcharts, namely, (a) data flowcharts, which represent the path of data in solving a problem and define processing steps as well as the various data media used; (b) program flowcharts which represent the sequence of operations in a program; (c) system flowcharts, representing the control of operations and the data flow of a system; (d) program network flowcharts, which represent the path of program activations and the interactions to related data; and (e) system resources charts, representing the configuration of data units and process suitable for solving a problem or set of problems.

Besides, the Standard tabulates the symbols according to their applicability to the types of flowchart and includes examples of flowcharts of each type.

An Indian Standard on flowchart symbols and conventions for use in data processing (IS : 10756-1983) technically equivalent to ISO 5807 is also available.

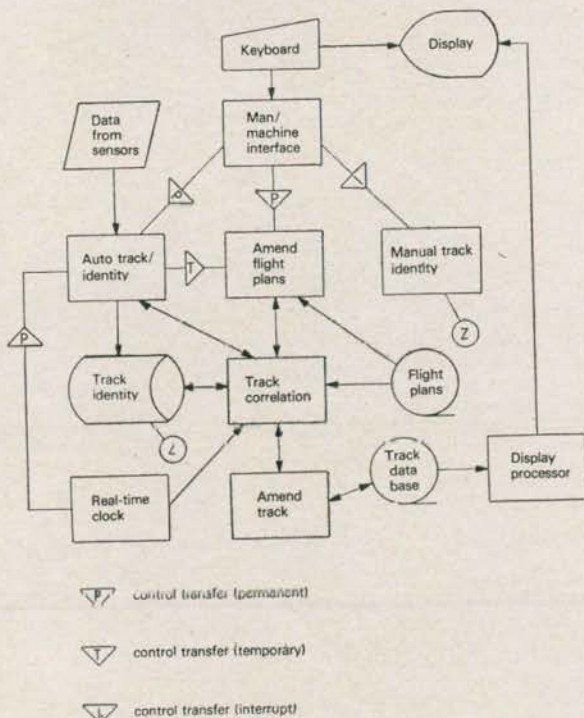
Safe and Standard : Chalks, Crayons and Modelling Materials

Young artists should not have to fritter away their talents on crayons and chalk that break easily or don't colour well, or struggle with unworkable modelling clay. And children who mistakenly think that what looks good tastes good should not have to risk a trip to the hospital if they nibble away at these art materials. Solving these problems without inhibiting creativity is the purpose of three American national standards on modelling materials, crayons and chalk, according to an illustrated leaflet published by the American National Standards Institute (ANSI).

Developed by the Art and Craft Materials Institute of USA, these standards provide manufacturers with guidelines for producing non-toxic materials of good quality. Take safety. Since children are among the primary users of these craft supplies, the volunteers who developed the standards kept the habits of tots in mind. As a result, requirements call for formulae to be checked by a specialist to see that they are non-toxic and won't cause harm even if the art materials are eaten.

When it comes to quality, colour and durability are important. Crayons and chalk should resist breaking and should blend easily with white or black to produce tints and shades. The colours should be relatively free from streaks and the modelling clay should be soft enough to be worked by a child.

The range of crayons, chalk and modelling materials covered in the three American national standards is quite large — moulded, pressed and pastel crayons; white chalk used by teachers and hopscotch experts; coloured chalk used on chalkboards and craft materials; and papier-mache, modelling clay and dough as well as sculpture media.



An example of a program network flowchart

CONSUMER NEWS

CONSUMER REQUIREMENTS CONCERNING GRAPHICAL SYMBOLS

In view of the increasing international trade in products of interest to consumers and growth of international communication as well as exchange of services as a whole, the consumers have felt the need for internationally standardized graphic symbols, including pictograms, that are easily recognizable and may give valuable information to consumers in a well-defined and unambiguous way. This need is further emphasized by the growing complexity of consumer products and services, the functional aspects of which are not always immediately clear to the consumers. This may—at best—give rise to confusion and—at worst—to accidents.

International standardization may well provide the most appropriate channel for creating internationally accepted and implemented graphical symbols for the benefit of consumers and of society as a whole. In fact, internationally standardized symbols already exist in many areas while in some others the need for standardization is being felt. However, in devising graphical symbols, certain principles have to be adhered to from the consumer's viewpoint.

The Committee on Consumer Policy (COPOLCO) of the International Organization for Standardization (ISO) has prepared a state-



Some internationally standardized graphical symbols of consumer interest

ment entitled 'Consumer requirements with respect to graphical symbols' which, *inter alia*, sets out four basic principles that should be followed while devising graphical symbols for the general public. The ISO Council has conveyed this statement to the various ISO Technical Committees, requesting them to take it into account while creating new symbols of interest to consumers.

The four basic principles enunciated in the COPOLCO statement are as under:

- Symbols should be easily understandable and recognizable (it is important that symbols be tested among consumer groups before they are adopted); they should be easy to distinguish from one another and should, in certain cases, be chosen keeping in view the possibility of making them tactile, or giving tactile equivalents;
- The number of symbols

should be restricted to areas where a real need has been ascertained (the consumers should not have to learn a special picture language);

- The same symbols should be used for the same functions irrespective of the type of product or functional context; and
- During a transitional period it may be expedient to use a supplementary text in the national language, for when the information to be conveyed affects consumers' health and safety, the use of symbols alone can involve heavy risks.

shed a white paper on 'The Safety of Goods' proposing major changes in the law on consumer safety to stop unsafe products getting into the shops, reports *BSI News*.

The document proposes the introduction of a general safety duty requiring all suppliers to ensure that the goods they supply are safe. This duty is proposed to be linked with a reference to standards, broadly defined as 'sound modern standards of safety' to ensure that the expected level of safety is interpreted with reference to identifiable and accepted points of comparison, embodying established and proven technology recognized by expert opinion in the field and already available at a reasonable cost.

The white paper also proposes new powers for the Government to enable enforcement officers to check that the safety standards are met at the point of first supply, whether manufacturer or importer, rather than when the goods have reached the shops. The enforcement officers will have the right to test samples, check production procedures and inspect documents relating to goods. Unsafe imports, where identified, would be halted at the port of entry.

New powers are also proposed to be given to enforcement officers enabling them to suspend the distribution of suspect goods rapidly for up to six months pending a decision on their safety, taken if necessary by a court.

THE SAFETY OF GOODS : UK WHITE PAPER

The Department of Trade and Industry, UK, has publi-

Standards for River Valley Projects

Rajkot Implementation Conference

The Implementation Conference on Indian Standards relating to River Valley Projects held at Rajkot on 19 April 1985 called for greater implementation of standards in the field by irrigation departments and identified new subjects for which Indian Standards could be prepared. The Conference was attended by over 230 engineers working on irrigation projects in the Saurashtra region of Gujarat.

INAUGURATION

Inaugurating the Conference, Shri J. F. Mistry, Secretary, Irrigation Department, Government of Gujarat, noted with satisfaction that over 12 500 Indian Standards had been prepared by ISI on various subjects; of these, 1 600 related to civil engineering and included over 275 standards on river valley projects. He said that engineers at all levels in different departments should be made aware of available Indian Standards in their fields of interest. Pointing out that over 60 percent of expenses in any project accounted for materials, he felt that, to ensure their quality, the materials purchased should be ISI-marked. Highlighting the role of irrigation works, Shri Mistry said that India had 2 100 major and medium dams and many more were under construction including the Narmada Project in Gujarat. In the context of preventing technical failures in dams, he stressed the importance of standards and suggested a number of subjects relating to dams for which standards could be prepared, such as concrete diaphragms, planning and execution of distributaries, and ground water investigation.

Earlier, welcoming the participants, Shri B. J. Vasoya, Chief Engineer and Joint Secretary, Irrigation Department, Government of Gujarat, said that the Saurashtra region in Gujarat encountered floods, drought and cyclones and was deficient in its requirements for irrigation water. He added that, for utilizing the waters of Narmada and Tapti rivers presently flowing into the sea, the regional geology, hydrology and other features needed to be properly studied. He hoped that the deliberations of the Conference would create greater awareness about

available Indian Standards and promote their adoption in planning and design of projects in the area.

Speaking on the occasion, Shri B. Mukherji, Director, Ahmadabad Branch Office, ISI, highlighted the activities of the Institution and detailed the procedure adopted in the preparation of standards as well as operation of the ISI Certification Marks Scheme.

TECHNICAL SESSIONS

The inaugural function was followed by two technical sessions. The first technical session, which was presided over by Shri J.F. Mistry, covered topics, such as investigation and planning in relation to hydrological, meteorological and topographical aspects, project reports and estimates; reservoirs and diversion works; flow in closed conduits and irrigation canals; and inspection, operation and maintenance of reservoirs and catchment areas.

Addressing the Session, Shri G. Raman, Director (Civil Engineering), ISI, informed the participants that while ISI started its activities in 1947, the Civil Engineering Department was formed in 1952 and standardization in the field of river valley projects was taken up in 1964. He said that many countries in Asia, Africa and Latin America had found the standards prepared by ISI quite useful.

During the discussions that followed, the following points emerged:

- a) As large quantities of imported cement were being used in the country, ISI should evolve a suitable mechanism for checking and controlling its quality;
- b) In many parts of the country, particularly in Saurashtra and Karnataka, lime-sand-*sarkhi* and lime-*sarkhi* mortar had been successfully used in the construction of dams. Indian Standards should be prepared on the subject as these would not only encourage use of local materials but also save on costs;
- c) As a massive programme of lining of canals was being undertaken in the country, standards should be developed for the design of the cross-section, types of lining and sub-surface drainage arrangement for canals passing over varying strata; and
- d) Recommendations should be made for the control of weed growth in canals.

Shri Raman pointed out the Indian Standards already available in the areas indicated for preparation of standards by the participants.

Summing up the discussions, Shri Mistry appreciated the role of ISI in propagating Indian Standards through various means and informed the delegates that Indian Standards were open to modification and invited feedback from them for the purpose. He also exhorted the participants to make use of all the relevant Indian Standards in their work.

The second technical session, chaired by Shri V. M. Kothari, Superintending Engineer, Irrigation Department, Rajkot, dealt with geological aspects of investigation and planning; impounding structures including terminal structures and appurtenances; tunnels and power houses; instrumentation; and inspection, operation and maintenance of dams and appurtenances. Shri K. K. Sharma, Senior Deputy Director, ISI, highlighted the provisions laid down in Indian Standards on topics under discussion in the Technical Session.

During the discussions that followed, the following points emerged:

- a) Standard guidelines regarding provision of drainage/inspection gallery in dams should be provided;
- b) Standard guidelines on working out tail-water levels for stilling basins should be formulated;
- c) Standard guidelines on design of electrically-operated automatic gates to be operated during floods or cyclones should be prepared;
- d) Standard guidelines for sub-surface exploration by geophysical methods, such as electrical resistivity survey should be formulated;
- e) Standard guidelines for permissible seepage from dams to adjoining areas should be prepared;
- f) Standard guidelines for fixing construction flood should be laid down; and
- g) Standard guidelines for the design of syphon spillways should be provided.

Shri Sharma brought to the notice of the participants some standards available in the areas identified by them for the formulation of standards.

(Continued on page 173)

Technology transfer is an essential component of technical collaboration among different countries. Keeping in view the problems of indiscriminate import of technology and the role of standardization in smooth and faster transfer of technical knowhow the authors suggest transfer of company standardization technology along with manufacturing knowhow at the time of entering into technical collaboration and including a set of standards as part of technology package — Ed.

Role of Standardization in Technology Transfer

M. RAGHUPATHY & M. BHASKARA REDDY
Indian Standards Institution
New Delhi

Traditionally, transfer of technology has been taking place all over the world through transfer of skilled manpower, published technical literature and capital equipment; in fact, even products sold by one country to another contribute to transfer of technology. Another important means of technology transfer is technical collaborations in which the overseas collaborator supplies information in the form of documents, designs, drawings, etc, to the recipient of technology who makes use of it for either updating the existing technology or starting a new project. Sometimes, transfer of technology also takes place through a package deal in which the foreign collaborator supplies the technology as well as plant and equipment besides commissioning it on a turnkey basis.

Technology transfer benefits both the donors and the recipients of technology. Developed countries, which have invested considerable resources in developing a technology, can get adequate returns on their investment by exporting technology to the less developed countries. The recipients of this technology get updated technology in ready-to-use form without any loss of time at a comparatively cheaper cost. To keep operational costs to the minimum, the overseas collaborator is required to take due cognizance of existing conditions in the recipient country as otherwise the benefits of technology get frittered away in unnecessary variety of materials, tools, fasteners, practices, etc, resulting from the introduction of new technology. To prevent creation of unnecessary varieties, a deliberate standardization effort is needed.

THE CONCEPT OF STANDARDIZATION

Standardization in its broadest sense is the discipline of using a

minimum number of parts for maximum number of purposes, produced by the most economic manufacturing processes and of appropriate quality to give reliable and acceptable performance at minimum cost. Also, it is the technique of optimizing the overall performance of a manufacturing company by minimizing the number of products, component parts, manufacturing processes and materials consistent with satisfying the reasonable present and foreseeable requirements of the future. The International Organization for Standardization (ISO) has aptly defined standardization as 'an activity giving solutions for repetitive application to problems essentially in the spheres of science, technology and economics, aimed at the achievement of optimum degree of order in a given context'.

The basic principle of standardization activity is that solutions are arrived at with the consensus of all concerned. As the area of consensus management increases, the level of standardization may be said to change from company to association level and then to national and international levels. While formulating national standards consensus of all those interested within a country assumes significance but in the case of international standards a world-wide consensus is essential.

Of the various levels of standardization, the company level assumes greater significance as it is at this level that formulation and implementation of standards get integrated to provide quick and perceivable benefits to the company practising it. The experience of developed countries, where company standardization is an integral part of any organizational structure, shows that, on a conservative estimate, an investment of one dollar in this activity brings forth a return of ten dollars. In India, where industry

is yet to take full advantage of standardization in optimizing its resources, cost-benefit ratio on account of standardization may be more favourable.

The extent of inefficiency due to non-standardization prevailing in developing countries is brought out by Dr Kenneth S. Stephens of Georgia Institute of Technology with the help of a case study in his book entitled 'Preparing for Standardization, Certification and Quality Control'. According to the case study, a manufacturer of nuts and bolts in a developing country produces more than 350 different sizes and varieties of these items, all of which are in mass circulation. But in a number of industrialized nations, where standardization has taken roots, this nut-and-bolt range can be adequately supplied by less than 20 sizes and varieties. The said manufacturer in the concerned developing country is thus producing some 330 superfluous varieties of nuts and bolts — an enormous wastage in terms of man-power and production costs.

TECHNOLOGY TRANSFER — ROLE OF COMPANY STANDARDIZATION

The recipient of advanced technology faces two major problems in assimilating, absorbing and taking full advantage of imported technology. The first is lack of technological infrastructure whose development needs to be given a serious thought in the interest of sustaining new technology and for further developing it. The next — a major one — is that of resource limitation. The resources may be in the form of technical skills, special materials and even proper technological environment. The local skills need to be developed through training and imported materials substituted with locally available ones to ensure economy. It would be observed that, on an average, the technology content in any engineering operation is about 20 percent of the total inputs while the remaining 80 percent consists of various types of equipment and materials. Indiscriminate import of technology would lead to a typical problem for the recipient country: that of adhering to its own standards as well as those of the collaborator for similar, and sometimes interchangeable, materials.

The very methodology for the development of standards provides for consolidation of technological capabilities based on the experience and conditions existing in the country importing the technology at a given point of time. Use of standards as the basis of technology transfer, therefore, improves its

efficiency and provides the necessary flexibility for improvement as standards, which are dynamic in nature, get updated with advancement in technology.

Company standards activity can help in identifying the materials equivalent to those recommended by the collaborators, thus reducing the unnecessary variety that would otherwise have been created by the recipient country in the process of adhering to different standards and stocking the items separately. This problem becomes all the more acute if a particular company enters into multiple collaborations involving more than one country or having a large product mix. A public sector company in India, having collaborations involving different countries and a multiple product range with production operations being carried out by plants spread all over the country, has developed a strong standardization base at product, plant and corporate levels to rationalize the materials, tools, components, sub-assemblies, etc. When standardization operations were started in this company it was observed that even drawing office practice varied from plant to plant with the result that a drawing from one plant could not be interpreted by an operator in another. The Standards Department set up in the concerned public sector company undertook the task of rationalizing the various practices which resulted in substantial benefits to the organization. To assist all concerned in decision-making with respect to alternate standard grades of ferrous materials offered by the suppliers, adoption of existing specifications by the designers for equivalent overseas standard grades at the time of absorption of new technical knowhow and control of indiscriminate introduction of new specifications, the Standards Department brought out a publication giving equivalent standard grades for various types of steels used in the organization, thereby indicating the company specifications which were to replace the overseas specifications in respect of specific grades.

Standardization at company level also helps in modifying the collaborator's design for using indigenous materials and items, adapting the imported technology to suit local conditions. Of course, this technology gets updated through standards which reflect the latest state of progress in a particular field by virtue of revision of the original documents, if warranted.

TECHNOLOGY TRANSFER — ROLE OF NATIONAL STANDARDS

National standards dealing with

nomenclature; materials; products; processes; methods of test, sampling and inspection; and codes of practice for installation, operation and maintenance reflect the existing position with regard to availability of resources and technical competence of the country at a given point of time, thus providing a base for technology transfer.

Sometimes national standards organizations go in for advance standardization to regulate indiscriminate import of technology which may result in proliferation of unnecessary varieties and fragmentation of production operations. Relevant in this context is the Indian Standard on X-ray tubes. In India, X-ray equipment was being manufactured by different organizations with the help of foreign collaborations using some 20 different types of X-ray tubes. When the question of indigenous production of X-ray tubes was being considered, ISI made a thorough study of the different types of X-ray tubes used in the country and formulated an Indian Standard (IS : 3154-1965) specifying only three basic tubes for diagnostic purposes. The public sector organization, Bharat Electronics Limited, took up indigenous production of these tubes.

An important vehicle for technology transfer are engineering drawings through which design data and manufacturing instructions are effectively transmitted. A code of practice for engineering drawings (IS : 696-1972) published by ISI makes it possible for all concerned to easily understand the drawings and interpret them correctly, even if they emanate from different sources both within and outside the country. This standard is now being replaced by a series of Indian Standards which are total adoptions of International Standards on engineering drawings. Similarly, a number of other International Standards dealing with subjects of a basic nature, such as nomenclature, symbols, colour codes, flow diagrams and electrical circuit diagrams have been totally adopted by ISI to facilitate international exchange of technology. To indicate to the users of standards as to which of the Indian Standards are total adoptions of International Standards, ISI has adopted the policy of dual numbering of such standards indicating both IS and corresponding ISO/IEC numbers.

STANDARDIZATION *Vis-a-Vis* HIGH TECHNOLOGY

The electronic revolution taking place all over the world has brought

about a variety of computers, television receivers, video cassette recorders, electronic typewriters, communication equipment, electro-medical equipment, and other home and professional electronic items. Proliferation of varieties of each of these types of equipment has left the users in a sea of incompatibility, forcing them to depend on a restricted group of vendors for their requirements of spare parts and consumable stores. On the other hand, this has also affected the vendors who often find themselves locked out of all but their own customer installations for business. The world of high technology has thus evolved into pockets of segregation rather than integration.

A proper standardization input in

this field right from the beginning would have brought about greater compatibility amongst different types of equipment with interchangeable maintenance spares and tools and common consumable stores. In addition to helping the users in easy maintenance and cheaper operation of the equipment, this could help maximize vendors' resources for qualitative improvement of their products. Of late, however, standardization has entered this vital field, specially at the international level. Rightly, therefore, great emphasis is being laid on supporting and implementing International Standards to improve the compatibility of different sub-systems used in modern high technology products and equipment.

CONCLUSION

Unlike in many advanced countries, standardization has not yet taken deep roots in the industrial culture of this country. It is, therefore, essential that the technology of company standardization is also transferred along with transfer of manufacturing technology. The recipient should establish formal standardization structure in the organization to create a proper infrastructure for sustaining and improving the technology received and the donor should supply a set of standards as part of the technology package. Further, standards, at international, national and company levels, should be in complete harmony with one another to achieve maximum benefits.

Calling All Artists

ISI Logo Design Contest

■ Entries are invited for a bilingual (Hindi-English combined) or non-lingual logo which should denote the message of Indian Standards Institution (ISI). The present design of logo in English is given below.



ISI is engaged in the preparation of national standards relating to products, commodities, materials and processes for the indigenous industry and certification of industrial and other products under *ISI (Certification Marks) Act*, and offers its specialized services in the production of quality goods.

Cash Prize

A Cash Prize of Rs 5 000.00 (Rupees five thousand only) will be awarded for the best entry selected by the Institution.

Last Date : 16 September 1985*

The entries received by the Institution for logo competition last year were examined and not found suitable. Participants are requested to send fresh entries for this competition in a sealed cover duly superscribed '**ISI LOGO DESIGN CONTEST**' addressed to:



Director (Public Relations)
Indian Standards Institution
Manak Bhavan
9 Bahadur Shah Zafar Marg
New Delhi 110002

*Extended from 30 August 1985 notified to artists earlier.

Availability and use of different types of energy has come to acquire an important place in agriculture. The author discusses in this paper the various agro-energy systems and concludes that there is a vast scope for saving and consuming commercial energy in India by bringing about improvements in the equipment and practices in production agriculture — Ed.

Agro-Energy Systems and Energy Conservation in Agriculture

B. S. PATHAK
Punjab Agricultural University
Ludhiana

■ The history of civilization is closely linked with progressive exploitation by man of external energy sources. Specially during the last few years energy has been one of the most extensively discussed topics. The reasons are obvious. Consumption of large quantities of energy has come to be associated with high productivity and better standards of living. The developed world, which has so far been using most of these resources, wants to ensure their continued availability in the future as otherwise its economic structure will collapse. Energy needs of the developing world are increasing rapidly as a result of its efforts to modernize agriculture, establish industries and usher in the technological era. On the other hand, known energy resources of the world are limited and the annual availability of these resources may decrease in the foreseeable future. This has made energy a sensitive economic and political issue. It is, however, generally agreed that increasing food requirements of the world's population can be met only if adequate supplies of energy are ensured to the agricultural sector. Selection and development of appropriate agro-energy systems to match regional availability of resources and economic aspirations and meet the food needs have, therefore, been attracting increasing attention of planners and technologists in many developing countries.

ENERGY CATEGORIES

Energy may be consumed in the form of heat, mechanical power or electricity. This category of energy is termed as direct energy input. Large quantities of energy are also used in the form of materials like seed, fertilizer, machinery and structures. The term

'indirect energy inputs' describes this category of energy use. Certain energy inputs are arranged through commercial transactions. Examples of this category of energy use are fertilizer, farm machinery and diesel fuel. These are classified as commercial energy inputs. Family labour, animal draught energy, farm yard manure, etc. are the inputs commonly available to the farmer without going through commercial transactions. These are classified as non-commercial energy inputs.

ENERGY EQUIVALENCE OF MATERIALS

Direct energy inputs are easily quantified in energy units. Quantification of indirect energy inputs in energy units could sometimes create confusion. The heating value or energy units used to produce an indirect energy input are employed for its quantification in energy terms. Table 1 gives the energy value of some materials used in agriculture.

AGRO-ENERGY SYSTEMS

Agro-energy systems are usually discussed in the context of production agriculture which essentially involves utilization of solar energy to generate a bioenergy resource (biomass) through the process of photosynthesis. Solar energy is available in adequate quantity and free of cost. Attention would, therefore, be focussed on energy inputs other than solar energy while dealing with energy inputs of agro-energy systems.

In the most primitive agro-energy system, energy inputs are very limited and labour is the major component of total energy input as seen from the example of maize production in

Guatemala using manpower only (see Fig. 1). Changes in the energy and materials flow in the system resulting from the introduction of draught animal power are evident from Fig. 2. Maize yield in both the cases was the same, that is, about one tonne/hectare. Introduction of oxen and the resulting increase in direct energy input to the system for the purpose of performing various field operations reduced the labour energy to about half and it became possible for one person to increase the area under maize cultivation by 100 percent which, under conditions of adequate land availability, would lead to higher production. But with limited availability of agricultural land, additional inputs of energy for performing field operations alone do not increase the production. In most cases, increase in energy input for performing field operations is accompanied by a matching increase in energy inputs for controlling soil-crop environment through the application of water, use of fertilizers, plant protection chemicals, etc. Table 2

TABLE 1 ENERGY EQUIVALENTS OF SOME MATERIALS

MATERIAL	ENERGY VALUE/ EQUIVALENT
Direct inputs	
Diesel	38 MJ/l
Kerosene	36 MJ/l
Indirect inputs	
Fertilizers	
N ₂	60 MJ/Kg
P ₂ O ₅	9 MJ/Kg
K ₂ O	6 MJ/Kg
Machinery	82 MJ/Kg

The experience in Punjab shows that it is a common practice to over-irrigate wheat crop by 20-25 percent. Experiments on water management in rice crop have shown that the yield is not affected when the number of irrigations is reduced from 25 to 16. It is, therefore, practical to reduce the number of irrigations in wheat-rice crop rotation by 25 percent or more without affecting the yield. Such a reduction would yield a proportionate savings of energy in the form of diesel fuel and electricity.

CONCLUSIONS

a) The share of commercial energy inputs in the emerging agro-energy systems in India is increasing steadily;

b) The farmer is maintaining a balance between the direct energy input and material energy inputs to derive the maximum benefit from increased investment and expenditure on commercial energy;

c) The non-commercial energy inputs have retained their place and

importance in the emerging agro-energy systems in India; commercial energy inputs are being used primarily to supplement the non-commercial energy inputs and not to replace them; and

d) The energy use efficiency in the production agriculture of India is relatively low (this would probably apply to most of the developing countries). There is a vast scope for saving and conserving commercial energy by bringing about improvements in the equipment and practices in production agriculture.

■ OBITUARY

Dr V. I. Popkov (76), former President of the International Electrotechnical Commission (IEC) (1974-77),



expired recently. Alongwith Dr Åke T. Vrethem, the concurrent ISO President, Dr Popkov was author of the ISO/IEC agreement of 1976 which stipulates the rules for collaboration between the two organizations and states that ISO and IEC together form a system for international standardization as a whole.

Born in 1908, Dr Popkov graduated from the Moscow Power Engineering Institute in 1930 and obtained his diploma in electrical engineering. He was awarded Doctorate of Technical Sciences in 1948.

Dr Popkov had a life-long association with the Krzhizhanovsky Power Engineering Research Institute where he headed the High-Voltage Laboratory.

In 1966, he was elected a member of the USSR Academy of Sciences and in 1980 he became Chairman of its Division of Physical and Technical Problems in Power Engineering. He

was also Chief Editor of the journal *Power Engineering and Transport* and Head of the Academy Council for Physics of Electricity and Electric Power. Dr Popkov's main contribution has been in the field of high-voltage engineering and physics of electrical discharges in gases, particularly in the physics and theory of ac and dc corona and related problems.

Dr Popkov had been actively involved in IEC work for a number of years as President of the USSR National Committee, Chairman of IEC Technical Committee on High Voltage Testing Techniques (IEC/TC 42) and a member of the IEC Council and the Comité d'Action before becoming IEC President.

Electrotechnical science and international standardization have lost in Dr Popkov a scientist of world stature and a champion of international scientific and technical co-operation.

STANDARDS NEWS

SEMINAR ON SAFETY IN CHEMICAL INDUSTRY, BOMBAY

'The sheer pursuit of economism should not blind one to the traditional values of humanism lest utilitarian values should debase the factories into sweatshops,' observed Shri Harish Mahindra, an industrialist and former Chairman of the National Safety Council, while inaugurating the Seminar on Safety in Chemical Industry organized by the Indian Chemical Manufacturers' Association (ICMA) in Bombay on 26 April 1985. Referring to unsatisfactory conditions prevailing in factories and workshops in the country, Shri Mahindra said that industrial plants could no longer ignore safety and environmental aspects of operations for which there was worldwide concern. He added that, despite popularizing the safety movement and creating widespread awareness about safety in vast areas of the industrial sector, quite a bit of apathy was still evident in regard to implementation of the provisions of factory legislation. Even though factory legislation was over a century old, yet the evils traditionally associated with industry, such as environmental pollution, occupational hazards, poor ventilation, extremes of temperature, bad lighting, noisy operations, abominable sanitation and poor housekeeping continued.

For any safety movement to succeed, Shri Mahindra felt, involvement of management at the highest level was necessary. It was also essential to incorporate safety, ergonomics and measures relating to hygiene in the production process, making the working of a machine or procedure for doing a job inseparable from its safety aspects. Shri Mahindra said that a fully equipped safety department manned by safety professionals was a *sine qua non* in all production units. Shri Mahindra strongly felt that the suggestions made by safety officers should be faithfully carried out despite

additional costs involved and not kept in abeyance for a future emergency. He added that safety codes drawn up in advanced countries should be adopted in industrial operations to ensure accident-free production in the factories. Referring to the Quality of Working Life (QWL) movement, which was gaining momentum in Europe and the USA, Shri Mahindra said it was high time that at least a humble beginning was made in this direction.

JOINT ISO/IEC ACTION FOR PREPARING INFORMATION TECHNOLOGY STANDARDS

The two major world organizations responsible for producing International Standards — the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) — have decided to join forces to provide urgently needed standards in the field of information technology. This move, bringing together existing standardization work in ISO and IEC, has been prompted by increasing integration of the technologies that make up the information technology sector — microelectronics, telecommunications, computing and information processing.

The joint ISO/IEC operation is expected to achieve improved management and coordination for the total international programme relating to standards preparation for information technology. It will also help avoid duplication of work and maximize use of scarce manpower in this field.

International Standards are urgently needed to facilitate interconnection and communication between a wide variety of equipment, for example, computers, word processors and a host of other industrial, commercial and domestic systems.

STANDARD NAMES FOR LAB APPARATUS

A wide variety of apparatus and

equipment are used in laboratories including a number of metal, plastics and paper items. However, glass and related materials continue to be the mainstay of manufacturers in the field. These comprise a vast majority of items of everyday use in the laboratory — apparatus for conveying, shutting off and containing or for basic operations; equipment for measuring; apparatus for determining physical and chemical characteristics; equipment for testing materials; and apparatus for food, medical and biological purposes.

To provide international agreement on names for apparatus and equipment ranging from traditional items to the latest used in new technology, the International Organization for Standardization (ISO) has recently published an International Standard 'ISO 4791 Vocabulary relating to laboratory apparatus made essentially from glass, porcelain or vitreous silica: Part 1 Names for items of apparatus'. Each term specified in the Standard is illustrated and is given in English, French, German and Russian with alphabetic indexes in each language. Also given is an alphabetical index in respect of proper names used to describe specific apparatus. Besides, the Standard gives clarifying notes, wherever necessary, to indicate, for example, the specific application of a piece of apparatus or its usual calibration. Part 2 of the Standard, which is currently under preparation, is a vocabulary of technical terms and will be applicable to the manufacture, adjustment and use of the apparatus.

ISO STANDARD BURRS

Hardmetal burrs are used with machine tools for a wide variety of metal-removing operations often requiring great accuracy. The cutting part comes in a dozen basic styles — cylindrical, spherical, oval, conical, etc — with a range of dimensions for each giving choice of diameter and length of cutting part as well as shank diameters.

An International Standard laying down common characteristics of hard-metal burrs and the main dimensions of 12 specific styles (ISO 7755), just issued by the International Organization for Standardization (ISO), specifies these dimensional requirements in 11 separate parts headed by a set of general specifications (Part 1). Part 1 gives the overall series of cutting diameters and their related tolerances, shank diameters, etc, and specifies a letter symbol from A to N for each style and a designation code to identify a particular model by its style and other characteristics: cutting diameter, cutting part length and tooth type. The styles are also illustrated in this part of the Standard.

Other parts of the Standard deal individually with the actual main dimensions of each style.

IEC NORMS FOR HEATING CABLES

Heating cables are special types of electric cables which add to the comfort of living in cold climates through controlled emission of heat to the environment. The cables are used to maintain or raise the temperature of parts of buildings, such as floors, ceilings, walls, roofs and gutters or the surfaces of roads and ramps either for the comfort of occupants of the buildings or prevention of ice formation.

To provide guidance for the manufacture of safe and reliable heating cables, the International Electrotechnical Commission (IEC) has recently brought out an International Standard 'IEC Publication 800 Heating cables with a rated voltage of 300/500 V for comfort heating and prevention of ice formation'.

The Standard covers a wide range of insulation types and cable constructions, including both organic and mineral insulations. For the testing of heating cables, it generally recommends methods specified in another International Standard relating to electric cables and cords, namely, 'IEC Publication 540 Test methods for insulations and sheaths of electric cables and cords (elastometric and thermoplastic compounds)'. The Standard also gives additionally some special tests for checking conformity to various requirements specific to heating cables.

Another closely associated world standard, now being actively considered by IEC, is for heating cables for industrial purposes, such as for the surface heating of pipelines and vessels, in the petrochemical industries.

CONSUMER EXHIBITION, PUNE

The Pune Inspection Office of ISI participated in an Exhibition organized by Consumer Guidance Society of India in Pune on 13 March 1985. The Exhibition was inaugurated by Dr V. G. Bhide, Vice-Chancellor, Pune University, who stressed the need for compulsory certification of consumer products. The ISI Stall had on display a number of standards of consumer interest.

DR B. C. ROY NATIONAL AWARD FOR DR KASHYAP BHARGAVA

Dr Kashyap Bhargava, Dean, Government Dental College and Hospital, Ahmadabad, has been awarded the Dr B. C. Roy National Award for 1984 for his outstanding contributions as an eminent medical teacher. The Award carries a medal, a citation and a cash prize of Rs 5 000.

Dr Bhargava is actively associated with ISI as Chairman of its Dental Instruments Sectional Committee (CPDC 21).



ALFRED E. LINDAU AWARD FOR MR JOHN A. MARTIN

Mr John A. Martin, Principal, John A. Martin and Associates, Los Angeles, California, has been awarded the Alfred E. Lindau Award for

advocating common sense and a practical approach in the seismic design of reinforced concrete structures. The Award has been instituted by the American Concrete Institute (ACI) in the memory of its former President, Mr Alfred E. Lindau, and is given for outstanding contributions to reinforced concrete design practice.

Mr Martin, a member of the ACI, has been extensively involved with code and standards writing with ACI, the Structural Engineers Association of California and the Applied Technology Council.

M. TECH PROGRAMME IN RELIABILITY ENGINEERING

The Indian Institute of Technology, Bombay, is offering a three-semester interdisciplinary M. Tech Programme in Reliability Engineering. Specially designed to meet the requirements of persons in industry and R&D organizations, the Programme will provide training in the scientific and technological aspects of reliability engineering.

Among the topics to be covered in the Programme are basic principles of reliability engineering, statistical methods in design and analysis, quantitative methods for managerial decisions, production planning and control, life testing and reliability estimation, and quality planning and analysis.

Admission to the Programme is open to those holding a Bachelor's degree in aeronautical, chemical, civil, electrical, mechanical, production, industrial and metallurgical engineering,



The ISI Stall in the Exhibition organized by the Pune Construction Engineering Research Foundation Limited during 9-14 February 1985. Visitors to the Stall evinced keen interest in the exposition of Indian Standards relating to building activity organized on the occasion.

or computer science, electronics or instrumentation and control, provided they have also qualified in the Graduate Aptitude Test in Engineering (GATE).

Further information can be had from: The Dean of Academic Programmes, Indian Institute of Technology, Powai, Bombay 400076.

FIFTH IFAN CONFERENCE

The International Federation for the Application of Standards (IFAN) is organizing an International Conference in Philadelphia during 30 September-1 October 1986. The general theme of the Conference will be "Applying the world's standards".

Formed in 1974, the objectives of IFAN are:

- to promote cooperation among organizations for the application of standards,
- to promote uniform implementation of international standards and recommendations,
- to carry out at international level studies relating to the present state and future of standardization, and
- to compile documentation on the application of standards.

NINTH NATIONAL CONFERENCE ON IC ENGINES AND COMBUSTION

The Indian Institute of Petroleum (IIP), Dehra Dun, is organizing a Conference on Internal Combustion Engines and Combustion at Dehra Dun during 19-22 November 1985. The theme of the Conference is 'alternative fuels' in view of the importance being attached to use of fuels other than petroleum, particularly for automotive applications.

Further information can be had from: Shri Mukesh Saxena, Research Engineer, Engines Laboratory, Indian Institute of Petroleum, Dehra Dun 248005.

NATIONAL METALLURGISTS' DAY AND ANNUAL TECHNICAL MEETING OF THE INDIAN INSTITUTE OF METALS, JAMSHEDPUR

The Indian Institute of Metals and the Tata Iron and Steel Company Limited are jointly organizing the twenty-third National Metallurgists' Day and thirty-ninth Annual Technical Meeting of the Indian Institute of Metals (IIM) at Jamshedpur during

14-17 November 1985. Topics to be discussed at the Technical Meeting include metal sciences, industrial metallurgy and iron and steel.

Further information can be had from: Chairman, Technical Committee, NMD & ATM Central Secretariat, Scientific Services Division, The Tata Iron and Steel Company Limited, Jamshedpur 831007.

STANDARDS WITHDRAWN

The following Indian Standards have been withdrawn for reasons assigned against them:

a) IS : 1648-1961 *Code of practice for fire safety of buildings (general) : Fire fighting equipment and its maintenance* and IS : 2217-1982 *Recommendations for providing first-aid fire fighting arrangements in public buildings* (first revision) — The various provisions contained in these standards have now been dealt with in detail in separate standards formulated by the Fire Fighting Sectional Committee (BDC 22); and

b) IS : 2276-1962 *Specification for vegetable and aluminium tanned snakeskins* and IS : 2545-1963 *Specification for vegetable tanned lizardskins* — The Government of India has banned the manufacture of these items.

RAJKOT IMPLEMENTATION CONFERENCE — Contd from Page 163

CONCLUDING SESSION

The technical sessions were followed by a concluding session in which the following recommendations were made:

- a) Indian Standards relating to river valley projects should be adopted by the Irrigation Department;
- b) As far as possible, ISI-marked products should be used for ensuring better quality of construction;
- c) ISI should examine and prepare standards on the subjects suggested

at the technical sessions;

d) Whenever a departure from provisions of an Indian Standard is considered essential details should be sent to ISI for examining the need for amending the Standard;

e) Chief Engineers, in collaboration with ISI, should give greater publicity amongst officers working under them about the available Indian Standards relevant to their work;

f) A complete set of Indian Standards on river valley projects should

be purchased by all Superintending Engineers and Executive Engineers;

g) Officers up to the rank of Executive Engineers should become members of ISI for greater involvement in ISI activities and for deriving the associated benefits accruing to members; and

h) Similar conferences should be arranged in other parts of the State as well.

STANDARDIZATION

ECHOES AND IMAGES

Quality Control

Participants in the All-India Convention on Pump Maintenance organized by the National Centre for Technical Development in Bombay have urged the pump industry to exercise rigorous quality control. Not long ago the Director General of Technical Development, Shri P. R. Latey, had exhorted the industry to do some introspection in respect of quality control. The Indian Standards Institution (ISI) has claimed that 'it has always been conscious of the need for energy conservation and recently standards have been formulated on the practices for selection, installation, operation and maintenance of foot valves and pumping systems'. Needless to add, standards and specifications are evolved by ISI in consultation with representatives of manufacturers, users and other interests concerned. Yet, unfortunately, pump owners are seldom able to operate their equipment at peak efficiency.

The General Manager of the State-owned Rashtriya Chemicals and Fertilizers Limited, Shri S. C. De Bakshi, stated in his inaugural address at the Convention that a study of the pumps installed since 1976 had revealed that the average overall efficiency of these pumps was only about 48 percent as against the minimum desired 60 percent. An earnest endeavour ought to be made by the industry to remedy the situation, especially because power is both costly and scarce. There is no denying that the industry has grown in size and widened the range of its production, but its performance in respect of quality control is not all that satisfactory. It ought to take effective steps to ensure technological upgradation and quality control. Shri De Bakshi has rightly said that 'if repeat orders are to come, the suppliers would do well to remember that long-term interests should never be overlooked. The immediate sale of a number of pumpsets should not be the only criterion'. The industry ought to do its best at the manufacturing stage itself. The Director of the National Centre for Technical Development, Shri S. Narisetti, has urged the industry to take the initiative to 'incorporate make-easy maintenance features in designs so that even the illiterate can operate and maintain small pumps with the least adverse effects on efficiency'. The industry ought to promote research and development for achieving this objective. Manufacturers must provide proper guidance in respect of the selection of equipment and its installation and maintenance. This bears emphasis because, even if fault-free, pumps will

be of no avail if their installation, operation and maintenance are left to incompetent, untrained personnel.

— The Financial Express, 3 April 1985



Quality Circles in Power Units

Uttar Pradesh Minister for Power, Shri Sunil Shastri, said at Lucknow on 16 April 1985 that quality circles were being introduced in power plants in the State.

Inaugurating the quality week programme organized by the Hindustan Aeronautics Limited (HAL) at Lucknow, Shri Shastri said that, to begin with, the quality circles would be introduced in the Panki Power Plant.

The Minister stressed the need for involvement of workers in the improvement of the quality of products. For this, the workers must feel that they were a part of the management. He felt that competition would raise the quality of products.

Wg-Cdr H. K. Singh, Managing Director of HAL, said that quality was primarily the responsibility of the top management. The engineers played a vital role in maintaining and improving the quality of products. The stress on quality should begin with the design of the project.

— The National Herald, 17 April 1985



Air Pollution in the Capital

Eightyfour percent of the vehicles plying in the Capital emit high-density smoke causing air pollution.

A study of atmospheric pollution at eight selected busy traffic intersections in different parts of the city has shown that concentration of suspended particulate matter in the air was higher than the prescribed safe limit at all the traffic points monitored. It was 5.36 times higher than the prescribed safe limit at Radhu Cinema Chowk, Shahdara, while at Kingsway Camp crossing, Nirmon Vihar Chowk and Ashram Chowk it was 4.2, 3.44 and 3 times higher than the prescribed safe limit.

TABLE OF MEETINGS

AGRICULTURAL AND FOOD PRODUCTS DEPARTMENT

AFDC 44 HORTICULTURAL EQUIPMENT New Delhi
1985-03-05

Chairman Dr T. P. Ojha
Director
Central Institute of Agricultural
Engineering (ICAR), Bhopal

Draft finalized for publication — Glossary of terms relating to horticultural equipment.

New subjects — Foresters shear, garden trowel, grass shear, looping shear and hand cultivator.

AFDC 59 SOWING, FERTILIZER AND MANURE APPLICATION EQUIPMENT New Delhi
1985-03-04

Chairman Dr T. P. Ojha
Director
Central Institute of Agricultural
Engineering (ICAR), Bhopal

Drafts finalized for publication — Specifications for: (a) Groundnut planter, and (b) Furrow opener for single row jute seed drill.

Drafts approved for wide circulation — Specifications for: (a) Potato planter, and (b) Sugarcane planter.

New subject — Cotton planter.

CHEMICAL DEPARTMENT

CDC 3 INORGANIC CHEMICALS (MISC) Bangalore
1985-03-14

Chairman Dr M. S. Vaidya
The Dharamsi Morarji Chemical
Company Ltd, Ambernath

Drafts finalized for publication — Specifications for: (a) Manganese acetate, (b) Manganese carbonate, (c) Rock phosphate, and (d) Trisodium phosphate.

Drafts approved for wide circulation — Specifications for: (a) Silica gel for chromatographic grade, and (b) Sodium cyanide.

Standards reviewed and reaffirmed — 'IS : 1612-1976 Specification for iron powder (reduction grade) (first revision)', 'IS : 2730-1977 Specification for magnesium sulphate (epsom salts) (first revision)'.

New subjects — Ammonium persulphate, ammonium sulphate and lead oxide.

CDC 26 WATER New Delhi
1985-03-06

Chairman Dr Nilay Chaudhuri
Chairman
Central Board for the Prevention
and Control of Water
Pollution, New Delhi

Drafts finalized for publication — Tolerance limits for industrial effluents: (a) Dyestuff and dye intermediate manufacturing industry, (b) Phosphate fertilizer industry, (c) Rubber industry, and (d) Tanning industry.

New subjects — Guide for treatment of effluents from industries using dyestuffs, and methods of test — Determination of nitrates by cadmium reduction method.

CIVIL ENGINEERING DEPARTMENT

BDC 22 FIRE FIGHTING Bombay
1985-03-01

Chairman Shri G. B. Menon
(for the Fire Adviser
meeting) Gujarat Electricity Board, Vadodara

Drafts finalized for publication — Functional requirements for: (a) Emergency tender for fire brigade use and rescue tender for general purposes (second revision of IS : 949), (b) Hand-operated sirens (first revision of IS : 6026), and (c) Towing tender for trailer fire pump for fire brigade use (first revision of IS : 947). Specifications for: (a) Carbon dioxide cartridge for fire extinguisher (second revision of IS : 4947), (b) Fireman's axe (second revision of IS : 926), (c) First aid hose reel for fire fighting (first revision of IS : 884), (d) Foam compound for producing mechanical foam for fire fighting: Part 1 Protein foam (second revision of IS : 4989), (e) Hose binding machine (first revision of IS : 3744), (f) Portable fire extinguisher, dry powder type (third revision of IS : 2171), (g) Quick release knife (first revision of IS : 5486), (h) Smoke detectors for use in automatic electrical fire alarm system, and (j), Suction wrenches for fire fighting (first revision of IS : 4643).

Drafts approved for wide circulation — Code of practice for use, care and maintenance of fire fighting hose. Functional requirements for crash fire tender (third revision of IS : 951). Specifications for: (a) Carbon dioxide fire extinguisher (first revision of IS : 2878); (b) Delivery valve for centrifugal fire pump outlets (first revision of IS : 4928); (c) Dividing breeching with control, for fire brigade use (first revision of IS : 5131); (d) Dry powder fire extinguisher for metal fires (trolley mounted); (e) Foam concentrate (compound) for producing mechanical foam for fire fighting: Part 4 Fluoro protein foam; (f) Fog nozzle for fire brigade use (first revision of IS : 952); (g) Multi-edged rescue axe (non-wedging) (first revision of IS : 5505); (h) Portable fire extinguisher for aircraft — Halon 1211 type (first revision of IS : 4862); (j) Portable fire extinguishers, water type (constant air pressure) (first revision of IS : 6234); and (k) Synthetic foam liquid concentrate for producing mechanical foam for fire fighting (first revision of IS : 4989).



New subject — Code of practice for use, care and maintenance of fire fighting hose.

CONSUMER PRODUCTS AND MEDICAL INSTRUMENTS DEPARTMENT

CPDC 25 OBSTETRIC AND GYNAECOLOGICAL INSTRUMENTS AND APPLIANCES • Bombay 1985-03-14

Chairman Dr B. N. Purandare
(*In personal Capacity*) Chowpatty Maternity and Gynaecological Hospital
Bombay

Drafts approved for wide circulation — Specifications for: (a) Cannula spack, Mann's pattern; (b) Curette, uterine, biopsy, angled; and (c) Laproscopic trocar and cannula.

ELECTROTECHNICAL DEPARTMENT

ETDC 16 TRANSFORMERS • Calcutta 1985-05-14

Chairman Shri C. R. Varier
Crompton Greaves Limited
Bombay

Drafts finalized for publication — Code of practice for selection installation and maintenance of transformers: Part 1 Selection. Specifications for: (a) Dry type power transformers, and (b) Flameproof dry type transformers for use in mines.

ETDC 67 INDUSTRIAL PROCESS MEASUREMENT AND CONTROL • Kota 1985-03-11/12

Chairman Prof J. K. Choudhury
23-A, North Road,
Calcutta

Draft finalized for publication — Specification for electric solenoid operated actuators (*first revision of IS : 8935*).

Drafts approved for wide circulation — Specifications for: (a) Electric motor operated actuators (*first revision of IS : 9334*), and (b) Platinum resistance thermometer sensors (*first revision of IS : 2848*).

Standards reviewed and reaffirmed — 'IS : 1885 (Part 49)-1978 Electrotechnical vocabulary: Part 49 Industrial process measurement and control', 'IS : 2053-1974 Thermocouple pyrometers (*first revision*)', 'IS : 4369-1979 Methods of measurement on direct reading pH meters (*first revision*)', 'IS : 6804-1972 Glass-electrodes for direct reading pH meters', 'IS : 7722-1975 Analogue pneumatic signals for process control systems', 'IS : 8018-1976 Platinum and platinum alloy wires for thermocouples elements', 'IS : 8824 (Part 1)-1978 Electrical moisture meters: Part 1 For foodgrains', and 'IS : 9319-1979 Electronic self balancing potentiometric indicators and recorders'.

New subjects — Coating thickness measuring instrument, and signal transmission system.

MECHANICAL ENGINEERING DEPARTMENT

EDC 13 ABRASIVES • Madras 1985-03-27

Chairman Shri K. A. Srinivasan
(*for the meeting*) Carborundum Universal Ltd
Madras

Drafts finalized for publication — Diamond or cubic boron nitride abrasive grinding wheels (*first revision of IS : 3264*). Dimensions for bonded abrasive grinding wheels (other than internal grinding wheels) (*second revision of IS : 2324*). Profiles and types of bonded abrasive grinding wheels.

Drafts approved for wide circulation — Specifications for: (a) Diamond abrasive frame saw blades, (b) Diamond pastes, and (c) Designation and dimensions of honing stones.



New subjects — Superfinishing honing stones and tumbling chips.

EDC 50 MINING • New Delhi 1985-03-25/26/27

Chairman Shri D. R. R. Sastri
Mining and Allied Machinery
Corporation Ltd
Durgapur

Draft finalized for publication — Specification for portable hoist for mines.

New subjects — Perfo type roof bolts, recoverable type roof bolts, resin type roof bolts and split set type roof bolts.

EDC 70 SCREW THREADS • New Delhi 1985-03-30

Chairman Shri M. Rangashai
HMT Ltd
Bangalore

Drafts finalized for publication — Dimensions for ISO metric external screw threads for interference fit threads applications (*first revision of IS : 2186*). Gauging practice for metric external taper and internal parallel screw threads. ISO miniature screw threads: (a) Part 1 Basic profile, (b) Part 2 Basic dimensions for design profile, (c) Part 3 Tolerances, and (d) Part 4 Limits of sizes.

Drafts approved for wide circulation — Dimensions for pipe threads where pressure-tight joints are required on the threads (*third revision of IS : 554*). Knuckle screw threads: (a) Part 1 Thread profile and nominal deviations (*first revision of IS : 4695*), and (b) Part 2 Deviations and tolerances (*first revision of IS : 4695*). Tolerances for trapezoidal threads for lead and feed screws for assemblies.

EDC 85 SCOOTERS, MOTORCYCLES AND THEIR THREE-WHEELED DERIVATIVES 1085-03-15 • Faridabad 1985-03-15

Chairman Lt-Gen C. Sundara Rao
Karnataka Scooters Ltd
Bangalore

Drafts finalized for publication— Terms and definitions of: (a) Dimensions of motorcycles, (b) Dimensions of scooters, and (c) Weights of scooters and motorcycles.

Drafts approved for wide circulation— Method of measurement of fuel consumption of scooters and motorcycles on dynamometer. Specifications for: (a) Brake performance of scooters and motorcycles on dynamometer, and (b) Rear view mirrors for scooters and motorcycles.

New subjects— Adjusters for control cables, brake performance of three wheelers, method of noise test for motorcycles, spokes and nipples, and strength requirements for brake levers and pedals.

STRUCTURAL AND METALS DEPARTMENT

SMDC 11 COPPER AND COPPER New Delhi
ALLOYS 1985-03-12/13

Chairman Dr L. R. Vaidyanath
 Director
 Indian Copper Information
 Centre
 Calcutta

Drafts finalized for publication— Specifications for: (a) Copper and copper alloys forging stock and forgings (*first revision of IS : 6912*), (b) Copper tubes for general engineering purposes (*second revision of IS : 2501*), (c) Phosphor bronze ingots and castings (*fourth revision of IS : 28*), (d) Phosphor bronze rods and bars (*first revision of IS : 7811*),

and (e) Phosphor bronze sheet and strip (*first revision of IS : 7814*).

Drafts approved for wide circulation— Dimensions and tolerances for: (a) Wrought copper and copper alloys, sheet, strip and foil (for general engineering purposes) (*second revision of IS : 3052*); and (b) Wrought copper and copper alloys plate (*first revision of IS : 3051*). Dimensions for wrought copper and copper alloy rods and bars for general engineering purposes (*third revision of IS : 2826*). Glossary of terms for copper and copper alloys: (a) Part 1 Material, (b) Part 2 Cast form and castings, (c) Part 3 Wrought form, (d) Part 4 Processing, (e) Part 5 Heat treatment, (f) Part 6 Finishes, (g) Part 7 Dimensional surface and structural characteristics, and (h) Part 8 Packing. Specifications for: (a) Brass rods for general engineering purposes (*first revision of IS : 4170*); (b) Continuously cast and rolled electrolytic copper wire rods for electrical conductors; (c) Copper and brass strips and foils for radiator cores; (d) Copper sheets for photo process engravings (*first revision of IS : 3057*); (e) Copper sheet, strip and blanks for utensils and general purposes (*second revision of IS : 1550*); (f) Copper strip and foil for manufacture of copper and copper washers and eyelets (*first revision of IS : 3487*); (g) Free cutting copper bars, rods and sections (*first revision of IS : 8328*); (h) Naval brass rods and sections (suitable for machining and forging) (*third revision of IS : 291*); (j) Phosphor bronze wires for general engineering purposes (*first revision of IS : 7608*); (k) Rolled brass plate; (m) Shape, size and mass of ingots of copper and copper alloys; and (n) Silicon bronze ingots and castings (*second revision of IS : 1028*).

ISI BUYERS' GUIDE — Subjectwise Parts Available

Are you on the look out for information on products covered under the ISI Certification Marks Scheme? Or may be you would like to have a list of ISI licensees for a particular product? The relevant information can be obtained from the Buyers' Guide published by the Indian Standards Institution, listing names and addresses of ISI licensees for various products along with the period of validity of their licences. Information on deferred licences is also included in the Buyers' Guide.

Earlier brought out as a compact volume, the Buyers' Guide, just published, has been split into 18 independent parts, each covering licensees in one or more specific fields of manufacture. Of these, three parts are devoted to agricultural and food products separately covering licensees for pesticides and their formulations, agricultural implements and items other than those included in the above lists. Two parts cover licensees for civil engineering products, one including those for plywood tea-chests and the other for items other than those covered in this list. Electrotechnical products are also covered in two part cables and conductors together and all others in a separate list. Licensees for mechanical engineering items have been listed in three parts, separately covering diesel engines, pumps and products other than these. Structural and metals have been dealt with in two parts, namely, metal products and structural steel. Besides, individual lists have been published for licensees for chemical products; consumer products and medical instruments; electronics and telecommunication; cargo movement and packaging; petroleum, coal and related products; and textile products.

Copies of the Buyers' Guide can be had from ISI Headquarters at New Delhi and its Regional and Branch Offices at Bombay, Calcutta, Chandigarh, Madras, Ahmadabad, Bangalore, Bhopal, Bhubaneswar, Hyderabad, Jaipur, Kanpur, Patna and Trivandrum as also the Inspection Office at Pune.

CERTIFICATION MARKS

During January and February 1985, the Institution granted 277 new licences. Particulars of all these as well as additional varieties of products included in the existing licences and the licences cancelled/lapsed are given in the table which follows:

NEW LICENCES GRANTED

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1357652 1984-12-27	Lite Containers Private Limited, Plot No. B-56, Sipcot Industrial Estate, Gummidipoondi, Dist Chingleput	IS : 3196-1982
CM/L-1357753 1984-12-27	Lahoti Petroway Industries, Village Sahanpur, Haridwar Road, Dist Bijnor (Office: Achinit Niwas, Balakram Street, Najibabad 246763)	IS : 4654-1974
CM/L-1357854 1984-12-27	Sri Balaji Valves, 39-C, M. G. R. Salai, Palavakkam, Madras 600041	IS : 8737 (Part 2)- 1978
CM/L-1357955 1984-12-27	United Pesticides, Village Mandhaur, Ambala City 134001	IS : 1307-1982
CM/L-1358048 1984-12-28	Balmer Lawrie Company Ltd, UPSIDC Industrial Area, Site 'B', P.O. Mathura Refinery, Mathura 281005	IS : 2980-1979
CM/L-1358149 1984-12-28	Crop Health Products Pvt Ltd, D-31/1 Industrial Area, Meerut Road, Ghaziabad (Office: 7 Jantar Mantar Road, New Delhi)	IS : 2865-1978
CM/L-1358250 1984-12-28	do	IS : 8259-1976
CM/L-1358351 1984-12-27	Sangam Engineering Works, Plot No. 8, Cement Road, Near Ramjas School No. 2, Anand Parbat Industrial Area, New Rohtak Road, New Delhi 110005	IS : 9079-1979
CM/L-1358452 1984-12-27	Bharat Pesticides Manufacturing Company, E-17 DSIDC Industrial Complex, Rohtak Road, Nangloi, Delhi 110041	IS : 2865-1978
CM/L-1358553 1984-12-27	Indian Hume Pipe Company Ltd, Ras Behari Marg, Delhi 110035	IS : 458-1971
CM/L-1358654 1984-12-27	Prabha Electronics Ltd, 209 Industrial Area, Chandigarh 160002	IS : 8737 (Part 2)-1978
CM/L-1358755 1984-12-27	H. A. Industries, Porsa, Morena (MP)	IS : 9020-1979
CM/L-1358856 1984-12-27	Battamal Sumpat Ram Agarwal Jain, Etawah Road, Bhind (MP)	do
CM/L-1358957 1984-12-27	Hoechst India Limited, Lal Bahadur Shastri Marg, P. B. No. 7755, Mulund, Bombay 400080 (Office: Hoechst House, Nariman Point, 193 Backbay Reclamation, P.B. No. 11123, Bombay 400021)	IS : 8446-1977
CM/L-1359050 1984-12-27	Kamdhenu Pesticides, 50/51-A, Hadapsar Industrial Estate, Hadapsar, Pune 411013	IS : 2865-1978
CM/L-1359151 1984-12-27	New Chemi Industries Pvt Ltd, Chakravarti Ashok Cross Road, Kandivli East, Bombay 400101	IS : 5277-1978
CM/L-1359252 1984-12-27	Tata Chemicals Limited, Mithapur 361345, Okhamandal	IS : 7224-1973
CM/L-1359353 1984-12-27	Gopalkrishna Industries, 163 Patel Road, Coimbatore 641009	IS : 6595-1980
CM/L-1359454 1984-12-27	Lakshmi Narayana Industries, 286 Sathy Road, Gandhipuram, Coimbatore 641012	IS : 9079-1979

LICENCE No. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1359555 1984-12-27	P. V. S. Industries, 457/A Amaravathy Street, Bellary 583201 (Office: P. B. No. 33, Amaravathy Hospet, Bellary 583201)	IS : 8028-1976
CM/L-1359656 1984-12-27	Bangalore Pesticides Ltd, 16th km, Tumkur Road, Bangalore 560073 (Office: 170, 10th Main, 2nd Cross, Rajamahal Vilas Extension, Bangalore)	IS : 8708-1978
CM/L-1359757 1984-12-27	Engineers & Fabricators, No. 61 Whitefield Road, Bangalore 560066	IS : 1786-1979
CM/L-1359858 1984-12-27	Partap Steel Rolling Mills Limited, Industrial Area, Patancheru 502320, Dist Medak	IS : 2062-1980
CM/L-1359959 1984-12-27	Edible Chemical Industries, Plot No. 4, Road No. 3, I. D. A. Balanagar, Hyderabad 500037	IS : 5346-1975
CM/L-1360035 1984-12-27	Rama Durga Enterprises, Ramadurga Gardens, Madhuravada, Visakhapatnam 530019 (Office: 43-10-26, Venkataraju Nagar, Visakhapatnam 530016)	IS : 2681-1979
CM/L-1360136 1984-12-27	Sree Lakshmi Metal Industries, 166 Shastri Road, Rathinpuri, Coimbatore 641027	IS : 10 (Part 4)-1976
CM/L-1360237 1984-12-28	Moonlight Paint Industries, 11 East Mohan Nagar, Outside Sultanwind Gate, Amritsar	IS : 428-1969
CM/L-1360338 1984-12-28	Ravi Paint Industries (Regd), G. T. Road Chheharata 143105, Amritsar	do
CM/L-1360439 1984-12-31	Agro Chemicals, F-214-215, Road No. 10, V. K. I. Area, Jaipur	IS : 8074-1983
CM/L-1360540 1984-12-31	Gupta Chemicals (P) Ltd, B-144, Road No. 9, Vishwakarma Industrial Area, Jaipur 302013 (Office: 1st Floor, Bukhmaria Bldg, Opp Shriji ki Mori, Tripolia Bazar, Jaipur 302013)	IS : 8074-1983
CM/L-1360641 1984-12-31	Shree Mahavir Ispat Ltd, Plot No. F-5, MIDC Industrial Area, Village Tarapur, Boisar, Dist Thane (Office: 42-A Mittal Tower, Nariman Point, Bombay 400021)	IS : 6914-1978
CM/L-1360742 1985-01-03	Durga Engg Company, 22/2 Deshpuran, Sashmal Road, Howrah 711001	IS : 780-1980
CM/L-1360843 1985-01-03	Tirupati Veneer & Plywood Industries, Kamalabari, Malda (Office: Rabindra Avenue, Malda)	IS : 10 (Part 2)-1976
CM/L-1360944 1985-01-03	Maharashtra Agro Industries Development Corporation Ltd (Pesticides Formulation Plant), Plot No. C-4, MIDC Area, Shivani, Akola (Office: Rajan House, 3rd Floor, Prabhadevi, Bombay 400025)	IS : 1507-1977
CM/L-1361037 1985-01-03	Glolite Electricals, Anjirwadi Champs, Bhimji Road, Mazagaon, Bombay 400010	IS : 5142-1969
CM/L-1361138 1985-01-03	Manju Chemicals, Plot No. 4, Srinivasa Avenue, South Extension, Kumaraswamy Nagar, Villivakkam, Madras 600049	IS : 5346-1975
CM/L-1361239 1985-01-03	Hanuman Iron Foundry, Site No. 1, Industrial Town, Rajajinagar, Bangalore 560010	IS : 1538-1982
CM/L-1361340 1985-01-03	S. K. Insulated Cable Mfg, 178 G. T. Road, Sahibabad, Dist Ghaziabad (UP)	IS : 5950-1971
CM/L-1361441 1985-01-03	B. L. Industries, F-218, Road No. 10, V. K. I. Area, Jaipur 302013 (Office: Indraprastha Bhawan, Chandpole Bazar, Jaipur 302001)	IS : 2865-1978
CM/L-1361542 1985-01-03	Shastri Paint Industries, G. T. Road, Chheharata, Amritsar	IS : 428-1969
CM/L-1361643 1985-01-03	Dhruv Pesticides, 11-B, Sector D, Industrial Area, Govindpura, Bhopal (Office: 15 Habib Manzil, Road No. 1, Idgah Hills, Bhopal)	IS : 562-1972
CM/L-1361744 1985-01-04	Madarihath Veneer Industries, Post Madarihath, Dist Jalpaiguri (Office: 9 Clive Row, Calcutta)	IS : 10 (Part 2)-1976
CM/L-1361845 1985-01-04	Orichem Limited (A joint sector undertaking with IDCOL), P. O. South Balanda, Talchar 759116, Dist Dhenkanal (Orissa) (Office: 74 Ashok Nagar, Unit II, Bhubaneswar 751009)	IS : 249-1979
CM/L-1361946 1985-01-04	Kamdhenu Pesticides, 50/51A, Hadapsar Industrial Estate, Hadapsar, Pune 411013 (Office: Krishi Bhavan, 1379 Bhawani Peth, Pune 411002)	IS : 1507-1977

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CM/L-1362039 1985-01-04	Suraksha Chemicals & Engineers, Jai Motors Compound, Eastern Express Highway, Thane 400601 (Office: 290/A/10, Anand Nagar, Bombay 400037)	IS : 3901-1975
CM/L-1362140 1985-01-04	Sabar Cables Pvt Ltd, Opp Sahakari Gin, National Highway No. 8, Himatnagar (SK), Dist Sabarkantha (Gujarat)	IS : 694-1977
CM/L-1362241 1985-01-04	Vijayeswari Textiles Ltd, Puliampatti, Pollachi 642002	IS : 171-1973
CM/L-1362342 1985-01-04	Kappa Electricals, 11 Mount Road, Saidapet, Madras 600015	IS : 2705 (Part 4)-1968
CM/L-1362443 1985-01-04	Raja Shree Cements (A Division of the Indian Rayon Corporation Limited), Adityanagar, Malkhed, Dist Gulbarga (Office: 45 Race Course Road, Bangalore 560001)	IS : 1489-1976
CM/L-1362544 1985-01-04	Industrial Organic Corporation, MIDC, A/124, Phase I, Dombivli, Dist Thane (Office: 9/111 Rambha Apartments, Khokhani Lane, Ghatkopar East, Bombay 400077)	IS : 6031-1971
CM/L-1362645 1985-01-08	Swadeshi Enterprises & Chemical Industries, 111/108A, Pokharpur, Kanpur (Office: 26/50 Birhana Road, Kanpur)	IS : 3903-1975
CM/L-1362746 1985-01-08	Khalsa Engineering Works, Preet Nagar, Jalandhar 144004	IS : 780-1980
CM/L-1362847 1985-01-08	Archana Metals Pvt Ltd, Modern Industrial Estate, Bahadurgarh 124507 (Haryana) (Office: 1488, Pataudi House, Daryaganj, New Delhi 110002)	IS : 319-1974
CM/L-1362948 1985-01-08	Indra Marshall Oil Engines, 12-B/13 A, Industrial Area, Sector A, Sanwer Road, Indore 420003 (MP)	IS : 9020-1979
CM/L-1363041 1985-01-08	Patni Brothers Pvt Ltd, Village Navdapanth, Dhar Road, Indore (Office: 22/1 Snehlataganj, Indore 452003)	IS : 1592-1980
CM/L-1363142 1985-01-08	Jayson Industries, 360-361 Industrial Area, Chandigarh	IS : 8931-1978
CM/L-1363243 1985-01-08	Kishan Agro Industries, Exhibition Road, Bharatpur 321001	IS : 9020-1979
CM/L-1363344 1985-01-08	Hillmaster Engineering Works, Bela, P.O. M.I.C., Dist Muzaffarpur (Bihar) (Office: Jai Bhawan, S. P. Verma Road, Patna 800001)	IS : 1135-1973
CM/L-1363445 1985-01-08	Begees Foods Pvt Ltd, 616 Kandli-Bylahalli Road, Village Handinakere, P. O. Kandli, Taluk Hassan, (Office: 3531, Gandhi Bazar, Hassan 573201)	IS : 1011-1981
CM/L-1363546 1985-01-08	A. K. Corporation Limited, Malkapuram, Visakhapatnam 530011 (Office: 93 Park Street, Calcutta 700016)	IS : 226-1975
CM/L-1363647 1985-01-08	Varuna Paints (P) Ltd, API/217, Aroor 688534, Dist Alleppey (Office: Koithra Building, XXV/397-7, M.G. Road, Cochin 682016)	IS : 104-1979
CM/L-1363748 1985-01-08	Jyoti Electric Motors Limited, National Highway No. 8, Mogar 388340	IS : 7538-1975
CM/L-1363849 1985-01-08	Padgilwar Agro Industries, 192 Wardhaman Nagar, Nagpur 440008	IS : 9020-1979
CM/L-1363950 1985-01-08	Sharda Industries & Engineering Works (P) Limited T/1/1 MIDC Industrial Area, Hingna Road, Nagpur 440028 (Office: Kamptee Road, Nagpur 440026)	IS : 1786-1979
CM/L-1364043 1985-01-09	Hastings Mill (Jute Division of Shree Digvijay Cement Company Limited), Rishra 712248 Dist Hooghly (Office: 14 Netaji Subhas Road, Calcutta 700001)	IS : 2580-1982
CM/L-1364144 1985-01-09	East India Paper Products, 36 Buro Shibtala Main Road, Calcutta 700038	IS : 10212 (Part 1)-1982
CM/L-1364245 1985-01-09	Moneeto Plast Fab Pvt Ltd, Pannalal Silk Mills Estate, L.B. Shastri Marg, Bhandup, Bombay 400078)	IS : 7903-1976
CM/L-1364346 1985-01-09	Mohatta & Hackel Limited, Khopli 410203	IS : 3975-1975

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CM/L-1364447 1985-01-09	Asian Plastics, Plot No. 70, Behind 'Tack Machinery', MIDC, Ambernath 421501	IS : 2509-1973
CM/L-1364548 1985-01-09	Spartan Electricals, Mathuradas Mills Compound, N. M. Joshi Marg, Lower Parel, Bombay 400013	IS : 996-1979
CM/L-1364649 1985-01-09	Patni Brothers (P) Ltd, Village Navda Panth, Dhar Road, Indore (Office: 22/1 Snehlalaganj, Indore 452003)	IS : 9627-1980
CM/L-1364750 1985-01-09	Advani Oerlikon Ltd, Raipur Industrial Estate, Bilaspur Road, Raipur (MP)	IS : 814 (Part 2)-1974
CM/L-1364851 1985-01-08	Dalhousie Jute Company Ltd, Champdany, P.O. Baidyabati, Dist Hooghly (WB) (Office: 42A Shakespeare Sarani, Calcutta 700017)	IS : 1943-1964
CM/L-1364952 1985-01-08	Eastern Chemical Industries, Taki Road, Bamanmura, P.O. Badu, Dist 24 Parganas (Office: Jessore Road, Madhyamgram)	IS : 1308-1974
CM/L-1365045 1985-01-08	Jeetosh Industries, 552/B-II Books Market, Ludhiana 141008 (Office: 558 Lakkur Bazar, Ludhiana 141008)	IS : 1221-1971
CM/L-1365146 1985-01-08	Welman Industrial Corporation, Welman Street, Books Market, Ludhiana 141008	IS : 4175-1981
CM/L-1365247 1985-01-10	Delux Foundry, 425 Patel Road, Coimbatore 641009	IS : 7538-1975
CM/L-1365348 1985-01-10	Sarvouttam Cement, Nos. 433/434, Village-Vav, Taluka Kheralu, Dist Mehsana (Office: 5/B, Maskati Market, Ahmadabad 380002)	IS : 269-1976
CM/L-1365449 1985-01-10	The Rajasthan Industrial Corporation, Mahapura Industrial Complex, Village Mahapura, Tehsil Sanganer, Dist Jaipur (Office: A-3 Civil Lines, Jaipur)	IS : 4985-1981
CM/L-1365550 1985-01-10	Steel & Metal Tubes (India) Limited, 22nd Mile, Delhi-Hapur Road, P.O. Jindal Nagar, Ghaziabad (Office: 15/1 Asaf Ali Road, New Delhi 110002)	IS : 7138-1973
CM/L-1365651 1985-01-11	Eltee Enterprises, 28 Suryodeya Estate, Tardeo, Bombay 400034 (Office: Shalimar Hardware, 133 Jer Mehal, Dhobi Talao, Bombay 400002)	IS : 205-1978
CM/L-1365752 1985-01-11	Nagpur Motors Pvt Ltd, D-76 MIDC, Nagpur 440028	IS : 7538-1975
CM/L-1365853 1985-01-11	Suyog Electricals Private Limited, 2205 GIDC Estate, Halol	IS : 1554 (Part 1)-1976
CM/L-1365954 1985-01-11	B. Hazra & Company, Shanpur, Sibtoia, Dasnagar, Howrah 711105	IS : 780-1980
CM/L-1366047 1985-01-11	Utkal Pesticides & Chemicals, Jagannathpur, Dist Ganjam (Orissa) (Office: Station Road, Berhampur 760005)	IS : 5281-1979
CM/L-1366148 1985-01-14	Bashasar Lal Suresh Kumar, 491 Bakhtawarpur Road, Village Burari, Delhi 110009 (Office: 522 Lahori Gate, Naya Bazar, Delhi 110006)	IS : 4654-1974
CM/L-1366249 1985-01-14	Heema Pesticides, Bijrol Road (Near Railway Crossing), Baraut, Dist Meerut	IS : 2568-1978
CM/L-1366350 1985-01-14	Sapna Foam Udyog, 39-B Industrial Estate, Mehrauli Road, Gurgaon 122001 (Haryana)	IS : 1741-1960
CM/L-1366451 1985-01-14	Atul Engineering Udyog, Opposite Check Post, Nunhai, Agra 282006	IS : 10001-1981
CM/L-1366552 1985-01-14	Jeetosh Industries, 552/B-II Books Market, Ludhiana 141038 (Office: 558 Lakkur Bazar, Ludhiana 141008)	IS : 2257-1981
CM/L-1366653 1985-01-14	Dental Products of India Limited, Lal Bahadur Shastri Marg, Manpada, Thane (Office: 9 Wallace Street, Bombay 400001)	IS : 6887-1973
CM/L-1366754 1985-01-14	Sharda Industries & Engineering Works (P) Ltd, T/1/1 MIDC Industrial Area, Hingna Road, Nagpur 440028 (Office: Kamptee Road, Nagpur 440026)	IS : 226-1975
CM/L-1366855 1985-01-14	BASF India Ltd, Plot No. 12, Trans-Thane Creek Area, Turbhe, Thane-Belapur Road, Thane 400613 (Office: Maybaker House, Sudam Kalu Ahire Marg, P.O. Box No. 19108 Bombay 400025)	IS : 8962-1978

LICENCE No. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1366956 1985-01-14	Anchor Enterprises, Kailash Road, Bulsar 396001	IS : 3854-1966
CM/L-1367049 1985-01-14	Anchor Enterprises, Kailash Road, Bulsar 396001	IS : 1293-1965
CM/L-1367150 1985-01-14	Gopalkrishna Industries, 163 Patel Road, Coimbatore 641009	IS : 9079-1979
CM/L-1367251 1985-01-14	Rathika Engineering Industries, 2-A K. R. Puram Road, Ganapathy, P.O. Coimbatore 641006	IS : 6595-1980
CM/L-1367352 1985-01-14	Electro-Mech Corporation, D-95 Industrial Estate, Rajajinagar, Bangalore 560044	IS : 2980-1979
CM/L-1367453 1985-01-14	Gem Cables & Conductors Limited, Village Chitkul, Pattancheru, Dist Medak	IS : 1554 (Part 1)-1976
CM/L-1367554 1985-01-15	Hilton Rubbers Ltd, Rai, Dist Sonepat (Office: Hilton House, S-23 Green Park Extension, New Delhi 110026)	IS : 1891 (Part 2)-1978
CM/L-1367655 1985-01-15	B. D. Khaitan & Company, Mainagarh, P. O. Raipur, Via Maheshtala, Dist 24 Parganas (Office: 23A Netaji Subhas Road, Calcutta 700001)	IS : 8944-1978
CM/L-1367756 1985-01-15	Allied Anodizers, 25 Radha Madhav Dutta Garden Lane, Calcutta 700010	IS : 208-1979
CM/L-1367857 1985-01-15	Allied Anodizers, 25 Radha Madhav Dutta Garden Lane, Calcutta 700010	IS : 2681-1979
CM/L-1367958 1985-01-15	Fort Gloster Industries Limited (New Mill), P.O. Fort Gloster 711310, Dist Howrah (Office: 21 Strand Road, Calcutta 700001)	IS : 2580-1982
CM/L-1368051 1985-02-01	Jalan Iron & Steel Works, A.T. Road, Dispur, Gauhati 781005 (Office: Strand Road, Gauhati 781001)	IS : 226-1975
CM/L-1368152 1985-01-15	Burhabi Bucket Mfg Co, 10 Beck Bagan Row, Calcutta 700017	IS : 1015-1956
CM/L-1368253 1985-01-15	C. D. Iron Industries, 12 Kumar Para Road, Liluah, Howrah (Office: 2 Height Road, Liluah, Howrah)	IS : 7181-1974
CM/L-1368354 1985-01-15	Holroyd Engineering Corporation, Baltikuri Bakultala, Howrah 711402	IS : 6595-1980
CM/L-1368455 1985-01-15	Oriental Industrial Works, 124 B.T. Road, Calcutta 700035 (Office: 8 A Chaitan Sen Lane, Calcutta 700012)	IS : 2980-1979
CM/L-1368556 1985-01-15	Anchor Enterprises, Kailash Road, Bulsar 396001	IS : 4615-1968
CM/L-1368657 1985-01-15	Premier Industries, Near Octroi, Gondal Road, Rajkot 360004	IS : 10001-1981
CM/L-1368758 1985-01-15	Sudhir Switchgears Pvt Ltd, 8 Bharat Industrial Estate, Tokeshi Jivadas Road, Sewari, Bombay 400015	IS : 2148-1968
CM/L-1368859 1985-01-15	Proton Electro Motors, 68 MIDC Industrial Area, Chikalhana, Aurangabad 431210	IS : 325-1978
CM/L-1368960 1985-01-15	Vidyut Metallics Limited, Bombay-Agra Road, P.O. Wagle Industrial Estate, Thane 400604	IS : 2594-1977
CM/L-1369053 1985-01-15	Vinyl Cable Industries, F 17 Industrial Estate, Ambattur, Madras 600058	IS : 5950-1971
CM/L-1369154 1985-01-16	Sree Balaji Industries, Ichapur Road (Canal Side), P.O. Santragachi, Dist Howrah (Office: 32 Ezra Street, Suit No. 503, 5th Floor, Calcutta 700001)	IS : 780-1980
CM/L-1369255 1985-01-18	Sunflame Industries Pvt Ltd, Plot No. 58, Shed No. 2, Sector 27 C, 12/6 Mathura Road, P.O. Amarnagar, Faridabad 121003 (Office: Plot No. 58, Sector 27 C, 12/6 Mathura Road, P.O. Amarnagar, Faridabad 121003)	IS : 4246-1964
CM/L-1369356 1985-01-18	Food Specialities Ltd, Ludhiana-Ferozepur Road, Near Kingwaha Canal, Moga 142001 (Punjab) (Office: M-5A Connaught Circus, New Delhi 110001)	IS : 3309-1975
CM/L-1369457 1985-01-18	SMP Private Limited, Paduqpadu, Taluq Kovir, Nellore (AP) (Office: 16/609 Brindavanam, Nellore 524001)	IS : 8028-1976

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1369558 1985-01-18	The Chemico Products, Makardah Andul Road, Kestarampur, Makardah, Howrah (Office: Tosh House, P-32 and 33, India Exchange Place, Calcutta 700001)	IS : 4323-1980
CM/L-1369659 1985-01-18	Sri Ram Cosmetics, 35 Police Station Street, Korkadu, Mangalam Post, Pondicherry 605110	IS : 7884-1978
CM/L-1369760 1985-01-18	Rajendra Culture Products, Shed No. C/4, Large Industrial Area, Bela, P. O. R. K. Ashram, Muzaffarpur 843116	IS : 9138-1979
CM/L-1369861 1985-01-18	Superweld Limited, Shed No. 19 & 20, Industrial Estate, Kalunga 770031 (Office: VIVEK, H-7 Civil Township, Rourkela 769004)	IS : 814 (Part 1)-1974
CM/L-1369962 1985-01-18	Zenith Steel Pipes & Industries Limited, Khopoli, Dist Raigad (Office: Moti Mahal, 195 Churchgate Reclamation, Bombay 400020)	IS : 4923-1968
CM/L-1370038 1985-01-25	Parthasarathy Cements & Industries Limited, Narasimhapuri, Post Karampudi, Taluk Guruzala, Dist Guntur	IS : 269-1976
CM/L-1370139 1985-01-25	Vaishnu Cable Company, B-42 Mayapuri Industrial Area, Phase II, New Delhi 110064	IS : 1596-1977
CM/L-1370240 1985-01-29	Asian Industries, 88 Chetla Road, Calcutta 700053	IS : 4810-1968
CM/L-1370341 1985-01-29	Balaji Industries & Engineering Corporation, Road No. 3, Satelite Industrial Estate, Balanagar, Hyderabad 500037 (Office: 4-3-74, Hill Street, Ghasmandi, Secunderabad 500003)	IS : 9301-1982
CM/L-1370442 1985-01-29	Gujarat Krishichem Corporation, C-5/185 GIDC, Vapi, Dist Bulsar	IS : 5277-1978
CM/L-1370543 1985-01-29	Ashkin Fabs, F 9-1DA, Nacharam Ranga Reddy, Hyderabad 501507 (Office: 130 West Marredpally, Secunderabad 500026)	IS : 8737 (Part 2)-1978
CM/L-1370644 1985-01-29	Trans Valves (India) Private Limited, 15-B Sri Venkateswara Cooperative Industrial Estate, IDA, Jeedimetla, Hyderabad 500855 (Office: 68 Paigah Colony, S. P. Road, Secunderabad 500063)	do
CM/L-1370745 1985-01-29	Guest Keen Williams Limited (GKW Bolt and Nut Division), 97 Andul Road, Howrah 711103	IS : 6639-1972
CM/L-1370846 1985-01-29	Pranab & Company Pvt Ltd, 68 Debendra Chandra Dey Road, Calcutta 700015	IS : 774-1971
CM/L-1370947 1985-01-29	Utkal Agro Industries, O. T. Road, Balasore, 756001 (Orissa)	IS : 4984-1978
CM/L-1371040 1985-01-29	J. H. Aluminium Pvt Ltd, A-15 & B-16 Industrial Estate, Kodugaiyur, Madras 600051 (Office: 195 Asappa Chetty Street, Madras 600003)	IS : 204 (Part 2)-1978
CM/L-1371141 1985-01-29	do	IS : 208-1979
CM/L-1371242 1985-01-29	Kanta Pipes (India), B/12 New Industrial Estate, Phase II, Jagatpur, Cuttack 754021	IS : 4985-1981
CM/L-1371343 1985-01-29	Aravali Cylinders Pvt Limited, Plot No. SP-499, Industrial Area, Bhiwadi (Office: 2527, Outside Turakman Gate, Behind Mother Dairy Booth, Delhi 110006)	IS : 3196-1982
CM/L-1371444 1985-01-29	Balaji Industrial and Agricultural Castings, 16 Industrial Development Area, Balanagar, Hyderabad 500037 (Office: 4-3-140, Hill Street, Ghasmandi, P. B. No. 1634, Secunderabad 500003)	IS : 9301-1982
CM/L-1371545 1985-01-29	Sekhar Tubes Pvt Ltd, 13.5 Miles, Meerut Road, Ghaziabad 201003 (Office: 56 Chowringhee Road, Calcutta 700071)	IS : 3601-1966
CM/L-1371646 1985-01-29	Crescent Cables Limited, B-32, Site No. 1, Bulandshahr Road, Industrial Area, Ghaziabad	IS : 398 (Part 1)-1976
CM/L-1371747 1985-02-04	United Pesticides, Village Mandhaur, Ambala City 134007	IS : 561-1978
CM/L-1371848 1985-02-04	do	IS : 2569-1978
CM/L-1371949 1985-02-04	do	IS : 8074-1983

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CM/L-1372042 1985-02-04	United Pesticides, Village Mandhaur, Ambala City 134007	IS : 9356-1980
CM/L-1372143 1985-02-04	do	IS : 562-1978
CM/L-1372244 1985-02-04	NICCO Orissa Limited, Hamilton Garden, Post Box 27, Baripada 757001, Dist Mayurbhanj	IS : 7098 (Part 2)-1973
CM/L-1372345 1985-02-05	Modi Banaspati Mfg Company, Modi Nagar 201204, Dist Ghaziabad	IS : 10325-1982
CM/L-1372446 1985-02-05	Foot form, 30 Banerjee Para Road, Sarsuna, Calcutta 700061	IS : 7329-1974
CM/L-1372547 1985-02-05	Blue Crystal Corporation, Plot No. 26-A, Veerasandra, Taluk Anekal, Dist Bangalore (Office: Jeejamahal Buildings, Temple Street, Kumarapark West, Bangalore 566020)	IS : 261-1982
CM/L-1372648 1985-02-05	Nava Karnataka Steels Limited, Village Bisilahalli, Anantapur Road, Dist Bellary	IS : 1786-1979
CM/L-1372749 1985-02-05	J. H. Aluminium Pvt Ltd, A-15 & B-16 Industrial Estate, Kodungaiyur, Madras 600051 (Office: 195 Rasapachetty Street, Madras 600003)	IS : 2681-1979
CM/L-1372850 1985-02-05	Jaya Engineering Works, 8 Industrial Area, Satna 485001 (MP)	IS : 9020-1979
CM/L-1372951 1985-02-05	Crescent Cables Limited, B-32, Site No. 1, Bulandshahr Road, Industrial Area, Ghaziabad	IS : 398 (Part 2)-1976
CM/L-1373044 1985-02-05	Mini Motors (India), Z-60 Okhla Industrial Area, New Delhi 110020	IS : 2312-1967
CM/L-1373145 1985-02-05	STP Ltd, Kosi Kalan, Dist Mathura (UP) (Office: E-1 Connaught Place, New Delhi 110001)	IS : 1322-1970
CM/L-1373246 1985-02-05	K. K. Rubber Company (India) Pvt Ltd, Samepur Badli, Delhi 110042	IS : 1370-1976
CM/L-1373347 1985-02-05	Phoel Industries, S-7 Badli Industrial Estate, Delhi 110042 (Office: C-4/4A Model Town, Delhi)	IS : 4984-1978
CM/L-1373448 1985-02-05	Netco Cable Industries, 11/1-B Okhla Industrial Area, Phase II, New Delhi 110020	IS : 5950-1971
CM/L-1373549 1985-02-05	Prakash Tubes Ltd, Prakash Nagar, Bahadurgarh 124507 (Haryana) (Office: Padma Towers, Rajendra Place, New Delhi 110008)	IS : 9295-1983
CM/L-1373650 1985-02-05	Swastik Industrial Corporation, Sector 26, Rohtak Road, Bhiwani (Haryana)	IS : 398 (Part 1)-1976
CM/L-1373751 1985-02-05	Victor Cables Corporation, 185 G. T. Road, Sahibabad, Dist Ghaziabad (UP)	IS : 9857-1981
CM/L-1373852 1985-02-05	SGN Cable Industries, E-58, Phase VII, Mohali	IS : 1554 (Part 1)-1976
CM/L-1373953 1985-02-05	Swastik Industrial Corporation, Sector 26, Rohtak Road, Bhiwani (Haryana)	IS : 398 (Part 2)-1976
CM/L-1374046 1985-02-12	G.F.R. & Company Pvt Ltd, D-12/1 Okhla Industrial Area, Phase II, New Delhi 110020	IS : 694-1977
CM/L-1374147 1985-02-12	Nanda Manufacturing Company, C-3 Industrial Focal Points, Jalandhar City	IS : 1879 (Parts 1,2,3,6 & 10)-1975
CM/L-1374248 1985-02-12	Indus Laminators, F/22-23 Panki Industrial Estate, Site II, Kanpur 208022 (UP) (Office: 'Matra-Chaya', Basant Vihar, Kanpur 208021)	IS : 7406 (Part 2)-1980
CM/L-1374349 1985-02-12	do	IS : 7406 (Part 1)-1980
CM/L-1374450 1985-02-12	Gee Dee Chemicals & Industries, Ghasi Ram Building, Khasra No. 86, Village & P.O. Pehladpur, Delhi 110042	IS : 4654-1974
CM/L-1374551 1985-02-12	Continental Refineries, 46 Rajender Nagar, Industrial Area, Mohan Nagar, Dist Ghaziabad	do
CM/L-1374652 1985-02-12	Hindustan Pulverising Mills, Village Bakoli, G.T. Karnal Road, Delhi 110036 (Office: 278 Katra Peran, Tilak Bazar, Post Box 2006, Delhi 110006)	IS : 8074-1983
CM/L-1374753 1985-02-12	Ganges Tin Works, 365 Harrisganj, Kanpur 208004	IS : 10325-1982
CM/L-1374854 1985-02-12	Gajjar Steel Industries Pvt Ltd, Near Manchha's Masjid, Amber Cinema, Bapunagar, Ahmadabad 380024 (Office: 1680, Near Sevaka's Wadi, Khadia Ahmadabad 380001)	IS : 8794-1978

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CM/L-1374955 1985-02-12	Parui Brothers, 19/5 Shree Kissan Vakant Lane, Howrah 711101 (Office: 220 Bekilius Road, Howrah 711101)	IS : 780-1980
CM/L-1375048 1985-02-12	B. S. Y. Engineering Works, G. T. Road, Phagwara	IS : 5455-1969
CM/L-1375149 1985-02-12	Khalsa Refineries, Jiwan Road, New Janta Nagar, Ludhiana	IS : 4654-1974
CM/L-1375250 1985-02-12	Gujarat Krishi Chem, C-5/185 GIDC, Vapi (Gujarat)	IS : 9359-1980
CM/L-1375351 1985-02-12	Satish Plastic Industries, M-66-72, Kattendan Industrial Complex, Hyderabad 500252 (Office: 23-5-433/1 Shah Ali Bauda, Hyderabad 500265)	IS : 4984-1978
CM/L-1375452 1985-02-14	ARC Cement Limited, Gunial Gaon, P. O. Sinola, Dehra Dun (UP)	IS : 1489-1976
CM/L-1375553 1985-02-14	Sultanpur Spun Pipe Industries, Said Khanpur, Kurebhar, Sultanpur (Office: Darshan Nagar, Faizabad)	IS : 458-1971
CM/L-1375654 1985-02-14	Indo Asian Fusegear Pvt Limited, 51 km, G. T. Road, Murthal, Dist Sonapat (Haryana)	IS : 2208-1962
CM/L-1375755 1985-02-14	Hindustan Pulverising Mills, Village Bakoli, G. T. Karnal Road, Delhi 110036 (Office: 278 Katra Peran, Tilak Bazar, Post Box 2006, Delhi 110006)	IS : 8028-1976
CM/L-1375856 1985-02-14	do	IS : 2865-1978
CM/L-1375957 1985-02-14	Jalandhar Refineries, Village Saprur, G. T. Road, Phagwara 144401, Dist Kapurthala (Punjab)	IS : 4654-1974
CM/L-1376050 1985-02-14	Rita Mechanical Works, 416 Industrial Area-A, Ludhiana 141003 (Punjab)	IS : 1610-1981
CM/L-1376151 1985-02-14	Autofield Engrs Pvt Ltd, Sahajpurwadi Nandur, Dist Pune (Office: B-5, Sushila Apartments, Nal Stop, Karve Road, Pune 411004)	IS : 810-1974
CM/L-1376252 1985-02-14	Varsha Agro Plast Pvt Limited, Gat No. 1489/2, Chakkan, Taluk Rajgurunagar, Dist Pune (Office: 602, Raviwar Peth, Pune 411002)	IS : 4985-1981
CM/L-1376353 1985-02-14	Click-Chem Industries, 11-F Beach Road, Cuddalore 607001 (Tamil Nadu)	IS : 8180-1982
CM/L-1376454 1985-02-14	Welman Industrial Corporation, Welman Street, Books Market, Ludhiana 141008	IS : 1221-1971
CM/L-1376555 1985-02-14	Asha Candle Industries, Plot No. 28, Phase III, Industrial Estate Extension, Gangyal, Jammu Tawi	IS : 4654-1974
CM/L-1376656 1985-02-14	Baheti Agro Products, 38/2, G.N.T. Market, Indore 452002 (Office: 81-84 Sastri Market, Indore 452007)	IS : 9020-1979
CM/L-1376757 1985-02-14	Union Pesticides, Shri Ram Nagar, Vidisha (MP)	IS : 2865-1978
CM/L-1376858 1985-02-14	Bharat Insecticides, 10 km Delhi Road, Opp Partapur, Rly Station Partapur, Meerut (Office: 118 Thaper Nagar, Meerut 250001)	IS : 561-1978
CM/L-1376959 1985-02-14	Perfect Sanitary Wares, Industrial Area, Post Box No. 10, Ratlam 457001	IS : 651-1980
CM/L-1377052 1985-02-14	Utkal Agro Industries, O. T. Road, Balasore 756001 (Orissa)	IS : 4985-1981
CM/L-1377153 1985-02-14	Agarwal Cement & Chemicals (P) Ltd, Gotan 342902, Dist Nagaur	IS : 269-1976
CM/L-1377254 1985-02-14	Shri Durga Cement Company Limited, Mini Cement Plant, Village Hesla, P. O. Marar, Dist Hazaribagh (Bihar) (Office: P. B. No. 6, Ramgarh Cantt 829122)	IS : 455-1976
CM/L-1377355 1985-02-14	Shivmoni Steel Tubes Limited, 16th km stone, Bangalore-Whitfield Road, Bangalore 560048 (Office: 'Pushpak', P.H. No. 2556, No. 2/4, First Floor, Ashley Road, Off Brunton Road, Bangalore)	IS : 7138-1973
CM/L-1377456 1985-02-14	Orissa Plastics, O.T. Road, Balasore 756001 (Orissa)	IS : 4985-1981
CM/L-1377557 1985-02-14	Kutch Cement Pvt Ltd, Near Tal Nakhana, Dist Kutch (Gujarat) (Office: Screen Building, Sun-set- Drive-in-Cinema, Thaltej Road, Ahmadabad)	IS : 269-1976

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CM/L-1377658 1985-02-14	Kosan Metal Products Pvt Ltd, Opp Surat Certified School, Gotlwadi, Katargam, Surat 395004 (Office: Bombay Food Premises, Katargam Surat 395004)	IS : 9798-1981
CM/L-1377759 1985-02-14	L. P. Gas Equipment Pvt Ltd, 1 A/1, GIDC Industrial Estate, P. O. Narmada Nagar, Bharuch 392015 (Office: 53-57 Laxmi Insurance Building, Sir P. M. Road, Bombay 400001)	do
CM/L-1377860 1985-02-14	Triveni Associates, Village Gota, Taluka Daskroi, Dist Ahmadabad	IS : 269-1976
CM/L-1377961 1985-02-14	Zenith Corporation, 204 New Gandhi Nagar, Ghaziabad 201001 (UP)	IS : 4246-1984
CM/L-1378054 1985-02-14	Deepak Cements & Chemicals Pvt Ltd, Plot No. 2, GIDC Industrial Estate, Nagar Road, Bhuj, Dist Kutch (Gujarat)	IS : 269-1976
CM/L-1378155 1985-02-14	Alampally Brothers Ltd, Manalimukku, Kuzhipattupara, Naval Armament Depot, P. O. Alwaye 683563 (Office: VII/165 B, Temple Road, P. B. No. 63, Alwaye 683101)	IS : 3196-1982
CM/L-1378256 1985-02-14	Tracto Auto Industries (P) Limited, 12 P & T, Factory Area, Kanpur 208012 (Office: 118/330, Kaushalपुरi, Kanpur)	IS : 10325-1982
CM/L-1378357 1985-02-14	Garware Wall Ropes Ltd, Plot No. 11, Block D-1, MIDC, Chinchwad, Pune 411019 (Office: Chowpatty Chambers, Sandhurst Bridge, Bombay 400007)	IS : 5175-1982
CM/L-1378458 1985-02-14	Equipment de-Chandigarh, 181/17 Industrial Area, Chandigarh 160002	IS : 5022-1979
CM/L-1378559 1985-02-14	Industrial Oxygen Company Pvt Ltd, G. T. Road, Mandi Gobindgarh 147301	IS : 7682-1975
CM/L-1378660 1985-02-14	Deepak Hume Pipe Manufacturing Company, Kunsarwa, Nautanwa, Dist Gorakhpur (Office: Chauri Chaura, Gorakhpur)	IS : 458-1971
CM/L-1378761 1985-02-14	Dairy Trading Corporation, 34/5 Village Valiv, Vasai-Vajreshwary Road, Taluka Vasai, Dist Thane (Office: 402 Navjivan Building, 125/127, Kazi Sayed Street, Bombay 400003)	IS : 2089-1977
CM/L-1378862 1985-02-14	Heema Pesticides, Bijrol Road, Near Railway Crossing, Baraut, Dist Meerut	IS : 2569-1978
CM/L-1378963 1985-02-14	Welman, Industrial Corporation, Welman Street, Books Market, Ludhiana 141008	IS : 220-1972
CM/L-1379056 1985-02-14	Eastern Mfg Company Ltd, 1 Ali Hyder Road, P. O. Titagarh, Dist 24 Parganas (WB)	IS : 2580-1982
CM/L-1379157 1985-02-14	Agro Pesticides, 10 Industrial Estate, Itarsi	IS : 8960-1978
CM/L-1379258 1985-02-14	Kanknarrah Company Ltd, 1 Clark Ghat Road, Kanknarrah, Dist 24 Parganas (WB) (Office: 4 Clive Row, Calcutta 700001)	IS : 2580-1982
CM/L-1379359 1985-02-14	Nand Kishore Khanna & Sons, Plot No. B-9, MIDC Main Road, Marol, Andheri, Bombay 400093 (Office: 102 Arun Chambers, 1st Floor, Tardeo Road, Bombay 400034)	IS : 7532-1974
CM/L-1379460 1985-02-14	Sreeji Petro Products, Jhanakpura Road, P. O. Barakar, Dist Burdwan (WB)	IS : 1628-1971
CM/L-1379561 1985-02-14	K. V. Cables, Village Deori-Khurd, Torwa, Bilaspur (MP)	IS : 398 (Part 1)-1976
CM/L-1379662 1985-02-14	Sarbamangala Industries, 34 B, B. T. Road, Calcutta 700002 [Office: 31 College Street (2nd Floor), Calcutta 700073]	IS : 1592-1980
CM/L-1379763 1985-02-14	M. G. Rolling Mills Pvt Limited, P. O. Tatibandh, Raipur (MP)	IS : 1786-1979
CM/L-1379864 1985-02-14	Hindustan Engineering Products Company, Tamukpal-National Highway, 33 Ghatsila 832303, Dist Singhbhum (Office: 4 Ganesh Chandra Avenue, 8th floor, Calcutta 700013)	IS : 1230-1979
CM/L-1379965 1985-02-14	Dual Industries, 268 Sathy Road, Ganapathy, Coimbatore 641006	IS : 7538-1975

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CM/L-1380041 1985-02-14	Brooks Cable Works, Plot No. 67, II Phase, MIDC, Off Mahakali Caves Road, Marol, Andheri (East), Bombay 400093	IS : 8783-1978
CM/L-1380142 1985-02-14	Steel & Metal Tubes (India), 35 km Delhi-Hapur Road, P. O. Jindal Nagar, Village Galand, Dist Ghaziabad (UP) (Office: 15/1 Asaf Ali Road, New Delhi 110002)	IS : 3601-1966
CM/L-1380243 1985-02-14	Cement Corporation of India Limited, Akaltara Cement Factory, P.O. Akaltara, Dist Bilaspur (MP)	IS : 455-1976
CM/L-1380344 1985-02-14	Unisystems Pvt Ltd, 15/1 Mathura Road, Faridabad 121003 (Haryana) (Office: 25 Community Centre, East of Kailash, New Delhi 110065)	IS : 10212 (Part 1)-1982
CM/L-1380445 1985-02-14	Gautam Chemical Company, Khasra No. 86, Prahladpur, Delhi 110042	IS : 4654-1974
CM/L-1380546 1985-02-14	Stowa Garments, 22(2) Kuppanna Chettiar Street, Kamaraj Road, Tirupur 638604	IS : 4964-1980
CM/L-1380647 1985-02-14	Arcee Chemicals, 23 Reddiar Street, Korkadu, Mangalam Post, Pondicherry 605110	IS : 7884-1978
CM/L-1380748 1985-02-14	Himalayan Petro Products & Allied Works, Puranpur Kumatia, Lamachaur, Haldwani 263139, Dist Nainital (UP)	IS : 4654-1974
CM/L-1380849 1985-02-14	Behari Lal Agarwal & Company, Amritsar Road, Tarn Taran 143401 (Punjab)	IS : 9020-1979
CM/L-1380950 1985-02-14	Corn Products Company (India) Limited, Plot No. 7 & 7A, MIDC Industrial Area, Thane-Belapur Road, P.O. Ghansoli, Thane 400701 (Office: 26H, Somani Marg, Shree Niwas House, Bombay 400701)	IS : 4467 (Part 1)-1980
CM/L-1381043 1985-02-14	Raja Chemical Works, 129-P Barauni Industrial Area, P.O. Tilrath, Dist Begusarai (Bihar)	IS : 4654-1974
CM/L-1381144 1985-02-14	Printinks, B-17 MIDC Industrial Area, Station Road, Aurangabad 431001 (Office: 311 Sardar Patel Road, Bombay 400004)	IS : 1222-1973
CM/L-1381245 1985-02-14	Rajendra Culture Products, Shed No. C/4, Large Industrial Area, Bela, P. O. R. K. Ashram, Muzaffarpur 843116 (Bihar)	IS : 8268-1976
CM/L-1381346 1985-02-14	Anand Krishi Yantra Udyog, Ratan Bhavan, 7 Pilaliya Rav Bhavar Kuon Chowraha, Indore 452001 (Office: 86 Shastri Market, Over Bridge, Indore 452007)	IS : 9020-1979
CM/L-1381447 1985-02-14	Supa Agro Chemicals (Pvt) Ltd, 82 Industrial Co-op Estate, Udayappatti, Salem 636014	IS : 8249-1976
CM/L-1381548 1985-02-14	Jaihind Agrico Implements Pvt Ltd, Plot No. 40 to 43, GIDC Estate, Highway Road, Mehsana 384002 (Office: Mezzamine Floor, Sahyog Building, Lal Darwaja, Ahmadabad 380001)	IS : 1786-1979
CM/L-1381649 1985-02-14	Jangra Engineering Works, 4/1 Daya Basti, New Rohtak Road, New Delhi 110005	IS : 933-1976
CM/L-1381750 1985-02-14	Durga Pipe Industry, Village: Hathora Bujarg, Old Sitapur Road, Dist Shahjahanpur (UP)	IS : 458-1971
CM/L-1381851 1985-02-14	Atul Engineering Udyog, Opposite Nagar Mahapalika Check Post, Nunhai, Agra 282006 (UP)	IS : 6750-1972
CM/L-1381952 1985-02-14	National Metal Industries, 595-596 Shahbad, Daulatpur, Delhi-Bhiwandi Road, Delhi 110042	IS : 21-1975
CM/L-1382045 1985-02-14	Tamilnadu Asbestos (A unit of Tamilnadu Cements Corporation Ltd), Mayanur, Taluk Kulithali, Dist Trichy	IS : 1592-1980
CM/L-1382146 1985-02-14	Jangra Engineering Works, 4/1 Daya Basti, New Rohtak Road, New Delhi 110005	IS : 934-1976
CM/L-1382247 1985-02-14	Krishna Cement (P) Ltd, Village Mandiakudar, P.O. Kausbalal 770034, Dist Sundargarh (Orissa) (Office: Uditnagar, Rourkela 769012, Dist Sundargarh)	IS : 269-1976
CM/L-1382348 1985-02-14	Pawan Metal Works, S-18 Industrial Area, Jalandhar 144004	IS : 778-1980
CM/L-1382449 1985-02-14	Three Star Cable Industries, E-30, Sector VIII, Noida, Dist Ghaziabad	IS : 694-1977

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CM/L-1382550 1985-02-21	Eastern Chemical Industries, Taki Road, Bamanmura, P.O. Badu, Dist. 24 Parganas (WB) (Office: Jessore Road, Madhyamgram, Dist 24 Parganas)	IS : 562-1978
CM/L-1382651 1985-02-21	Rohini Cables, Plot No. 21-G, SIDCO Industrial Estate (North), Ambattur, Madras 600098	IS : 694-1977
CM/L-1382752 1985-02-21	do	IS : 1554 (Part 1)-1976
CM/L-1382853 1985-02-21	Eltex Engineering Corporation Pvt Ltd, K. R. Puram Road, P. O. Ganapathy, Coimbatore 641006	IS : 7538-1975
CM/L-1382954 1985-02-21	Storage Systems Pvt Limited, 176 Pipliyarao, Opp Coca Cola Factory, A. B. Road, Indore (Office: 132 Jaora Compound, Indore 452001)	IS : 804-1967
CM/L-1383047 1985-02-21	Premier Engineering, 1144 Trichy Road, Singanalur, Coimbatore 641005	IS : 7538-1975
CM/L-1383148 1985-02-21	Nagpur Motors Pvt Ltd, D-76 MIDC, Nagpur 440028	IS : 9079-1979
CM/L-1383249 1985-02-21	Tirupati Plywood Industries, Makumpathar, Margherita (Assam)	IS : 10 (Part 2)-1976
CM/L-1383350 1985-02-21	Shri Uma Steel Co, 67/26 Strand Road, Calcutta 700006	IS : 10 (Part 4)-1976
CM/L-1383451 1985-02-21	Bhandari Cables (P) Ltd, National Highway, Road No. 12, Village Kilkipura, Dist Jaipur (Rajasthan)	IS : 398 (Part 1)-1976
CM/L-1383552 1985-02-21	do	IS : 398 (Part 2)-1976
CM/L-1383653 1985-02-21	Saif Steel Corporation, 22-22A, Pantun Bunder Road, Darukhana, Bombay 400010	IS : 1838-1961
CM/L-1383754 1985-02-21	Sree Yallamma Cotton, Woollen & Silk Mills, Tolahunse 577514, Davengere (Karnataka)	IS : 7866-1975
CM/L-1383855 1985-02-21	Flamma Appliance Mfg Industries, Sheds No. H-3, H-3-1, H-4 and H-5, Patel Estate, Pratapnagar, Vadodara 390004	IS : 4246-1978
CM/L-1383956 1985-02-21	Handy Products, 58/74 Jawahar Cooperative Industrial Estate, Kamothe, Panvel, New Bombay (Office: 10 Chhapra Building, R. K. Vaidya Road, Opposite Plaza Cinema, Dadar, Bombay 400028)	IS : 1222-1973
CM/L-1384049 1985-02-21	Agarwal Industries, 10/22 Katra Wazir Khan, Hathras Road, Agra	IS : 561-1978
CM/L-1384150 1985-02-21	Footwear Factory (Unit of M/s Bihar State Leather Industries Dev Corporation Ltd), Industrial Estate Kokar, Ranchi 834001	IS : 1989 (Part 2)-1978
CM/L-1384251 1985-02-21	Himpex Pvt Ltd, 27 Industrial Area, Mehatpur, Dist Una (HP)	IS : 7406 (Part 1)-1974
CM/L-1384352 1985-02-21	Kilpest (P) Ltd, 7-C Industrial Area, Govindpura, Bhopal (Office: Talwar House, Gandhi Medical College Hostel Road, Bhopal)	IS : 565-1975
CM/L-1384453 1985-02-21	Maruti Home Appliances, Plot No. 63, Sector 27A, Faridabad 121002 (Haryana) (Office: 16/5 Mathura Road, Faridabad 121002)	IS : 4760-1979
CM/L-1384554 1985-02-21	Robbin Chemicals Pvt Ltd 103 N. M. Mudaliar Road, Aminjikarai, Madras 600029	IS : 4467 (Part 1)-1980
CM/L-1384655 1985-02-21	Bharat Labs, Perungalur, Post Karikalampakkam, Pondicherry 605106	IS : 7884-1980
CM/L-1384756 1985-02-21	Korkad Chemicals, 27 Reddiar Street, Korkadu, Post Mangalam, Pondichery 605110	do
CM/L-1384857 1985-02-21	Jai Cosmetics, 32 Reddiar Street, Korkadu, Pondichery 605110	do
CM/L-1384958 1985-02-21	Uttam Gas Appliances, 27-28 Neelam-Bata Road, Faridabad 121001 (Haryana)	IS : 4246-1984
CM/L-1385051 1985-02-22	SMP Pvt Ltd, Padugupadu, Taluq Kovur, Nellore (AP) (Office: 16/609, Brindavanam, Nellore 524001)	IS : 4323-1980
CM/L-1385152 1985-02-21	Sun Oil Company Pvt Ltd, 238 Rai Bahadur Road, Calcutta 700053 (Office: 10 B British Indian Street, Calcutta 700069)	IS : 7623-1974
CM/L-1385253 1985-02-25	Tungabhadra Industries Limited, Kurnool 518002 (Office: 108, Walker Town, Secunderabad)	IS : 10325-1982

ADDITIONAL VARIETIES OF PRODUCTS INCLUDED IN THE EXISTING LICENCES

Sl No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-0693562	U. P. Cable Company (P) Ltd, New Delhi	IS : 398 (Part 2)-1976	New varieties of aluminium conductors for overhead purposes, aluminium conductors galvanized steel reinforced, up to 37 strands only included in the licence with effect from 1984-12-28
2	CM/L-1133630	Bharat Steel Tubes Ltd, Ganaur	IS : 4985-1981	New varieties of unplasticized PVC pipes for potable water supplies, class 4, sizes 200 to 315 mm included in the licence with effect from 1984-12-28
3	CM/L-1198860	Niky Tasha India Pvt Ltd, Faridabad	IS : 4760-1979	New variety of domestic cooking ranges including grillers for use with liquefied petroleum gases top surface ranges, CRC sheet body total gas consumption: 960 g/h, front big burner: 2 064 kcal/h, front small burner: 1 688 kcal/h, 2 rear small burners: 1 206 kcal/h each, grill burner: 1 608 kcal/h, oven burner: 2 680 kcal/h rating; included in the licence with effect from 1985-01-12
4	CM/L-1350739	Piryadarshni Cable Industries, Delhi	IS : 9857-1981	New variety of welding cables with aluminium conductor and general purpose rubber covering included in the licence with effect from 1984-12-28
5	CM/L-1357551	Inalsa Pvt Ltd, New Delhi	IS : 4246-1984	New variety of domestic gas stoves for use with liquefied petroleum gases, CRC sheet painted and stainless steel sheet body, double burner total gas consumption 332 g/h; rating big burner 2 064 kcal/h, small burner 1 554 kcal/h, included in the licence with effect from 1985-01-12

LICENCES CANCELLED

Sl No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-0122014	J. K. Steel (A Division of J. K. Synthetics Ltd), Hooghly	IS : 1855-1977	Cancelled with effect from 1983-08-01 as the firm is not interested in holding the licence
2	CM/L-0144826	do	IS : 2266-1977	do
3	CM/L-0152528	Bharat Pulverising Mills (P) Limited, Madras	IS : 1507-1977	Cancelled with effect from 1984-12-01 as the firm is not interested in holding the licence
4	CM/L-0228232	do	IS : 2567-1978	do
5	CM/L-0568559	Steel Authority of India Limited (Durgapur Steel Plant), Durgapur	IS : 1079-1973	Cancelled with effect from 1984-09-10 as the firm is not interested in holding the licence
6	CM/L-0682961	J. K. Steel (A Division of J. K. Synthetics Ltd), Hooghly	IS : 2141-1979	Cancelled with effect from 1983-08-01 as the firm is not interested in holding the licence
7	CM/L-0707749	Vulcan Electricals Limited, Madras	IS : 2082-1965	Cancelled with effect from 1984-01-16 as the firm is not interested in holding the licence
8	CM/L-1127635	J. K. Steel (A Division of J. K. Synthetics Ltd), Hooghly	IS : 1856-1977	Cancelled with effect from 1983-08-01 as the firm is not interested in holding the licence
9	CM/L-1134733	do	IS : 2581-1977	do
10	CM/L-1184041	Shrirang Bidi Limited, Village Dubbak, Dist Medak	IS : 1925-1974	Cancelled with effect from 1984-10-11 as the firm is not interested in holding the licence

LICENCES LAPSED

Sl. No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-0013110	E.I.D. Parry (India) Ltd, Madras	IS : 561-1978	Lapsed after 1985-01-15
2	CM/L-0037124	Akola Oil Industries Ltd, Akola	IS : 916-1975	Lapsed after 1984-12-31
3	CM/L-0107826	Shree Hanuman Industries, Howrah	IS : 774-1971	Renewal was deferred after 1984-03-15; the licence now stands lapsed after that date
4	CM/L-0148739	Ashwin Vanaspati Industries Pvt Ltd, Vadodara	IS : 916-1975	Renewal was deferred after 1983-01-31; the licence now stands lapsed after that date
5	CM/L-0163331	The Canara Wire and Wire Products Ltd, Mangalore	IS : 1977-1975	Renewal was deferred after 1984-08-15; the licence now stands lapsed after that date
6	CM/L-0193138	Hindustan Mineral Products Company Pvt Ltd, Bombay	IS : 565-1975	Renewal was deferred after 1984-08-31; the licence now stands lapsed after that date
7	CM/L-0193340	Indian Explosives Ltd, Calcutta	IS : 3901-1975	Renewal was deferred after 1984-10-31 the licence now stands lapsed after that date
8	CM/L-0202517	do	IS : 4766-1968	do
9	CM/L-0211821	do	IS : 3900-1978	do
10	CM/L-0243834	do	IS : 4320-1967	do
11	CM/L-0287248	Mukund Iron & Steel Works Ltd, Bombay	IS : 1786-1979	Lapsed after 1984-12-15
12	CM/L-0287450	Industrial Minerals & Chemicals Company Pvt Ltd, Bombay	IS : 5281-1979	Renewal was deferred after 1984-10-31; the licence now stands lapsed after that date
13	CM/L-0310621	Dalhousie Jute Company Ltd, Calcutta	IS : 1322-1970	Renewal was deferred after 1983-12-31; the licence now stands lapsed after that date
14	CM/L-0340226	Kewal Conductor (P) Limited, Beawar	IS : 398 (Part 2)-1976	Lapsed after 1984-10-31
15	CM/L-0390342	Aluminium Industries Ltd, Kundara	IS : 1785 (Part 1)-1976	Lapsed after 1984-07-31
16	CM/L-0407333	Kohinoor Paints Pvt Ltd, Amritsar	IS : 419-1967	Renewal was deferred after 1983-12-15; the licence now stands lapsed after that date
17	CM/L-0407636	Cema Limited, Vadodara	IS : 1554 (Part 1)-1976	Renewal was deferred after 1983-11-30; the licence now stands lapsed after that date
18	CM/L-0437544	Sri Vijayadurga Pulverising Mills, Bellary	IS : 2567-1978	Renewal was deferred after 1984-11-15; the licence now stands lapsed after that date
19	CM/L-0437645	do	IS : 2568-1978	Lapsed after 1984-05-31
20	CM/L-0464446	Hind Galvanising Company Ltd, Calcutta	IS : 2552-1979	Renewal was deferred after 1983-09-15; the licence now stands lapsed after that date
21	CM/L-468858	Himmat Steel Foundry Ltd, Raipur	IS : 276-1978	Renewal was deferred after 1983-07-15; the licence now stands lapsed after that date
22	CM/L-0475754	Kailash Saw Mills, Pathankot	IS : 10 (Part 3)-1974	Lapsed after 1984-10-31
23	CM/L-0481345	Kapur Timbers, Yamuna Nagar	IS : 10 (Part 3)-1974	Renewal was deferred after 1984-05-31; the licence now stands lapsed after that date
24	CM/L-0482448	Canara Wire and Wire Products Limited, Mangalore	IS : 1786-1979	Renewal was deferred after 1983-08-15; the licence now stands lapsed after that date
25	CM/L-0502630	Hindustan Mineral Products Company Pvt Ltd, Bombay	IS : 4322-1967	Renewal was deferred after 1984-08-31; the licence now stands lapsed after that date
26	CM/L-0548957	Petter Oil Engines, Patna	IS : 10001-1981	Renewal was deferred after 1984-09-15; the licence now stands lapsed after that date

Sl No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
27	CM/L-0573451	Punjab Iron & Steel Company (P) Ltd, Jalandhar city	IS : 1875-1971	Renewal was deferred after 1984-02-15; the licence now stands lapsed after that date
28	CM/L-0601834	do	IS : 3195-1975	Renewal was deferred after 1984-01-31; the licence now stands lapsed after that date
29	CM/L-0608848	Kilpest Industries, Bombay	IS : 2567-1978	Renewal was deferred after 1984-05-15; the licence now stands lapsed after that date
30	CM/L-0617546	Tranvos Ltd, Trivandrum	IS : 2509-1973	Renewal was deferred after 1984-05-31; the licence now stands lapsed after that date
31	CM/L-0627347	Cartybon Pvt Ltd, Goa	IS : 4174-1977	Lapsed after 1984-08-31
32	CM/L-0655857	Khatau Junker Limited, Bombay	IS : 2834-1964	Renewal was deferred after 1983-11-30; the licence now stands lapsed after that date
33	CM/L-0656657	United Tapes, Rourkela	IS : 4174-1977	Renewal was deferred after 1983-12-31; the licence now stands lapsed after that date
34	CM/L-0662854	Trencos Limited, Trivandrum	IS : 4985-1981	do
35	CM/L-0663957	National Bobbin Company, Ahmadabad	IS : 3625-1971	Renewal was deferred after 1984-01-15; the licence now stands lapsed after that date
36	CM/L-0678768	Jyoti Electric Motors Limited, Mogar	IS : 2972 (Parts 1 & 2)-1979	Renewal was deferred after 1981-02-28; the licence now stands lapsed after that date
37	CM/L-0678970	Ashoka Alloy Steels Ltd, Ambala City	IS : 3431-1975	Renewal was deferred after 1984-02-29; the licence now stands lapsed after that date
38	CM/L-0689470	Crown Electricals & Engineering Company, Kolhapur	IS : 325-1978	Renewal was deferred after 1984-03-31; the licence now stands lapsed after that date
39	CM/L-0698067	Bharat Pulverising Mills Pvt Ltd, Bombay	IS : 562-1978	Renewal was deferred after 1984-04-30; the licence now stands lapsed after that date
40	CM/L-0730744	Malhotra Steel Industries Gujarat Pvt Ltd, Ahmadabad	IS : 1977-1975	Lapsed after 1984-10-31
41	CM/L-0763456	Raj Plastic Cables, Ahmadabad	IS : 694-1977	Renewal was deferred after 1984-03-31; the licence now stands lapsed after that date
42	CM/L-0765965	Asian Chemicals Works, Bombay	IS : 2924-1974	Renewal was deferred after 1984-04-30; the licence now stands lapsed after that date
43	CM/L-0806347	S.R.C. Industries, Madras	IS : 1786-1979	Renewal was deferred after 1983-10-31; the licence now stands lapsed after that date
44	CM/L-0810641	Venkateswara Pesticides & Allied Chemicals (P) Limited, Mahabubnagar	IS : 565-1975	Renewal was deferred after 1984-11-15; the licence now stands lapsed after that date
45	CM/L-0810742	Annapurna Pulverising Mills, Eluru	IS : 633-1975	Lapsed after 1984-11-15
46	CM/L-0816249	Goa Cables, Goa	IS : 694-1977	Renewal was deferred after 1983-11-30; the licence now stands lapsed after that date
47	CM/L-0817251	Newmac Industries, Ahmadabad	IS : 5321-1969	Lapsed after 1984-12-15
48	CM/L-0823044	Electrical Appliances, Bhagalpur	IS : 398 (Part 2)-1976	Renewal was deferred after 1982-12-31; the licence now stands lapsed after that date
49	CM/L-0837964	Mahajan Iron Foundry, Agra	IS : 6595-1972	Lapsed after 1984-11-30
50	CM/L-0845054	Eagle Steels Limited, Taloja	IS : 1977-1975	Renewal was deferred after 1984-03-15; the licence now stands lapsed after that date

Sl. No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
51	CM/L-0864058	Tarapada Dass & Sons, Howrah	IS : 1239 (Part 2)-1969	Renewal was deferred after 1984-04-30; the licence now stands lapsed after that date
52	CM/L-0882161	Varuna Vayu Foods (P) Ltd, Nasik	IS : 1011-1981	Lapsed after 1984-07-31
53	CM/L-0892871	Keshari Steels & Industries Ltd, Bhopal	IS : 1977-1975	Lapsed after 1984-09-15
54	CM/L-0896980	Modi Steels, Modinagar	IS : 398 (Part 2)-1976	Renewal was deferred after 1984-09-15; the licence now stands lapsed after that date
55	CM/L-0901240	Electrical Machine Corporation, Ahmadabad	IS : 4722-1968	Lapsed after 1984-10-15
56	CM/L-0902343	Steelcrete Private Limited, Visakhapatnam	IS : 1239 (Part 1)-1979	Renewal was deferred after 1983-09-15; the licence now stands lapsed after that date
57	CM/L-0903951	Gem Forging & Engineering Industries, Calcutta	IS : 8748-1978	Renewal was deferred after 1984-10-15; the licence now stands lapsed after that date
58	CM/L-0906654	Alkali & Chemical Corporation of India Limited, Tiruchchirappalli	IS : 3901-1975	Lapsed after 1984-10-31
59	CM/L-0911950	Sahnisons Manufacturing Company, Delhi	IS : 758-1982	Renewal was deferred after 1984-10-31; the licence now stands lapsed after that date
60	CM/L-0935055	Metro Steel Industries, Surat	IS : 325-1978	Renewal was deferred after 1982-02-15; the licence now stands lapsed after that date
61	CM/L-0938162	J. K. Steel (A division of J. K. Synthetics Ltd), Hooghly	IS : 3623-1978	Renewal was deferred after 1983-02-15; the licence now stands lapsed after that date
62	CM/L-0940856	Gupta Chemicals (P) Ltd, Jaipur	IS : 7122-1973	Lapsed after 1985-02-15
63	CM/L-0953057	Akay Rubber Industries, Ranchi	IS : 5676-1970	Renewal was deferred after 1983-03-31; the licence now stands lapsed after that date
64	CM/L-0953158	Giriraj Udyog Ltd, Lucknow	IS : 226-1975	do
65	CM/L-0955970	Standard Tar Bitumen (Pvt) Ltd, Calcutta	IS : 702-1961	Renewal was deferred after 1984-03-31; the licence now stands lapsed after that date
66	CM/L-0967674	Delta Power Drive Pvt Ltd, Kaira	IS : 9079-1979	Renewal was deferred after 1982-05-15; the licence now stands lapsed after that date
67	CM/L-0975269	Pearlite Wire Products Ltd, Alleppey	IS : 3975-1979	Renewal was deferred after 1984-06-15; the licence now stands lapsed after that date
68	CM/L-0981163	Steel Fabro Industries, Indore	IS : 226-1975	Renewal was deferred after 1984-07-31; the licence now stands lapsed after that date
69	CM/L-0982266	National Chemical Industries, Gomia	IS : 7401-1974	do
70	CM/L-0988177	Madhya Pradesh United Chemicals & Pesticides Ltd, Mandideep	IS : 1832-1978	Lapsed after 1984-08-31
71	CM/L-0989886	Vimal Enterprises Ltd, Umbergam	IS : 4480 (Parts 1 & 2)-1967	Renewal was deferred after 1982-08-31; the licence now stands lapsed after that date
72	CM/L-0991469	Trend Wires, Jammu	IS : 280-1978	Renewal was deferred after 1983-09-15; the licence now stands lapsed after that date
73	CM/L-0999283	Shambhu Nath Chemical Works, Amritsar	IS : 246-1972	Lapsed after 1984-10-15
74	CM/L-1004922	Welworth Insulated Cable Company, Mangalore	IS : 694-1977	Renewal was deferred after 1983-11-15; the licence now stands lapsed after that date
75	CM/L-1005520	I. D. S. Engineering Company, Agartala	IS : 4984-1978	do

SL No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
76	CM/L-1008324	Needle Industries (India) Pvt Ltd, Ketti	IS : 3317-1983	Lapsed after 1984-11-30
77	CM/L-1009427	Gujarat Agro Chemicals Mfg Company Naroda, Ahmadabad	IS : 4323-1980	do
78	CM/L-1022217	Modi Oil & General Mills, Mandi Gobindgarh	IS : 1786-1979	Renewal was deferred after 1983-12-31; the licence now stands lapsed after that date
79	CM/L-1025829	Patel Engineering Syndicate, Rajkot	IS : 10001-1981	Renewal was deferred after 1984-01-15; the licence now stands lapsed after that date
80	CM/L-1039133	Triveni Iron & Steel Industries, Bhavnagar	IS : 1977-1975	Renewal was deferred after 1984-02-28; the licence now stands lapsed after that date
81	CM/L-1047738	La-Gajjar Machineries Pvt Ltd, Ahmadabad	IS : 325-1978	Renewal was deferred after 1984-03-15; the licence now stands lapsed after that date
82	CM/L-1049843	Precious Industries, Bombay	IS : 2412-1975	Renewal was deferred after 1983-03-15; the licence now stands lapsed after that date
83	CM/L-1051426	Safety Sales & Services, Calcutta	IS : 694-1977	Renewal was deferred after 1984-03-15; the licence now stands lapsed after that date
84	CM/L-1057640	Bhavnagar Vegetable Products Unit, Bhavnagar	IS : 916-1975	Renewal was deferred after 1984-03-31; the licence now stands lapsed after that date
85	CM/L-1064132	Raj Cables (P) Limited, Dist Ghaziabad	IS : 694-1977	Renewal was deferred after 1984-04-15; the licence now stands lapsed after that date
86	CM/L-1064435	Adityapur Rolling Mills, Jamshedpur	IS : 1977-1975	do
87	CM/L-1066944	New Satkartar Agricultural Industries, Moga	IS : 9020-1979	do
88	CM/L-1074539	Suprachem, Hyderabad	IS : 8180-1982	Renewal was deferred after 1984-05-15; the licence now stands lapsed after that date
89	CM/L-1074640	Sekhar Soap Works, Hyderabad	do	do
90	CM/L-1099252	Josh Equipment Pvt Ltd, Nasik	IS : 2878-1976	Renewal was deferred after 1984-07-31; the licence now stands lapsed after that date
91	CM/L-1101819	Josh Equipments Pvt Ltd, Nasik	IS : 2933-1976	Renewal was deferred after 1984-07-31; the licence now stands lapsed after that date
92	CM/L-1101920	do	IS : 934-1976	do
93	CM/L-1102013	do	IS : 2171-1976	do
94	CM/L-1102619	Tata Iron & Steel Company Ltd, Bangalore	IS : 1786-1979	do
95	CM/L-1113422	Kirpal Singh Sehmbey & Sons, Goraya	IS : 9020-1979	Lapsed after 1984-09-15
96	CM/L-1114424	M. G. Rolling Mills, Raipur	IS : 1977-1975	Renewal was deferred after 1983-09-15; the licence now stands lapsed after that date
97	CM/L-1116226	Power Insulated Cables Industries, Calcutta	IS : 694-1977	do
98	CM/L-1116327	do	IS : 1554 (Part 1)-1976	do
99	CM/L-1126936	Kewal Conductors (P) Ltd, Beawar	IS : 398 (Part 2)-1976	Lapsed after 1984-10-31
100	CM/L-1131828	Central Insecticides & Fertilizers, Bombay	IS : 3903-1975	Renewal was deferred after 1984-11-30; the licence now stands lapsed after that date
101	CM/L-1131929	do	IS : 2567-1978	do
102	CM/L-1132830	Bharat Mechanical Works, Moga	IS : 9020-1979	Renewal was deferred after 1983-11-30; the licence now stands lapsed after that date
103	CM/L-1134026	Mohan Singh Harbhajan Singh, Goraya	do	do

Sl No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
104	CM/L-1135230	Arunachal Forest Products (P) Ltd, Tinsukia	IS : 10 (Part 2)-1976	Renewal was deferred after 1983-11-30; the licence now stands lapsed after that date
105	CM/L-1137941	Universal Cables Ltd, Satna	IS : 434 (Part 2)-1964	Lapsed after 1984-12-15
106	CM/L-1144736	Meghalaya Plywood Ltd, Shillong	IS : 10 (Part 3)-1974	Renewal was deferred after 1983-12-31; the licence now stands lapsed after that date
107	CM/L-1147439	Batra Iron & Steel Works (P) Ltd, Durg	IS : 1786-1979	Renewal was deferred after 1984-01-15; the licence now stands lapsed after that date
108	CM/L-1188554	Agarwal Scientific Glass Industries, Agra	IS : 915-1975	Lapsed after 1984-05-31
109	CM/L-1193951	Fusegear Electric, Madras	IS : 2675-1966	Lapsed after 1984-06-15
110	CM/L-1208433	Himachal Pesticides & Chemicals Ltd, Barotiwala	IS : 2567-1978	Renewal was deferred after 1984-07-15; the licence now stands lapsed after that date
111	CM/L-1216230	Velvetta Soap Industries, Cuddalore	IS : 2888-1983	Renewal was deferred after 1984-07-31; the licence now stands lapsed after that date
112	CM/L-1229340	Industrial Resin Mfg Company, Bombay	IS : 4984-1978	Renewal was deferred after 1984-08-31; the licence now stands lapsed after that date
113	CM/L-1229441	Meta Rubber Industries Pvt Ltd, Bombay	do	do
114	CM/L-1230729	Nitin Rubbers, Kanpur	IS : 1867-1975	Lapsed after 1984-09-15
115	CM/L-1231933	Shree Lakshmi & Company, Tiruchchirappalli	IS : 4948-1974	do
116	CM/L-1239343	Rashtriya Engineering Works, Batala	IS : 1729-1979	Lapsed after 1984-10-15
117	CM/L-1241431	Special Electrodes Alloys, Bombay	IS : 814 (Part 2)-1974	Renewal was deferred after 1984-10-15; the licence now stands lapsed after that date
118	CM/L-1241532	do	do	do
119	CM/L-1242130	Prabhat Hosiery Industry, Muzaffarpur	IS : 9469-1980	Lapsed after 1984-10-31
120	CM/L-1247645	Kashmir Conductors, Jammu Cantt	IS : 398 (Part 1)-1976	Lapsed after 1984-11-15
121	CM/L-1248546	Ashok Pulverisers, Vijayawada	IS : 564-1975	Lapsed after 1984-11-30
122	CM/L-1248647	do	IS : 2567-1978	do
123	CM/L-1250129	Brihan Maharashtra Steel Industries Pvt Ltd, Thane	IS : 1784-1977	do
124	CM/L-1251333	Rasoi Ltd, Calcutta	IS : 916-1975	Renewal was deferred after 1984-11-30; the licence now stands lapsed after that date
125	CM/L-1254440	Shankar Dass & Sons, Jalandhar	IS : 9020-1979	Lapsed after 1984-12-15

NEW ADDRESS OF NORTHERN REGIONAL OFFICE OF ISI

■ The ISI Northern Regional Office has shifted to its new premises at Chandigarh. The new address is as follows:

Indian Standards Institution
(Northern Regional Office)
SCO 445-446
Sector 35-C
CHANDIGARH 160036

Activities relating to certification marking, public relations, sales, library, administration, accounts and general services will be undertaken from the new premises.

However, the Regional Laboratory will continue to function from S. A. S. Nagar (Mohali).

INDIAN STANDARDS

NEW AND REVISED INDIAN STANDARDS

AGRICULTURAL AND FOOD PRODUCTS DEPARTMENT

- IS : 1308-1984 Aldrin dusting powders (second revision). Gr 2
- IS : 2127-1984 Stabilized methoxy ethyl mercury chloride (MEMC) concentrate (first revision). Gr 2
- IS : 2358-1984 Formulations based on stabilized methoxy ethyl mercury chloride (MEMC) concentrate (first revision). Gr 2
- IS : 2862-1984 Diazinon water dispersible powder concentrates (first revision). Gr 2
- IS : 2864-1984 Chlordane dusting powders (second revision). Gr 2
- IS : 7122-1984 Carbaryl dusting powders (first revision). Gr 2
- IS : 10758-1983 De-odourizing-cum disinfectant fluids. Gr 2
- IS : 10972-1984 Code for preparation of escherichia coli diagnostic sera. Gr 4
- IS : 11061-1984 Code for preparation of vibrio cholerae diagnostics sera. Gr 3
- IS : 11069-1984 Refined, bleached, hydrogenated, winterized and deodorized (RBHWD) soybean oil. Gr 3
- IS : 11090-1984 Self-discharging type centrifugal liners for A and B massecuites of sugar industry. Gr 1
- IS : 11151-1984 Barium carbonate, pesticidal grade. Gr 3

CHEMICAL DEPARTMENT

- IS : 1975-1984 Signal roundels and lenses for use in railways (first revision). Gr 5
- IS : 5761 (Part 1)-1984 Gold cyanide and gold potassium cyanide for electroplating: Part 1 For commercial engineering applications (first revision). Gr 4
- IS : 5761 (Part 2)-1984 Gold cyanide and gold potassium cyanide for electroplating: Part 2 For special applications (first revision). Gr 7
- IS : 6113 (Part 21)-1984 Methods

The standards listed below have been classified departmentwise.

- of test for pulp: Part 21 Determination of dry matter content. Gr 2
- IS : 11080-1984 Method for determination of porosity of paper. Gr 2
- IS : 11091-1984 Method of test for degree of curl of paper and degree of sizing. Gr 2
- IS : 11112-1984 Alumina, chromatographic grade. Gr 3
- IS : 11123-1984 Method for determination of copper by atomic absorption spectrophotometry. Gr 2
- IS : 11128-1984 Spray-applied hydrated calcium silicate thermal insulation. Gr 2
- IS : 11129-1984 Method of test for tumbling friability of preformed block-type thermal insulation. Gr 2

CIVIL ENGINEERING DEPARTMENT

- IS : 781-1984 Cast copper alloy screw down bib taps and stop valves for water services (third revision). Gr 5
- IS : 2441-1984 Code of practice for fixing ceiling coverings (first revision). Gr 7
- IS : 3595-1984 Code of practice for fire safety of industrial buildings: Coal pulverizers and associated equipments (first revision). Gr 6



Well posted on a Concrete post

- IS : 4996-1984 Reinforced concrete

- fence posts (first revision). Gr 7
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THE COVER — Computer and the inputs. With increased use of computers all over the world, a number of international and national (including Indian) standards have been formulated to ensure interchangeability, hardware and software compatibility, and ease of information exchange (see also page 203).



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EDITORIAL

Computer Standards

With the wide use of computers in almost all walks of life the computers have come to be recognized as versatile tools for handling and processing information. Systems have been developed for sharing a single centralized processor through a number of terminals located in different areas and connected through ordinary telephone lines. Computers located at different places can also be linked up to share the information amongst them. In fact, they are linked even across continents through satellites and their services are made available to the users.

The use of computers has percolated even to individuals and the demand for small computers has grown at a fast pace. This has given rise to the commonly known personal computers which not only have sufficient processing power to meet the requirements of an individual but can also provide facilities of the biggest host computer system through its use as a terminal. Again, development of the powerful micro-processor is rapidly bridging the gap between the capabilities of personal and mainframe computers. Another important development, spurred by improvement in processing capabilities of small computers, is their use for process control. Designed for specific uses and known as dedicated systems, these have resulted in improved automation in the manufacturing industry, communication, controls and instrumentation.

In India, the computer industry came up in the sixties with the manufacture of small computers and the progress made by it was somewhat slow during the seventies. Of late, however, the Government has realized the impact and importance of computers on the economic and industrial growth of the country and introduced a liberalized computer policy which aims at making use of computers as widespread as in advanced countries. Towards this end, the Government is making all-out efforts to increase the use of computers in different sectors in the country. At the same time, programmes are being formulated to increase computer awareness in the public, for example, through the CLASS (Computer Literacy And Studies in Schools) programme.

With the liberalized computer policy, the industry in India is left to take its own decision as to the choice of technology and enforce discipline upon itself by way of standardization. Random selection of technology by individual manufacturers may lead to duplication of efforts for future developments, thus hampering the growth of the industry, thereby resulting in continued reliance on imported technology. In this context, it is best to emulate the example of the Japanese computer industry which has set the pace for future developments by introducing a programme whereby not only the technology has been standardized but also software brought within the scope of standardization.

The emphasis at present is on production and R&D efforts are being given second priority. Unless the philosophy of standardization is introduced right from the beginning and standards developed for the purpose, exchange of data even

amongst similar machines would be difficult in the absence of both hardware and software compatibility. Standardization will result in variety reduction, interchangeability, compatibility and ease of exchange of information. On the hardware side, it will help increase demand to the levels viable for ancillarization and reduce cost by bulking the requirement, bring down inventory and spare parts cost, and make for quick establishment of servicing and ease in the training of personnel. On the software side, it will not only encourage the growth of software industry but also give a fillip to the demand for packaged software due to increased portability. If we are able to make available software in Indian languages, the aim of increased use of computers in schools, homes and offices would be met without much difficulty.

The Indian Standards Institution has already taken small steps on the road to standardization of computers through its Computers, Business Machines and Calculators Sectional Committee (LTDC 24). It has formulated a number of standards relating to computer vocabulary on the basis of International Standards prepared by the International Organization for Standardization (ISO). It has also adopted International Standards on codes, character sets and programming languages — FORTRAN for scientific applications and COBOL for commercial applications. The standards for coding and printing of magnetic ink character recognition (MICR) have also been adopted on a priority basis to facilitate computerization in banking industry. Besides, a number of standards relating to media, other programming languages and infrastructure are at various stages of processing. The standards relating to computer infrastructure providing guidelines for physical planning of computer complexes are being prepared by pooling the available information and expertise as no guidance is available at the international level. As uses of computers are proliferating in all walks of life, they are expected to provide valuable guidance to users of computers not otherwise conversant with the intricacies involved in their installation. By the time manufacture of peripheral devices, such as floppy disk drives, cassette drives and printers starts in the country, Indian Standards would also be available for them. The Institution is collaborating with the Department of Electronics for the standardization of these items as well as personal computers for the CLASS programme. Besides, a large number of standards related to floppy disks, magnetic tapes, basic mode control procedures and high level data link control procedures are on the anvil.

This is, however, a small part of what the Institution wishes to do in the field. It is currently engaged in drawing up an ambitious plan for making available standards required urgently by the fast expanding computer industry in the country and is all set to provide the necessary guidelines essential for keeping its development on the right track.

N. SRINIVASAN & A. S. RAWAT

NORMS AND VALUES

Sampling — The Fundamental Component of Quality in Dairy Produce

The quality — and consistency of quality — of milk products is ensured by using standard methods of test. Milk and its products are examined for microbiological criteria, chemical and physical composition, and taste or smell. But whatever the tests to be conducted, proper sampling remains the basis of accuracy as the testing to be undertaken may include determination of minute quantities in a sample from which will be calculated the overall quantity in the consignment.

To provide guidance in this area, the International Organization for Standardization (ISO) has published a Standard, namely, 'ISO 707 Milk products — Methods of sampling.' Developed jointly with the International Dairy Federation and the Association of Official Analytical Chemists, ISO 707 first appeared in 1968 as an ISO Recommendation for the purpose of being included in a special code of principles concerning milk and milk products, issued jointly by the UN Food and Agriculture Organization (FAO) and the World Health Organization (WHO). A great deal more experience has since been gained and a number of additional products have come into production. All the concerned organizations have continued to extend and refine the sampling methods and ISO 707 in its latest edition published recently incorporates the result of all this work.

The methods specified in this standard apply to sampling prior to analysis of milk and milk products. The products dealt with range from milk straight from the cow to cheeses, including skimmed milk, butter-milk, cream, jellified milk and yoghurt, edible ices, butter and evaporated, condensed and dried milk. The Standard describes the sampling techniques appropriate to different milk products and illustrates the many types of apparatus appropriate for them besides including a list of sources of supply of sampling equipment.

One of the many innovations in this International Standard is the inclusion of instructions for sampling of raw milk for payment on the basis of quality. Sampling of raw milk for the purposes of payment is a particularly delicate matter as a whole line of economic considerations

are affected — not just the initial sale but the question of value of derived products which will themselves inevitably be subjected to testing and evaluation.

An Indian Standard based on ISO 707 is currently under preparation. When published, it is expected to provide a worthwhile basis for the sampling of milk and milk products in the country.



Emergency Showers and Fountains

To protect the industrial workers employed in factories using or producing hazardous chemicals, the Factories Act, 1948 and Rules framed thereunder require such chemicals to be removed from the body as soon as possible. This is specially so when a corrosive or irritating chemical affects vital organs like the eyes. As the effects of chemicals on the body may range from mild irritation to severe burn injuries it is essential that the body and the eyes are washed with large volumes of clean water to remove or dilute offending chemicals and dissipate the heat generated during the chemical reaction which may take place between them and water. This calls for provision of emergency eye wash fountains and safety showers at suitable locations in all areas in a factory where exposure to corrosive or toxic chemicals is possible.

To provide protection against hazardous chemicals through efficient emergency showers and fountains, the Indian Standards Institution has brought out a standard (IS : 10592-1982) which



specifies, among others, requirements relating to their location, basic design, performance, installation and maintenance. The Standard recommends that emergency face/eye wash fountains and showers or combination units should be located, as far as possible, within a distance of 15 metres from the place of work, there being no obstruction between the work spot and the place of their location. The design of the operating valves should be such that the water flow remains 'on' without the use of the operator's hand. The operating valves should get activated from 'off' to 'on' position within a second. As for temperature of the water delivered for eye/face/body washing, it should be within a comfortable range, that is, 15 to 35°C. The Standard requires the facilities to be checked at least once a week to ensure their proper functioning. Besides, the fountains and the showers should be activated daily to flush the line and verify their operation.



ISO/RILEM Memorandum of Understanding

The International Organization for Standardization (ISO) has signed a Memorandum of Understanding with the International Union of Testing and Research Laboratories for Materials and Structures (RILEM) concerning utilization of the results of research on materials and structures in the development of International Standards.

According to the Memorandum, ISO Technical Committees having Category A liaison with RILEM may request it to carry out pre-standardization work in support of an approved work item or group of work items in the relevant Technical Committee. After the necessary work has been done, RILEM will submit a technical recommendation to the concerned Technical Committee for approval for publication as a Type 2 Technical Report. Such Technical Reports will then serve as the basis for further development of International Standards in the usual manner.



New NDT Method for Detecting Defects in Critical Components

A nondestructive method of detecting defects in critical components, developed in Britain to satisfy the test requirements of nuclear and pressure-vessel specifications, is claimed to offer an easy and definitive means of inspection for all industries.

The new test system comprises three aerosol cans containing a red penetrant dye, a developer and a remover respectively. The penetrant dye is similar to existing penetrants in that it provides a visual indication of defects under normal lighting, but it also offers the advantage that uncertain indications can be checked under an ultraviolet light to give a fluorescent effect, with defects standing out black against a brilliant white background.

The dye is sprayed on to a clean, dry surface.

After allowing time for penetration, the surface is cleansed by a water rinse or by applying the remover solution. The penetrant forms a gel on contact with water, which reduces the risk of the penetrant being removed from defects during washing. Finally, the developer is sprayed on and allowed to dry. The component is then ready for inspection.

From the operator's point of view, the system is said to have major advantages with its ease of removal from the skin, using just soap and water, and its almost total lack of odour.



Quality Mark in Saudi Arabia

The Saudi Arabian Standards Organization (SASO) has decided to introduce 'Quality Mark' and 'Conformity Certificate' to regulate the quality of local and imported products in the Kingdom, according to Dr Khaled Y. Al-Khallaf, Director General of SASO. The Quality Mark will be stamped on local products after they have been tested by SASO's technical staff. It is an assurance to the customer of the quality of the product, whether it is sold locally or exported. Agencies involved in the import trade will have to obtain the Conformity Certificate before any of their products are allowed. This certificate will be awarded after SASO's technical staff has carried out a random check of the consignment to ensure that the product conforms to SASO regulations.

The regulations will be binding on both local and foreign manufacturers. No shipments will be allowed unless they comply with Saudi standards.



Slow Death Sans Quality Control

Quality control is today acknowledged as the key to successful manufacture and marketing of products. In fact, the concept must pervade the entire gamut of industrial operations if a high degree of acceptability is to be assured for the various products put on the market. Walter Goldsmith and David Clutterbuck put the same thing in another way in their recent book 'The Winning Streak'. This is how they do it: 'Failure to exercise efficient quality control does not seem to have caused many swift failures. But it has caused many slow deaths. Our unsuccessful companies, on the whole, do not seem to have had anything that could be described as a quality fetish. Their cultural perceptions do not accord quality the exceptional priority that so many of our most successful companies do.'



Standard Sentiment

Standards are primarily intended not to provide the ideal but the best workable solution to the existing problems.



Secretariat should find out as to how regional bodies and associations had been able to solve their problems of differences in methods of testing and inspection. The matter would then be reviewed at the next meeting.

Status of Work on Standards Notifications in the Inventories of Non-tariff Measures

The Committee considered the proposal that the portion of standards relating to inventories of non-tariff measures be issued as a document of the Committee on Technical Barriers to Trade. The purpose of this proposal was to bring the issues raised in individual notifications to the attention of the officials dealing with standards-related matters in signatory countries. These officials might then identify those standards which were no longer applicable or suggest solutions to problems arising from these standards. After considerable discussions it was agreed that standards relating to inventories of non-tariff measures may be suitably circulated as a TBT document to the signatories.

Preparation for the Sixth Annual Review

It was agreed that the Sixth Annual Review would cover:

- a) A basic document including information on implementation and administration of the Agreement during 18 October 1984-10 September 1985 and its supplement containing data on the results of the review;
- b) Information covered by previous reviews; and
- c) An updated document covering consultation points, enquiry points and panelists.

Preparation for the Second Three-Year Review

It was agreed that the Committee would hold its second three-yearly review at its next meeting in conjunction with the sixth annual review. The Committee invited any specific proposals for the purpose or topics for discussion in the context of the Review.

Composition of the Committee

The Committee discussed the matter of non-ratification of the Agreement by certain signatories at the special meeting of the Committee held earlier. The American delegation, supported by some others, requested the Committee to refer the note on legal status of signatories prepared by the Secretariat to the Working Group on Multilateral Trade Negotiations (MTN) Agreement and Arrangements for its consideration. However, certain other delegations expressed reservations about taking such action and questioned the appro-

priateness of submitting to the Working Group a note prepared by the Secretariat. It was felt that any further action in this regard would not facilitate acceptance of the Agreement any sooner than would be allowed by legislation procedures of the non-ratifying countries.

The delegation from Bulgaria made a statement regarding its willingness to join the Committee on Technical Barriers to Trade but it was not allowed to do so because Bulgaria is not a contracting party. However, it was felt that this matter should be considered by GATT itself.

1985 MEETING ON PROCEDURES FOR INFORMATION EXCHANGE

Participants in the meeting on procedures for information exchange reported on recent developments in their respective countries relating to standards information programmes, aimed at efficient servicing of the needs of national and foreign parties.

Since the last meeting of the GATT Committee on Technical Barriers to Trade in May 1983, enquiry points in several signatory countries had stepped up their information activities by establishing computerized data bases with retrieval facilities in respect of bibliographic references to standards-related documents. Other data assembled by the enquiry points included collections of texts of regulations, reference books, catalogues and directories based on national and international sources.

INFORMATION MEETING ON IMPLEMENTATION AND OPERATION OF THE AGREEMENT

This meeting was aimed at discussing ways and means for creating greater awareness about principles and objectives of the Agreement with a view to enabling developing country signatories to make fuller use of the Agreement and facilitating its acceptance by other developing countries. The presentations made at the meeting by the delegations covered various topics contained in an outline prepared in advance through discussions among the participating countries. India's contribution was on 'Special and differential treatment for developing countries'.

Although only a few non-signatory developing countries attended the meeting, it was reported that these countries were already in an advanced stage of preparation for acceptance of the Agreement. These delegations sought clarifications on various points

made by other participants and highlighted the standardization issues of concern to them and the developing countries in general for the purpose of coverage by the Agreement. It was also agreed that the written transcriptions of presentations made by the various participants should be made available to both the signatories and the non-signatories on request.

SPECIAL MEETING OF THE COMMITTEE

The Special Meeting of the Committee examined the adequacy and effectiveness of the Agreement and the obstacles to its acceptance which the contracting parties might have faced. The non-signatory contracting parties had also been invited to the Meeting to express their views in this respect.

Many delegations felt that the Committee had adopted at its meeting a large number of recommendations and decisions dealing with the operation of the Agreement, but most of these related to procedural matters. Only now some proposals made at the Special Meeting touched on more substantial issues. However, it was noted that the Agreement had operated at two different speeds—one for countries which were able to assess trade impact of the measures taken in a rapid and unequivocal way and the other for those which merely followed suit without being able to make an original contribution. Accordingly, some delegations felt that care should be taken to ensure that the Committee was not made to deal with areas which did not meet the shared interest of all the signatories. It was clarified that the guiding principle underlying the actions taken by the Committee was to make the operation and implementation of the Agreement for the benefit of all signatories. Furthermore, the procedures of the Committee enabled it to adopt decisions and recommendations by consensus.

Some delegations pointed out that there were difficulties in carrying out their obligations under the Agreement due to infrastructural problems. They also felt that the technical matter covered by the Agreement was quite complicated. Besides, the resources available were limited in some of the developing countries. There was general appreciation of acuteness of the problems encountered by the developing countries in this respect, and in particular of the difficulties faced in establishing the necessary infrastructure during the initial stages of their accession to the Agreement. It was also

(Continued on page 242)

ISO Meetings

- Development Committee
- Committee on Conformity Assessment

■ The International Organization for Standardization (ISO) held meetings of the Development Committee (DEVCO) and the Committee on Conformity Assessment (CASCO) during 6-7 May and 9-10 May 1985 in Geneva. India was represented at these meetings by Dr B. N. Singh, Additional Director General, ISI.

DEVELOPMENT COMMITTEE MEETING

The twentieth meeting of the Development Committee (DEVCO) was attended by 32 delegates from 23 countries besides representatives of the ISO Central Secretariat, DEVCO Secretariat, International Trade Centre (ITC) and International Organization for Legal Metrology (OIML).

The Development Committee appointed four task groups to complete work on the preparation of development manuals for the establishment of testing laboratories, development and organization of standards information centres, standardization for the export of local products and participation in international standardization. These development manuals are intended to assist standards bodies in developing countries in strengthening their activities at the national level. ISI was appointed a member of the two working groups for the preparation of development manuals on: (a) standardization for the export of local products; and (b) participation in international standardization.

The Committee requested the Secretariat to invite all its members from developing countries to suggest specific products for which ISO should prepare complete product specification standards and take the necessary steps to initiate such work in the relevant ISO technical committees. India had been emphasizing in various forums of ISO that ISO technical committees should develop complete product specifications to meet the needs of developing countries.

The draft Development Programme 1986-88 prepared by a working group with Dr B. N. Singh as Convener taking into account the needs and requirements of developing countries

was discussed and adopted for submission to the ISO Council for approval at its General Assembly in Tokyo during September 1985. India and a few other countries made statements regarding their technical cooperation programmes with other developing countries in the field of standardization and quality control at the meeting. In this regard, DEVCO appealed to all its members offering bilateral assistance to developing countries to align their assistance programmes with the ISO Development Programme to the extent possible. It also decided that, as a part of its annual meeting, it should regularly identify elements of the Development Programme which required to be given higher priority during the following year and also indicate possible sources of funds for these elements.

In his capacity as Convener of a working group set up to develop a document on guidelines for adopting/adapting international standards for national use, Dr Singh presented a modified draft prepared by ISI which was accepted for further processing.

Considering the limited resources available with many developing countries for participation in the ISO General Assembly and the desirability of their active participation in the meetings of the Development Committee, it was decided to request the ISO Secretary General to consider the possibility of arranging DEVCO meetings in conjunction with the General Assembly meetings. The Committee recorded its appreciation for the United Nations Industrial Development Organization (UNIDO) which had funded the participation of experts from developing countries in certain ISO technical committee and sub-committee meetings during 1984. It was informed that, in 1985 also, the same candidates would be sponsored to the same technical committees to enable them to develop expertise in a particular area.

COMMITTEE ON CONFORMITY ASSESSMENT

The first meeting of the Committee on Conformity Assessment (CASCO),

which was earlier designated as Certification Committee (CERTICO), was attended by 55 delegates from 35 countries as well as representatives of the International Electrotechnical Commission (IEC) and observers from United Nations Economic Commission for Europe (ECE), European Free Trade Association (EFTA) and Secretariats of the ISO Committee on Reference Materials (ISO/REMCO) and ISO/TC 176 Quality Assurance.

The Committee considered its proposed terms of reference and approved them with editorial amendments for submission to the ISO Council. It also decided to continue developing international guides for testing, inspection, certification of products, processes and services as well as for the operation and assessment of testing, inspection and certification bodies and quality systems. To investigate the possibility of evolving a procedure at the international level that would enable certification schemes established in developing countries to be recognized as meeting the requirements set out in ISO Guides and Publications dealing with certification principles and practices, it was decided to set up a small *ad hoc* group to study the criteria on which the ISO Council resolution on the subject was based, identify the problems in relation to specific products or product areas and report its findings to CASCO together with any recommendations. Another Working Group (ISO/CASCO/WG 2) was appointed to process a draft ISO/IEC Guide entitled 'Guidelines for the development of a quality manual for testing laboratories'.

The Committee also approved for submission to ISO and IEC Councils two drafts on 'general rules for ISO or IEC international third-party certification schemes for products' and 'guidelines on presentation of test results' with a view to publishing them as joint ISO/IEC Guides. Regarding registration of ISO Mark on Conformity, CASCO decided that further activity related to registration of an ISO Mark for possible use in a certification scheme should be held in abeyance until there is actual need for such action.

Standardization can play an important role in the conservation and effective utilization of limited petroleum resources. The author reviews in this paper the standardization work being done in India and abroad in regard to petroleum and its products with specific reference to the methods of testing — Ed.

Standardization of Petroleum Products: Methods of Testing

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■ Petroleum being a major source of energy, all countries in the world are giving utmost importance to its conservation and effective utilization of the limited resources available with them. One of the best ways to achieve this objective is standardization which is receiving considerable attention in relation to petroleum and its products the world over. In this regard, a good deal of work has been done in some of the advanced countries, such as the USA, the UK, France and Germany. India too has not lagged far behind in this field and is trying to keep pace with the advancing technology elsewhere in this area.

STANDARDIZATION EFFORT

Some organizations like the American Society for Testing and Materials (ASTM) in the USA and the Institute of Petroleum (IP) in the UK have standardized a number of test methods covering the full range of petroleum products and lubricants, and published them in the form of handbooks. So far, ASTM has published more than 500 test methods in a three-part handbook on petroleum products and lubricants while the Institute of Petroleum has formulated some 400 test methods which are contained in a handbook consisting of two volumes. For some important characteristics, both ASTM and IP have published independent methods but for most of the characteristics, they have joint ASTM/IP methods. The ASTM/IP methods are constantly revised, old methods deleted and new ones added to the handbooks which are published every year. These are followed by almost all the countries in the world.

As national standards body of India, ISI has given prime importance to standardization of petroleum and its products right from its inception. The first Sectional Committee on petroleum products (CEDC 1, since redesignated as PCDC 4) was set up way back in 1948 and a start was made with the standardization of some of

the popular brands of lubricants and greases marketed by foreign oil companies in India. Thereafter a number of product specifications were brought out within a short period. As it was not possible to have meaningful product specifications without first standardizing the methods of testing and evaluation, a separate Sectional Committee (CDC 29, since redesignated as PCDC 1) was set up for this purpose in 1960. The task assigned to this committee was speedy identification of the various test methods used in the country for testing and evaluation of different petroleum products and lubricants produced and marketed by the oil companies and codifying them for the guidance of the petroleum industry.

In view of the universal acceptance of ASTM/IP test methods, the Sectional Committee for methods of test for petroleum, petroleum products and lubricants (CDC 29, since redesignated as PCDC 1) decided to base Indian test methods on ASTM/IP test methods. A common designation (IS : 1448) with the title 'Methods of test for petroleum and its products' was selected for this purpose and the individual test methods published as 'P' series, that is, IS : 1448 (P : 1), (P : 2), (P : 3) and so on. The letter 'P' indicates the word 'Petroleum'. To start with, IS : 1448 was published in the form of a handbook, divided into parts. Part I comprised 42 test methods covering P : 1 to P : 42. Subsequently, other parts, namely, Parts II, III and IV were published as separate handbooks.

ADOPTION OF METHODS

For the adoption of new methods, requests are generally received from the product specifications committees, namely, PCDC 3 Petroleum Products Sectional Committee and PCDC 4 Lubricants and Related Products Sectional Committee. The existing ASTM/IP method or any other method referred to by PCDC 3 and PCDC 4 is studied by the concerned Subcom-

mittee under the Methods of Test for Petroleum, Petroleum Products and Lubricants Sectional Committee (PCDC 1) *vis-a-vis* availability of the test apparatus and reagents required as well as experience of various testing laboratories in the country regarding the method in question. In the case of non-availability of any apparatus/reagent, correlation schemes are organized on the alternate sources. Based on the data thus generated on the repeatability and reproducibility of the method, suitable modifications are carried out in the parent method before its adoption in the 'P' series (IS : 1448). A few important methods on which indigenous data was generated by way of running various correlation schemes before their adoption are as under:

- P : 1 Neutralization number by potentiometric titration
- P : 6 Calorific value by bomb calorimeter method
- P : 20 Flash point by Abel apparatus (An additional performance test was included in this method)
- P : 23 Hydrocarbon types in liquid petroleum products by fluorescent indicator absorption method
- P : 25 Kinematic and dynamic viscosity
- P : 86 Total base number by potentiometric perchloric acid titration method
- P : 88 Engine test method for evaluation of detergency characteristics of internal combustion engine crankcase oils (It is a new engine oil performance test method adopted on an indigenously available engine)
- P : 98 Emulsion stability of emulsifiable cutting oils
- P : 99 Frothing characteristics of emulsifiable cutting oils

In view of the rapid advancement of petroleum technology and refinement in the testing and evaluation techniques,

it is essential to constantly review the existing test methods and update them within a time frame. The main job of the Secretariat of PCDC 1 is to scrutinize the corresponding ASTM/IP methods published in the yearly volumes of ASTM/IP handbooks and prepare a comparative statement highlighting the various changes for the consideration of the Sectional Committee. After studying these changes *vis-a-vis* their applicability and relevance to the Indian petroleum industry, the Sectional Committee decides about the revision of or amendment to the relevant Indian Standards.

To keep pace with the frequent revisions of the existing methods and cope with the urgent need for adding more and more new methods recommended by PCDC 3 and PCDC 4 it became difficult to take up the revision of all the parts of IS : 1448 published in the form of a handbook.

Moreover, in view of the convenience to users and from the sale point of view, it was decided to split the various parts of the Handbook into individual standards and publish the different methods in leaflet form. So far, 120 Indian test methods have been published under IS : 1448 as P : 1 to P : 120 and are being offered for sale. Another 20-25 test methods are at various stages of adoption.

INSTRUMENTAL METHODS

With the advent of new sophisticated instrumental methods for the testing of petroleum products and lubricants, the conventional chemical methods are becoming obsolete. To keep pace with the new advancements in technology and petroleum testing, a Subcommittee for instrumental analysis (PCDC 1 : 12) was set up recently to deal with the instrumental methods. The main job of this Subcommittee is

to study the various instrumental test methods published under ASTM/IP and UOP (Universal Oil Products) series *vis-a-vis* instrumental techniques used in the country for the testing of petroleum, lubricants and related products. Data was also collected from the various research and testing centres in the country regarding availability of sophisticated instruments like those used for gas liquid chromatography (GLC), ultra-violet (UV) spectroscopy, infra-red (IR) spectroscopy, nuclear magnetic resonance (NMR) and atomic absorption spectroscopy (AAS) along with details of the test methods followed by them. Based on this data, the Subcommittee assigned the priorities and prepared a list of instrumental methods to be adopted under P : 1448. During a short span of three years, a number of instrumental methods have already been published under IS : 1448 and some more are in the pipeline.

CODE OF PRACTICE FOR GENERAL CONSTRUCTION IN STEEL — Second Revision Available

The Indian Standards Institution has just brought out second revision of the Indian Standard code of practice for general construction in steel (IS : 800-1984). IS : 800 is a comprehensive code widely used and accepted by engineers, technical institutions, professional bodies and the industry for carrying out design, fabrication and erection of practically all types of steel structures.

First in the series of Indian Standards brought out under the Steel Economy Programme initiated by ISI in the 1950's with the object of achieving economy in the use of structural steel by establishing rational, efficient and optimum standards for structural steel products, this standard was originally published in 1956 and later revised in 1962.

The second revision of the Standard has been brought out to incorporate the useful information and suggestions received during its usage by concerned agencies, also giving due consideration to the developments which have taken place in the country and abroad during this period. In this revision, the original title of the Standard, namely, 'Code of practice for use of structural steel in general building construction' has been changed as 'Code of practice for general construction in steel' as it is generally applicable to all types of steel structures and not limited to buildings, alone.

In view of the development and production of new varieties of medium and high tensile structural steels in the country, the scope of the Code has been modified permitting the use of any variety of structural steel provided the relevant provisions of the Code are satisfied.

Among the other major modifications effected in this revision are presentation of the formulae and values in the standard in SI Units only and alignment of the symbols, to the extent possible, with the International Standard 'ISO 3898-1976 Basis for design of structures — Notation — General symbols' published by the International Organization for Standardization (ISO). Detailed design rules have also been included for the design of structures using the plastic theory.

Since the Code specifies a number of grades of steel with different yield strengths, the design parameters, geometrical properties and permissible stresses have been expressed in terms of yield strength of the material. Besides, specific provisions relating to limiting deflection have been added and the effective lengths of columns dealt with in greater detail. The secant formula for the calculation of permissible stresses in axial compression has been replaced by the Merchant Rankine formula. The method of calculating critical stresses in bending compression has been simplified and expressed in terms of geometrical properties of the section. Besides, the Merchant Rankine formula has been used for calculating permissible stresses in bending compression.

Copies of the Standard, priced at Rs 50.00, can be had from ISI Headquarters at New Delhi and its Regional and Branch Offices, at Bombay, Calcutta, Chandigarh, Madras, Ahmadabad, Bangalore, Bhopal, Bhubaneswar, Hyderabad, Jaipur, Kanpur, Patna and Trivandrum as also the Inspection Office at Pune.

STANDARDS NEWS

NATIONAL SEMINAR ON CONSUMER AWARENESS

The National Seminar on Consumer Awareness was jointly organized by Indian Standards Institution and Lions Club of Mehdiapatnam in Hyderabad on 19 May 1985. Shri O. P. Tibrewala, District Governor, Lions Clubs International, District 324-C 2, Hyderabad, presided over the Seminar.

Addressing the participants, Dr P. L. Sanjeeva Reddy, Managing Director, Andhra Pradesh Industrial Development Corporation, said that customer service and customer satisfaction should be the guiding principles in the working of any organization. At the same time, he stressed the need for creation of quality-consciousness among consumers who were mostly price-conscious.

Shri M. R. Subramanyam, General Manager, Telephones, said that operation of telephones was an extremely delicate and sensitive service which could not be compared with any other public utility service. He added that there were about 510 million telephones in the world 80 percent of which were concentrated in some 13 developed countries. Shri Subramanyam stressed the importance of handling the instrument carefully and explained how it should be used to avoid inconvenience. He revealed that schemes were being worked out to minimize or prevent the problems from recurring and promised better service to the consumer.

Dr N. Tata Rao, Chairman, Andhra Pradesh State Electricity Board, said that investments should be allocated judiciously among the various sectors in a planned economy and a developing country like India to ensure equitable development in all the fields. For effective consumer service, he stressed the need for discipline among employees of organizations working for the welfare of the general public. Generation of electricity, he said, must always be ahead of demand and

adequate steps should be taken for its proper distribution.

Shri Y. K. Bhat, Director, Hyderabad Branch Office, ISI, brought out the different aspects of consumer service being attempted by the Institution. Among the activities undertaken by it, laying down of quality specifications and provision of guidance in regard to information labelling were of direct interest to the consumers. He also explained the mechanics of the ISI Certification Marks Scheme and its relevance to the common consumer.

Earlier, Shri G. P. Rao, District Chairman of Consumer Awareness, stressed the need for a strong consumer movement in the country.

WORKSHOP ON QUALITY ASSURANCE, PANAJI

A Workshop on Quality Assurance through ISI Certification Marks Scheme was jointly organized by the District Industries Centre, Panaji, and Indian Standards Institution on 24 May 1985 at Panaji (Goa).

Inaugurating the Workshop, Shaikh Hassan Haroon, Minister for Industries, Government of Goa, Daman and Diu, urged the entrepreneurs to be quality-conscious in respect of their products. He said that competition was fast growing and it was essential to improve the quality of goods produced in the country. He appealed to industrialists to come forward in large numbers to avail themselves of the various services offered by ISI, particularly in the field of certification marking.

In his keynote address, Shri S. R. Kuppanna, Deputy Director General (Western Region), ISI, gave a brief account of the activities of the Institution and hoped that the participants would take full advantage of the deliberation of the Workshop.

Addressing the participants, Shri M. Murugkar, Director, Western Regional Office, ISI, described the salient

features of the ISI Certification Marks Scheme and explained the procedure adopted for its operation. He also gave a brief account of certification of household electrical appliances.

Besides, a paper 'Certification of electrical appliances', prepared by Shri Jaykumar, Assistant Director, Western Regional Office, ISI, was circulated among the participants.

WORLD ENVIRONMENT DAY 1985

Concern for environmental degradation and hopes for a better tomorrow were the dominant themes at the various functions held in the Capital and elsewhere in the country to celebrate the World Environment Day this year. The Day has been celebrated on 5 June every year since 1977 in commemoration of the opening day of the United Nations Conference on Human Environment in Stockholm in 1972 to create greater awareness about the problem of pollution facing mankind the world over.

In a message on the World Environment Day, Prime Minister Shri Rajiv Gandhi regretted that air and water pollution, denudation of forests and extinction of ecosystems had become 'standards bearers of the apocalypse' and called upon the people to 'preserve and pass on to coming generations an environment purer than that which we have inherited'. In this context, he said, it was encouraging that a number of people across the world, particularly the young, had dedicated themselves to restoring the environment 'in an affirmation of faith in life'.

The message was read out at a function organized in New Delhi by the National Museum of Natural History to mark the annual World Environment Day celebrations. The highlight of the function was release of a special stamp on bougainvillea by the Postal Department and the annual lecture on 'Ecology and Indian myth' by

Dr Kapila Vatsyayan, Secretary of the Indira Gandhi National Centre for Arts. Dr Vatsyayan emphasized the importance of maintaining ecological balance as enjoined upon mankind by the Vedas and other scriptures.

Speaking on the occasion, Shri Vir Sen, Union Minister of State for Environment and Forests, called on the youth to help improve environmental conditions in the country to save future generations from the danger of extinction due to environmental pollution.

A two-day Workshop on Heritage Conservation was also organized by the Indian Environmental Society in New Delhi on the occasion of the World Environment Day. Inaugurating the Workshop, Shri R. N. Mirdha, Union Minister of State for Communications, stressed the need for updating some of the age-old laws for the preservation of India's ancient monuments and archaeological sites. The Minister added that there was an urgent need to develop and support informal education and information programmes on environment including those conducted by voluntary agencies which had an important role to play in socially relevant issues like protection of the environment and conservation of architectural heritage.

At another function organized by the Delhi Administration to mark the Day, the Lt-Governor of Delhi, Shri M. M. K. Wali, said that 60 percent of the air pollution in Delhi was contributed by industrial emissions and 40 percent by vehicular exhausts. Three power stations in the city contributed 82 percent of the industrial air pollution while three industrial areas in Delhi accounted for the rest.

To deal with this problem effectively, the Delhi Administration was preparing an approach paper on environment for the Seventh Five-Year Plan suggesting a number of schemes including study of pollution in the river Yamuna, reclamation of mines area, conservation of the ridge, control of noise and vehicular air pollution, and establishment of a bird sanctuary.

At Chandigarh, the World Environment Day was observed by holding an informative and educative exhibition of posters. The Environment Society of Chandigarh had on display exhibits and attractive posters on different aspects of environment, landscape, forest wealth, wildlife, sanitation, atmospheric pollution, flowers and plants, sea life, water and other natural resources. A number of posters brought out by Environment Department of the Government of India on subjects, such as conservation of water and prevention of noise were also on display. Besides, the Postal

Department contributed a set of blow-ups of stamps on flora and fauna.

At Jaipur, a two-day National Seminar was organized by the Rajasthan State Board for the Prevention and Control of Pollution on the theme 'Environmental protection is the prime need of the society'. Speaking on the occasion, Shri Shesh Ram Ola, Rajasthan Minister of State for Environment, emphasized the importance of afforestation programmes currently under operation all over Rajasthan and sought the cooperation of people and voluntary organizations in protecting the environment. The Secretary of the Department for Environment, Government of Rajasthan, Shri R. Ramkrishnan, also stressed the need for arresting desertification and suggested a massive programme of afforestation throughout the State.

The National Environment Engineering Research Institute (NEERI) celebrated the World Environment Day at Nagpur by organizing an exhibition and elocution contest on the theme 'Youth, population and environment'. Besides, four new NEERI publications were released on the occasion. Addressing the gathering, Dr M. A. Chansarkar, Vice-Chancellor, Nagpur University, urged the people to develop comradeship with the environment so that no harm was done to it while achieving industrial and economic goals.

ENVIRONMENT AWARDS

Prof R. S. Ramakrishnan of the School of Environmental Sciences,

Jawaharlal Nehru University, has been awarded the 1985 Pitambar Pant National Environment Fellowship in recognition of his distinguished services in the field of ecology and environmental sciences and for his work in the area of shifting cultivation. Given every year by the Department of Environment, the Fellowship was instituted in 1977 to focus attention on the increasingly vital role played by environmental sciences in ensuring a better quality of life.

The 1984 Environment Award of Rs 100 000 has gone to **Sulaha International, Patna**, for remarkable progress made by them in developing and demonstrating low-cost techniques for disposal of human waste in rural and urban areas, bringing about a sanitary revolution. The second prize of Rs 50 000 was awarded to the **Millions of Trees Club, Tumkur** (Karnataka), which converted barren land into a paradise. Instituted by Asian Cables in the memory of its former Chairman, Shri K. P. Goenka, the Award encourages institutions and individuals working in the field of environment to help preserve a balanced ecology.

SECOND WORLD CONGRESS ON ENGINEERING AND ENVIRONMENT, NEW DELHI

The Institution of Engineers (India) is organizing the Second World Congress on Engineering and Environment in New Delhi during 7-9 November 1985. The main theme of the Congress is 'Technology for a better world environment'. The sub-themes



Shri A. Govindan, Head, Trivandrum Branch Office of ISI (left), receiving a cup as First Prize for the ISI pavilion being adjudged the best among pavilions put up by Central Government establishments at the Pooram Exhibition held in Trichur during 3 April - 30 May 1985. The ISI pavilion depicted various activities of the Institution through charts and photographs besides displaying a number of ISI-marked products

amending immediately the Factories Act for laying down responsibilities of the managements towards safety, ensuring that products including machinery used were safe and workers were properly trained in safety practices.

It was decided that a committee would be set up to suggest measures required to look into safety aspects in small scale units. The panel will include representatives of Maharashtra, West Bengal, Gujarat, Karnataka and Andhra Pradesh. It will identify potentially hazardous units in these States.

— The Business Standard, 1 May 1985



Stern Government Measures Against Pollution

The States have been asked to deal sternly with hazardous and polluting industries with a view to averting mishaps and ensuring safety of workers and population in the vicinity, Union Minister for Chemicals and Fertilizers, Shri Veerendra Patil, informed the Rajya Sabha on 2 May 1985.

Replying to a calling attention motion on the recent leakage of ammonia gas in Bombay, Shri Patil said that the States had been told to amend their factory legislation, providing for stringent measures against erring units.

Shri Patil said that it had been made clear to the States that they should not allow the running of any plant which had been identified as hazardous to public health.

He added that 20 industries particularly prone to pollution had been identified in different parts of the country. It was for the respective State Boards for Pollution Control to monitor these units and shut down, if necessary, the plants not falling in line.

The Minister shared the members' concern on the growing pollution menace, particularly in the urban centres. He said that the Government's latest policy on the subject was categorical that no new industrial unit would be allowed in an urban area.

— The Hindustan Times, 3 May 1985



Work Apace on Conservation Strategy

The Centre is preparing a National Conservation Strategy to provide perspective plan for integration of environmental concerns in developmental projects. The Centre has identified 24 sectors for this purpose. The 1984-85 Report of the Ministry of Environment and Forests stated that although significant progress had been made for control of industrial pollution, the discharge of domestic wastes continued to be a major source of pollution. Zoning and classification of all the 14 inter-state rivers had been completed to facilitate water quality management and to prevent pollution.

According to the report for selected polluting industrial projects, which came under the purview of licensing system, normalized procedure had been evolved to ensure that environmental considerations were taken into account at the site selection stage.

Besides, environmental guidelines for setting up of industry had been recommended outlining the considerations for site selection, environmental impact assessment and requirements for environmental management during implementation of such projects.

A policy paper for legislative and institutional framework to regulate the import, manufacture, handling and disposal of hazardous substances of toxic chemicals and microorganisms has also been prepared. A document recommending threshold limit values for selected hazardous substances in the work environment has also been finalized.

— The Financial Express, 12 May 1985



Delhi's Waste Can be Made into Energy

Delhi's urban waste could be converted into energy and the city cleaned up fast if an ambitious project planned by the Department of Non-conventional Energy Sources (DNES) finds full financial support from the Government.

It has been calculated that the metropolis spawns 2100 tonnes of waste every day. A pilot project under implementation in the city will turn a seventh of this waste into energy equivalent to 3.71 MW per day. The plant will be ready by March 1987.

Shri Maheshwar Dayal, Secretary, Department of Non-conventional Energy Sources, told reporters in Bangalore on 8 May 1985 that a part of the Okhla sewage was being converted into energy which supplied cooking gas to 2 000 homes. The entire sewage could not be used for lack of digesters which were being imported from Denmark, he said.

— The Hindustan Times, 9 May 1985



Mine Safety Rules May be Tightened

The Department of Mines is considering suitable amendments to the Mineral Concession Rules, 1960 to ensure that lessees do not flout safety provisions of the Mines Act, 1952.

The problem of damage to environment by unscientific mining operations has engaged the attention of the Departments of Mines, Environment, Labour and Rehabilitation, according to an official release.

The Department of Environment is also examining the matter for framing suitable guidelines for carrying out mining operations in ecologically fragile zones. This will obviously take into account the points raised by the Small Quarry Association.

Although there are provisions in the existing rules against unscientific and unsafe mining operations, these provisions are not sufficient to put a check on unscrupulous mining operations for earning quick profits. The problem of damage caused to environment by unscientific mining operations has increased, particularly in Dehra Dun and Mussoorie area of Uttar Pradesh as a result of quarrying operations for limestone.

— The Business Standard, 8 May 1985

COMMITTEE MONTH

ELECTRONICS AND TELECOMMUNICATION DIVISION COUNCIL

The seventh meeting of the Electronics and Telecommunication Division Council (LTDC) was held in New Delhi on 18 April 1985 under the chairmanship of Prof S. Sampath. The Council re-elected Prof Sampath as Chairman of the Division Council for another term of three years ending 31 December 1987 and co-opted Lt-Gen D. Swaroop as a member of LTDC in his personal capacity after his retirement from the Ministry of Defence. Lt-Gen Swaroop was also re-elected Vice-Chairman for another three-year term.

The Council appointed new Chairmen for six Sectional Committees as under: (a) Dr R. P. Wadhwa (Department of Electronics, Government of India)—LTDC 2 Environmental Testing Procedures Sectional Committee; (b) Shri K. D. Pawate [Central Electronics Engineering Research Institute (CEERI), Pilani]—LTDC 5 Acoustics Sectional Committee; (c) Shri J. S. Raju [Electronic Regional Test Laboratory (North), New Delhi]—LTDC 7 Electro-mechanical Components for Electronic Equipment Sectional Committee; (d) Shri S. P. Bhatikar (All India Radio,

This month, we report the proceedings of 16 committees which held their meetings during the month of April 1985. Detailed notes regarding two committee meetings are given below. The Table of Meetings lists important items of business transacted by other committees.

New Delhi)—LTDC 20 Radio Communications Sectional Committee; (e) Shri R. G. Deodhar [Wireless Planning and Coordination Wing (Ministry of Communications), New Delhi]—LTDC 22 Electromagnetic Interference Suppression Sectional Committee; and (f) Shri K. J. Nair (All India Radio, New Delhi)—LTDC 23 Recording Sectional Committee.

The Council approved the revised scope and programme of work of Nuclear Instrumentation Sectional Committee (LTDC 26). The scope of this Sectional Committee had been modified to make it more comprehensive and includes preparation of national standards relating to electrical and electronic equipment and systems for instrumentation specific to nuclear applications.

Reviewing the activities of the Division Council during 1 April 1983 — 31 December 1984, the Council noted with satisfaction that 145 standards had been sent for printing, 150 draft standards issued into wide circulation and 164 preliminary draft standards prepared. Of the standards published during the period under review, specific mention may be made of those relating to methods of measurement on television receivers (black & white and colour), radio equipment for use in mobile services, radio transmitters,

and video tape recording and reproducing equipment; and specifications for insulation resistance testers (electronic type), colour TV receivers, programming languages (FORTRAN and COBOL), hearing aids, print for magnetic ink character recognition (MICR) and coding of machine readable characters (MICR and OCR) for information processing.

The Council also approved 38 new subjects for standardization of which 36 pertained to nuclear instrumentation and the remaining two to wires and cables. In respect of three subjects namely, automatic plain-paper copier, digital telephones and digital telecommunication equipment, further study was suggested before taking up work at national level.

As regards new areas of work, specially computers for banking and personal computers, the Council was informed that standardization of computers for banking industry was under the active consideration of Computers, Business Machines and Calculators Sectional Committee (LTDC 24). In the case of personal computers, the work of a task force set up by the Department of Electronics, Government of India could form the basis for national standards.

Discussing the ways and means for implementation of electronics standards, it was suggested that, in areas where a large number of standards had been formulated, industrywise conferences should be arranged to bring together manufacturers and users who could give feedback for revision/amendment of standards. A beginning could be made with such conferences in the field of consumer electronics like television, video recording and small computers.

The Council emphasized the vital role of LTDC in putting electronics industry on a solid footing in view of the ambitious plan of the Government to expand this industry to the envisaged target of Rs 100 000 million by the end of the Seventh Five-Year Plan. Com-



Prof S. Sampath (third from right) presiding over the seventh meeting of the Electronics and Telecommunication Division Council (LTDC). Others in the picture are (from left): Shri O. P. Khusu, Chief Engineer, and Shri S. P. Bhatikar, Engineer-in-Chief, All India Radio; Shri D. Ajitha Simha, Deputy Director General, Dr B. N. Singh, Additional Director General, and Shri N. Shrinivasan, Director, ISI; and Dr Kailash Chandra, Deputy Director, National Physical Laboratory



During March 1985, the Institution specified standard marks for three products. Besides, 332 new licences were granted, Particulars of all these, as well as additional varieties of products included in the existing licences and the licences cancelled/lapsed are given in the tables which follow.

STANDARD MARK

DESIGN OF THE
STANDARD MARK

PRODUCT/CLASS OF PRODUCT AND THE NUMBER OF RELEVANT INDIAN STANDARD



Metal surgical implants used for bone surgery (general requirements) type — Wrought stainless steel surgical implants excluding wire implants — IS : 5347-1979



Alginate dental impression material — IS : 6036-1970



Hot rolled skelp/strip for welded tubes and pipes — IS : 10748-1984



NEW LICENCES GRANTED

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1385354 1985-02-26	Rajesh Cement Pipe Industries, Sheorampur, Karwi, Banda (UP)	IS : 458-1971
CM/L-1385455 1985-02-26	Alok Pipe Enterprises, 146 G. T. Road, Mohan Nagar, Ghaziabad 201007 (UP)	IS : 1239 (Part 1)-1979
CM/L-1385556 1985-02-26	Damodar Iron Works, Poona-Bangalore Road, Belgaum 590016	IS : 1726 (Part 5)-1974
CM/L-1385657 1985-02-26	Kayvees Food Products Pvt Ltd, Plot No. 129-132, Sector-A, Industrial Area, Mandideep, Dist Raisen (MP) (Office: 11 Sindhi Market, Bhopal 462001)	IS : 1011-1981
CM/L-1385758 1985-02-26	Hooghly Mills Company Ltd, 9 Garden Reach Road, Calcutta 700043 (Office: 10 Clive Row, Calcutta 700001)	IS : 2580-1982
CM/L-1385859 1985-02-26	Orient Engineering Works Pvt Ltd, Dolomundai, Cuttack 753001	IS : 1970 (Part 1)-1982
CM/L-1385960 1985-02-26	Coromandal Fertilizers Ltd, Post Chilamkur, Taluk Kamalapuram, Dist Cuddapah (AP) (Office: 126 S. D. Road, Secundrabad 500003)	IS : 1489-1976
CM/L-1386053 1985-02-26	Linksom polyplast Pvt Ltd, (Unit: Ashish Industries, Ujjain) 49-50 Industrial Estate, Maski Road, Ujjain (Office: 23/3, Yashwant Niwas Road, Near Sati Gate, Indore)	IS : 4985-1981

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1386154 1985-02-26	Nezone Tubes Ltd, Paschim Boragaon, P.O. Gota-nagar, NH 37, Gauhati 781012 (Office: Jasawanta Road, Pan Bazar, Gauhati 781001)	IS : 1239 (Part 1)-1979
CM/L-1386255 1985-02-26	do	IS : 1161-1979
CM/L-1386356 1985-02-26	Ambajee Rang Udyog, 7699/39 Dharampur Lodge, Clock Tower, Delhi 110007	IS : 5410-1969
CM/L-1386457 1985-02-26	Murti Enterprises, A-125, Group Industrial Area, Wazirpur, Delhi 110052	IS : 9301-1982
CM/L-1386558 1985-02-26	Pix Transmission Pvt Ltd, J-7, MIDC, Hingna Road, Nagpur, (Office: 'PALS', 1st Floor, TPS 4, Bandra, Bombay 400050)	IS : 2494-1974
CM/L-1386659 1985-02-26	Vanaz Engineers Pvt Ltd, Sadavli (Deorukh), Dist Ratnagiri 415804 (Office: 85/1 Poud Road, Pune 411029)	IS : 8737 (Part 2)-1978
CM/L-1386760 1985-02-26	Guruom Industries, Approach Road, Tali Vijapur, Dist Mehsana	IS : 9079-1979
CM/L-1386861 1985-02-26	Ashoka Wire Products, Chowk Preet Nagar, Tanda Road, Jalandhar	IS : 2141-1979
CM/L-1386962 1985-02-26	Indian Metal & Steel Works, Opp Gurudwara, Industrial Area, Jalandhar	IS : 778-1980
CM/L-1387055 1985-02-26	Karnataka Water Pumps Pvt Ltd, 13-C, Attibella Industrial Area, P. O. Veralur, Taluk Anekal, Bangalore (Office: 20/1 1st Floor, Silver Jubilee Park Road, Bangalore 560002)	IS : 9301-1982
CM/L-1387156 1985-02-26	Raka Food Products, 371/1 A, N S N Palayam, Coimbatore 641031 [Office: 71 Ponnurangam Road (West R. S. Puram), Coimbatore 641002]	IS : 1011-1981
CM/L-1387257 1985-02-26	Universal Cables Ltd, P.O. No. 9, Satna 485001	IS : 9968 (Part 2)-1981
CM/L-1387358 1985-02-26	Shri Padmavati Udyog, 19 C, Harish Neogi Road, Calcutta 700067	IS : 10 (Part 2)-1976
CM/L-1387459 1985-02-26	Mewar Tin Factory, F-48 Mewar Industrial Area, Madri, Udaipur 313001 (Rajasthan) (Office: F38 Bhupalpura, Udaipur 313001)	IS : 10325-1982
CM/L-1387560 1985-02-26	Arun Engineering Industries, Pvt Ltd, Shantinagar Co-operative Industrial Estate, Vakola, Santa Cruz (East), Bombay 400055	IS : 7538-1978
CM/L-1387661 1985-02-26	Jain Accessories & Fittings, Survey No. 77, Nimkhedi Khurd, Jalgaon 425001 (Office: 152 Polan Peth, P. B. No. 20, Jalgaon 425001)	IS : 10124 (Part 8 to 11)-1982
CM/L-1387762 1985-03-04	Sankla Appliances Pvt Ltd, Plot No. 64, Sector 24, Faridabad 121005 (Haryana)	IS : 4246-1984
CM/L-1387863 1985-03-04	Gwalior Polypipes Ltd, Village Malanpur, Dist Bhind (MP) (Office: 1 New Kherapati Colony, Gwalior)	IS : 4985-1981
CM/L-1387964 1985-03-04	Chemco Technicals, H-7, Industrial Area, Site-2, Unnao (UP) (Office: 14/76, Civil Lines, Unnao)	IS : 35-1975
CM/L-1388057 1985-03-04	Nishan (India) Rubber Pvt Ltd, 6/2 Mehar Ali Lane, Calcutta 700015 (WB)	IS : 3976-1975
CM/L-1388158 1985-03-04	Prithvi Innovations Pvt Ltd, 354 Pradhan Market, Nirankari Colony, Delhi 110009	IS : 4246-1984
CM/L-1388259 1985-03-04	Ambajee Rang Udyog, 7699/39 Dharampur Lodge, Clock Tower, Delhi 110007	IS : 427-1965
CM/L-1388360 1985-03-04	Prakash Pulverising Mills, 1 Old Industrial Area, Opp. Railway Goods Shed, Alwar	IS : 8074-1983
CM/L-1388461 1985-03-04	Paints & Adhesives Corporation, 32-A Industrial Area, Govindpura, Bhopal 462023	IS : 2339-1963
CM/L-1388562 1985-03-04	Agrawal Chemicals, 37/A Industrial Area No. 1, A-B Road, Dewas (MP) (Office: 23 Badla Sarafa, Indore)	IS : 4956-1981
CM/L-1388663 1985-03-04	Ashok Iron & Steel Rolling Mills, Chauri Chaura, Dist Gorakhpur	IS : 1786-1979
CM/L-1388764 1985-03-04	EMS Enterprises, 156/143 Biren Roy Road West, Calcutta 700061	IS : 6595-1980
CM/L-1388865 1985-03-04	General Electric Company of India Ltd, Pollachi Main Road, P. O. Eachanary, Coimbatore 641021	IS : 996-1979

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1388966 1985-03-04	Hindustan Packers, Rai Nagar, 'Kanhani', Dist Nagpur (Office: Sunderlal Rai Path, New Ranidas-peth, Nagpur 440010)	IS : 10212 (Part 2)-1982
CM/L-1389059 1985-03-04	Goel Cables, 1/359 Street No. 3, Friends Colony, Industrial Area, G.T. Road, Shahdara, Delhi 110032	IS : 1554 (Part 1)-1976
CM/L-1389160 1985-03-04	B. R. Engineering Corporation, 182 Globe Colony, Industrial Area, Jalandhar 144004	IS : 778-1980
CM/L-1389261 1985-03-04	Universal Foundry, B-307, Road No. 16, Vishwakarama Industrial Area, Jaipur 302013	IS : 774-1971
CM/L-1389362 1985-03-04	Seth Iron Foundry, Howrah Amta Road, Baltikuri, Howrah 711402	IS : 7181-1974
CM/L-1389463 1985-03-04	Shri Ambica Metal Works, 26 Upendra Chandra Banerjee Road, Calcutta 700054 (Office: 17 Tarak Pramanik Road, Calcutta 700006)	IS : 4760-1979
CM/L-1389564 1985-03-04	Hegde Cables Industries Pvt Ltd, 104 MIDC, Bhosari, Pune, 411026	IS : 694-1977
CM/L-1389665 1985-03-04	Steel Authority of India Ltd, Rourkela Steel Plant, Rourkela 769011	IS : 5986-1970
CM/L-1389766 1985-03-04	Vivin Controls (P) Ltd, 7/74 Palghat Main Road, Kuniamuthur, Coimbatore 641008	IS : 8623 (Part 1)-1977
CM/L-1389867 1985-03-04	Super Industries, Industrial Area, Sinnar, Wawi Road, Dist Sinnar, Nasik (Office: Nandadeep Shivaji Road, Nasik 422101)	IS : 3196-1982
CM/L-1389968 1985-03-04	Sett Iron Foundry, Howrah-Atma Road, Baltikuri Howrah 711402	IS : 1538-1976
CM/L-1390044 1985-03-04	Gayson Rolling Mills Pvt Ltd, Industrial Area, Barotiwala (HP)	IS : 1977-1975
CM/L-1390145 1985-03-04	Alok Pipe Enterprises, 14 G.T. Road, Mohan Nagar, Ghaziabad 201007 (UP)	IS : 1161-1979
CM/L-1390246 1985-03-04	Archana Re-rolling Mills (A Unit of M/s Archana Steels Pvt Ltd), 3 Industrial Area, Chandigarh	IS : 226-1975
CM/L-1390347 1985-03-04	Ambica Iron & Steel Works and Re-Rolling Mills, Saijpur Bogha, Near G. D. School, Ahmadabad 382345	IS : 226-1975
CM/L-1390448 1985-03-08	Achme Electrodes, D-2/18 D-2/19, Mancheswar Industrial Estate, Bhubaneswar 751005	IS : 814 (Part 1)-1974
CM/L-1390549 1985-03-08	Ruby Industrial Corporation, A-10, Sector V, Noida, Dist Ghaziabad (UP)	IS : 4246-1984
CM/L-1390650 1985-03-08	Usha Martin Industries Ltd, Tatisilwai 835103, Ranchi (Bihar) (Office: 14 Princep Street, Calcutta 700072)	IS : 280-1978
CM/L-1390751 1985-03-08	Art Plywood Industries Ltd, P. O. Margherita, Dist Dibrugarh (Assam) 786181 (Office: 26 Chittaranjan Avenue, Calcutta 700012)	IS : 1659-1979
CM/L-1390852 1985-03-08	Poddar Industrial Corporation, Village Rupaspur, P. O. Dhanaut, Via G.P.O., Patna (Office: Poddar Tiles, Exhibition Road, Patna 800001)	IS : 1592-1980
CM/L-1390953 1985-03-08	Universal Traders, Khasra No. 299, Gokalpur, P.O. Gokalpuri, Delhi 110094	IS : 694-1977
CM/L-1391046 1985-03-08	Deluxe Electrical Industries, C-105/6, Naraina Industrial Area, Phase I, New Delhi 110028	do
CM/L-1391147 1985-03-08	Kirloskar Bros, Ltd, Kirloskarwadi 416308, Dist Sangli (Office: Udyog Bhawan, Tilak Road, Pune 411002)	IS : 5312 (Part 1)-1969
CM/L-1391248 1985-03-08	Mech (India) Industries, B-34/9 G.T. Karnal Road, Industrial Area, Delhi 110033	IS : 204 (Part 2)-1978
CM/L-1391349 1985-03-08	Gujarat Krishichem Corporation, C-5/185, GIDC, Vapi, Dist Bulsar	IS : 8446-1977
CM/L-1391450 1985-03-08	Corn Products Company (India) Ltd, Plot No. 7, MIDC Industrial Estate, Post Ghansoli, P. O. Box 65, Thane 400701 (Office: Shree Niwas House, H. Somani Marg, Bombay 400001)	IS : 4467 (Part 2)-1980
CM/L-1391551 1985-03-08	Kamdhenu Pesticides, 50/51-A, Hadapsar Industrial Estate, Hadapsar, Pune 411013	IS : 8074-1983
CM/L-1391652 1985-03-08	Shivalik Agro Chemicals, B-59, Phase VII, Industrial Focal Point, S. A. S. Nagar, Mohali	IS : 8291-1976

LICENCE No. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1391753 1985-03-12	Hindustan Wires Ltd, 267 & 268, Sector 24, Faridabad (Haryana)	IS : 8737 (Part 2)-1978
CM/L-1391854 1985-03-12	Hindustan Pulverising Mills, Village Bakoli, G. T. Karnal Road, Delhi 110036 (Office: 278 Katra Peran, Tilak Bazar, Post Box 2006, Delhi 110006)	IS : 3903-1975
CM/L-1391955 1985-03-12	Hymatic Industries, 42 New Wazirpur Industrial Complex, Delhi 110052	IS : 5135 (Part 2)-1977
CM/L-1392048 1985-03-12	Acromix Chemicals & Coatings Pvt Ltd, 327 Jona-pur, Mehrauli, New Delhi 110030	IS : 2074-1979
CM/L-1392149 1985-03-12	Alok Pipe Enterprises, 14 G. T. Road, Mohan Nagar, Ghaziabad 201007 (UP)	IS : 3601-1966
CM/L-1392250 1985-03-12	Singhal Iron Foundry, Farah, Mathura (UP) (Office: 54 Saket Colony, Agra)	IS : 1729-1979
CM/L-1392351 1985-03-12	Railway Equipment & Engineering Works, Agra-Delhi Bypass, Near Village Maholi, Mathura(UP)	IS : 8794-1978
CM/L-1392452 1985-03-12	Roxy Enterprises Pvt Ltd, 308/9 Shahzada Bagh, Old Rohtak Road, Delhi 110035	IS : 1596-1977
CM/L-1392553 1985-03-12	Premier Packagings (P) Ltd, Mohan Nagar, Ghaziabad 201007 (UP)	IS : 10212 (Part 1)-1982
CM/L-1392654 1985-03-12	Industrial 'H' Packers, 275 Ramakrishna Puram, Villivakkam, Madras 600049 (Office: 224/4-Rohini Flats, Anna Nagar, West Extension, Madras 600101)	IS : 1322-1982
CM/L-1392755 1985-03-12	Aum Cement Company Pvt Ltd, Bamanbere, N. H. & B., Taluk Chotila, Dist Surendranagar Gujarat (Office: Dhebar Road, Municipal Chowk, Rajkot 360001)	IS : 269-1976
CM/L-1392856 1985-03-12	Technis Industries, Plot No. A-27/6, Deenar Village Road, Deenar, Bombay 400088	IS : 2594-1977
CM/L-1392957 1985-03-12	Magnarc Electrodes (P) Ltd, Pendurthi, Visakhapatnam 531173 (Office: Plot No. 3, T.P.T. Colony, North Extension, Seethammadhara, Visakhapatnam 530013)	IS : 814 (Part 1)-1974
CM/L-1393050 1985-03-12	Assam Forest Products (P) Ltd, P. O. Makum Junction, Dist Dibrugarh (Assam)	IS : 4990-1981
CM/L-1393151 1985-03-12	Premier Electrodes Pvt Ltd, E-43, MIDC, Satpur, Nasik 422007	IS : 814 (Part 1)-1974
CM/L-1393252 1985-03-12	Shiv Chemical Industries, Village & P.O. Chamrail (on National Highway No. 6), Dist Howrah (WB) (Office: 157 Netaji Subhash Road, Calcutta 700001)	IS : 4654-1974
CM/L-1393353 1985-03-12	Alvin Chemicals, Plot No. W-9, MIDC Industrial Area, Ahmednagar 414111	IS : 4467 (Part 2)-1980
CM/L-1393454 1985-03-12	Sonal Engineering Works, Plot No. A-3, MIDC Area, Village Shivar, Dist Akola 444104	IS : 9020-1979
CM/L-1393555 1985-0a-12	Norton Paint Industries, N. E. 41, Kishanpura, Chowk Ravi Das School, Jalandhar 144004 (Punjab)	IS : 427-1965
CM/L-1393656 1985-03-12	Parul Industries, A 1/96, GIDC, Nandesari, Dist Vadodara (Office: Kalali Road, Atladra, Vadodara)	IS : 8074-1983
CM/L-1393757 1985-03-12	Solar Syndicate, Dungri 396375, Dist Bulsar	IS : 8074-1983
CM/L-1393858 1985-03-12	Dagoba Engineering Works, Small Factory Area, Bhandara Road, Nagpur 440008	IS : 9020 1979
CM/L-1393959 1985-03-12	Paints & Adhesives Corporation, 32-A Industrial Area, Govindpura, Bhopal 462023 (MP)	IS : 2074-1979
CM/L-1394052 1985-03-12	Gujarat Krishichem Corporation, C-5/185 GIDC, Vapi, Dist Bulsar	IS : 8074-1983
CM/L-1394153 1985-03-12	Craftsmen Centre, 17/101 Nawab Delha's Compound, Ram Narain Bazar, Kanpur 208001 (UP)	IS : 1989 (Part 2)-1978
CM/L-1394254 1985-03-12	Hanut Sales Corporation, 140 Industrial Area, Jhotwara, Jaipur 302012	IS : 10325-1982
CM/L-1394355 1985-03-12	Ajay Engineering Company, Opp. No. 3, Kurla Industrial Estate, Narayan Nagar, Ghatkopar, Bombay 400086 (Office: Unit No. 6, Sardar Pratap Singh Industrial Estate No. 2, L. B. S. Marg, Bhandup, Bombay 400078)	IS : 2878-1976

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1394456 1985-03-12	The National Insulated Cables Company of India Ltd, Shamnagar (Eastern Railway), P.O. Athpur, Dist 24 Parganas (WB)	IS : 9857-1981
CM/L-1394557 1985-03-12	Kalpna Valves Mfg Company, Ichapore Road, Desnagar, Howrah 711105	IS : 5312 (Part 1)-1969
CM/L-1394658 1985-03-12	Magnarc Electrodes (P) Ltd, Pendurthi, Visakhpatnam 531173 [Office: Plot No. 3, T. P. T. Colony (North Extension), Seethammadhara, Visakhapatnam 530013]	IS : 814 (Part 2)-1974
CM/L-1394759 1985-03-12	Fort Gloster Industries Ltd (Cable Division), Bauria, P.O. Fort Gloster (S.E. Rly), Dist Howrah (WB)	IS : 9857-1981
CM/L-1394860 1985-03-12	Dasmesh Mechanical Works, Amargarh 148022 Dist Sangrur (Punjab)	IS : 9020-1979
CM/L-1394961 1985-03-12	Safex Fire Services, 202 'A' Dhanraj Industrial Estate, Sun Mill Road, Lower Parel (West), Bombay 400013	IS : 940-1976
CM/L-1395054 1985-03-12	Premier Electrodes Pvt Ltd, E-43 MIDC, Satpur, Nasik 422007	IS : 814 (Part 2)-1974
CM/L-1395155 1985-03-12	Modi Welding Electrodes, Village Bhimpura, Near Jagpura, Tehsil Ladpura, Dist Kota [Office: 'Modi House' Gumanpura, Kota (Rajasthan)]	IS : 814 (Part 1)-1974
CM/L-1395256 1985-03-12	Skil Founders, Plot No. J/3-A/196, Industrial Estate, Sangli 416416	IS : 6595-1980
CM/L-1395357 1985-03-12	Man Industrial Corporation Ltd, P. B. No. 131, Near Loco, Jaipur 302006	IS : 6914-1978
CM/L-1395458 1985-03-12	Koshala Udyog, B/23 Industrial Estate, Rourkela 769004 (Orissa)	IS : 9301-1982
CM/L-1395559 1985-03-13	Haryana Dairy Development Cooperative Federation Ltd, Milk Plant, Rohtak	IS : 1165-1975
CM/L-1395660 1985-03-13	Saiyog Plastic and Chemicals Pvt Ltd, 15 Lakkammanhalli Industrial Area, Dharwar 580004 [Office: 110 Mittal Estate No. 4, VasANJI Road, Andheri (East), Bombay 400058]	IS : 4985-1981
CM/L-1395761 1985-03-13	Hindustan Kokoku Wire Ltd, 12/2 Milestone, Mathura Road, Faridabad 121003 (Haryana) [Office: Hansalaya (7th Floor), Barakhamba Road, New Delhi 110001]	IS : 1785 (Part 2)-1983
CM/L-1395862 1985-03-13	Ajanta Iron & Steel Company (Pvt) Ltd, 1439-40 Loni Road, Delhi 110032	IS : 1786-1979
CM/L-1395963 1985-03-13	do	IS : 226-1975
CM/L-1396056 1985-03-13	Maha Laxmi Spun Pipes, Village Khera, Khasra No. 177, 347 & 345, New Delhi 110043	IS : 458-1971
CM/L-1396157 1985-03-13	Calcutta Trade Syndicate, 6Namasudra Para Lane, Calcutta 700090 (Office: 20 Old Court House Street, Calcutta 700001)	IS : 10 (Part 4)-1976
CM/L-1396258 1985-03-13	Cantreads Pvt Ltd, Shakti Industrial Estate, Shakti Nagar, Mangalore 575016	IS : 9168-1979
CM/L-1396359 1985-03-13	The Indian Rayon Corporation Ltd (Unit: Jaya Shree Textiles), P.O. Prabhasnagar, Rishra 712249, Dist Hooghly (WB)	IS : 903-1975
CM/L-1396460 1985-03-13	Mysore Cements Ltd, Ammasandra, Dist Tumkar 572211	IS : 455-1976
CM/L-1396561 1985-03-13	Bremels Rubber Industries (P) Ltd, Plot No. 128, 8th Main Road, 3rd Phase, Peenya Industrial Area, Bangalore 560058 ((Office: Maker Bhavan, New Marine Lines, Bombay 400020)	IS : 9168-1979
CM/L-1396662 1985-03-13	Tigrania Metal & Steel Industries, Tigrania Nagar, New Bombay-Agra Road, Post Box No. 61, Nasik 422001 (Office: 137, Lakra Bunder, Darukhana, Bombay 400010)	IS : 226-1975
CM/L-1396763 1985-03-13	do	IS : 1786-1979
CM/L-1396864 1985-03-13	do	IS : 1977-1975

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CM/L-1396965 1985-03-13	Tacel Ceramics (A unit of Tamilnadu Ceramics Ltd), Junction Road, Dist S. A. Vriddhachalam 606001 (Office: No. 25, Cenotaph Road, Madras 600018)	IS : 2556 (Part 1)-1974
CM/L-1397058 1985-03-13	Achieve Engineering Works, C-294 Industrial Area, Peenya, Bangalore 560058	IS : 9301-1982
CM/L-1397159 1985-03-13	Nav Bharat Link Chain Manufacturers Pvt Ltd, Tilakraidih, P.O. Gobindpur, Dhanbad	IS : 7587 (Part 4)-1975
CM/L-1397260 1985-03-13	Anandji Cables, Plot 124, 1st Floor, Marol Co-op Industrial Estate Ltd, M. V. Road, Saki Naka, Bombay 400059	IS : 694-1977
CM/L-1397361 1985-03-13	India Hard Metals Ltd, 58 Motilal Gupta Road, Calcutta 700008	IS : 8166-1976
CM/L-1397462 1985-03-13	Fosroc Chemicals (India) Ltd, 103 and 104, 3rd Main Road, Peenya Industrial Estate (2nd Stage), Bangalore 560058 (Office:3/11 Kaveriappa Layout Millers Tank Bund Road, Bangalore 560052)	IS : 2645-1975
CM/L-1397563 1985-03-13	Raman Iron Foundry & Steel Rolling Mills, Delhi Darwaja (Masani), Mathura 281003	IS : 8794-1978
CM/L-1397664 1985-03-13	Shivalik Agro Chemicals, B-59, Industrial Area, Focal Point, SAS Nagar, Mohali 160051	IS : 565-1975
CM/L-1397765 1985-03-15	Special Steels Ltd, F-8 Tarapur Industrial Area, Dist Thane 401506 [Office: Mouje Magathane, Dattapara Road, Borivili (East), Bombay 400066]	IS : 7887-1975
CM/L-1397866 1985-03-15	HPM Pipe Industries, Verowal Road, Jandiala Guru, Dist Amritsar	IS : 458-1971
CM/L-1397967 1985-03-15	Karthikeya Foundry, 449 Puliakulam Road, Pappanaickenpalayam, Coimbatore 641037	IS : 9079-1979
CM/L-1398060 1985-03-15	Rathika Engineering Industries, 2-A, K. R. Puram Road, P.O. Ganapathy, Coimbatore 641006	do
CM/L-1398161 1985-03-15	Electrical Instrument Company, 20 Friends Colony, Lane No. 3, G. T. Road, Shahdara, Delhi 110032	IS : 1248-1968
CM/L-1398262 1985-03-15	Bharat Udyog, [Pro: Manohar Lal Hira Lal (P) Ltd] 28 km, Delhi-Meerut Road, P.O. Muradnagar Dist Ghaziabad (UP) (Office: 23 Naya Ganj, Ghaziabad 201001)	IS : 280-1978
CM/L-1398363 1985-03-15	Wire Cond Delhi Pvt Ltd, D-24/25, Bulandshahar Road, Industrial Area, Site No. 1, Ghaziabad 201001 (UP)	IS : 398 (Part 5)-1982
CM/L-1398464 1985-03-15	The Indian Aluminium Cables Ltd, 12/1 Milestone, Delhi-Mathura Road, Faridabad (Haryana)	do
CM/L-1398565 1985-03-15	Venus Pumps & Engineering Works, Sibtoia, Balitikuri, Howrah (Office: Ichapur Road, Dasnagar, Howrah 711105)	IS : 2906-1980
CM/L-1398666 1985-03-15	Maheshwar Metal Cans, 'Brindavan', P. B. No. 21, Pattathanam East, Quilon 691001	IS : 916-1975
CM/L-1398767 1985-03-15	Bharat Tin Works, Press Road, Agariwad, Bhavnagar 364001	IS : 10325-1982
CM/L-1398868 1985-03-15	Vidyut Udyog, B-142, Road No. 9, V K I Area, Jaipur 302013	IS : 694-1977
CM/L-1398969 1985-03-19	Saboo Minerals, H-26, IMN, Marudhar Industrial Area, 11nd Phase, Jodhpur (Office: A-16 Shastri Nagar, Jodhpur 342003)	IS : 269-1976
CM/L-1399062 1985-03-19	Vulcan Laval Ltd, Plot No. E7-8, MIDC, Satara (Maharashtra) (Office: Mustafa Building, 7 A, Sir P. M. Road, Bombay 400001)	IS : 1825-1983
CM/L-1399163 1985-03-19	Barnagore Jute Factory, P/C 284 Maharaj Nanda Kumar Road, Alam Bazar, Calcutta 700035 (Office: 4 Clive Row, Calcutta 700001)	IS : 2580-1982
CM/L-1399264 1985-03-19	Modern Paint Works, 242/2A, Manicktalla Main Road, Bagmari, Calcutta 700054	IS : 419-1967
CM/L-1399365 1985-03-19	Safety Products & Services, Melabagan, Bagjalla, 64 Dum Dum Road, Calcutta 700074	IS : 6994 (Part 1)-1973
CM/L-1399466 1985-03-19	Eastern Chemical Industry, Taki Road, Bamanmura, P.O. Badu, Dist 24 Parganas (Office: Jassore Road, Madhyamgram, Dist 24 Parganas)	IS : 8074-1976

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CM/L-1399567 1985-03-19	Bharat Rubber & Plastic Works, 66 Tiljala Road, Calcutta 700046 (Office: 5 West Range, Calcutta 700017)	IS : 5557-1969
CM/L-1399668 1985-03-19	Surex Production & Sales Pvt Ltd, 21 Seal Lane, Calcutta 700015 (Office: P-14, CIT Road, Calcutta 700014)	IS : 5490 (Part 1)-1977
CM/L-1399769 1985-03-19	Surex Production & Sales Pvt Ltd, 21 Seal Lane, Calcutta 700015 (Office: P-14, CIT Road, Calcutta)	IS : 5490 (Part 2)-1977
CM/L-1399870 1985-03-19	Surma Veneer & Laminates Pvt Ltd, P.O. Badarpurghat, Badarpur 788803 (Assam)	IS : 10 (Part 3)-1974
CM/L-1399971 1985-03-19	Chitra Industries, 1135 B, Trichy Road, P.O. Singanallur, Coimbatore 641005	IS : 7538-1975
CM/L-1400021 1985-03-19	Marvel Engineering Industries, 4/11 Ammankulam Road, Coimbatore 641037	IS : 996-1979
CM/L-1400122 1985-03-19	Jyoti Electric Motors Ltd, Mogar 388340, Taluk Anand, Dist Kaira	IS : 9079-1979
CM/L-1400223 1985-03-19	Rathika Engineering Industries, K. R. Puram Road, P.O. Ganapathy, Coimbatore 641006	IS : 7538-1975
CM/L-1400324 1985-03-19	Bengal Tools Ltd, Nassar Avenue, Gopinathpura, Durgapur, Dist Burdwan (Office: P-15, India Exchange Place Extension, Calcutta 700073)	IS : 3196-1982
CM/L-1400425 1985-03-19	Shree Raghunath Industries, 24 Malipanchghora Street, Liluah, Howrah (Office: 207 Maharashi Debendra Road, Calcutta 700070)	IS : 7452-1974
CM/L-1400526 1985-03-19	Applied Polymers, 23 Kumarpara Road, Liluah, Howrah (WB)	IS : 4984-1978
CM/L-1400627 1985-03-19	Jayamani Foundry, 844 A, Trichy Road, P.O. Singanallur, Coimbatore 641005	IS : 7538-1975
CM/L-1400728 1985-03-19	Kalsan Engineering Industries (P) Ltd, 16 km on Jaipur-Bindayaka Road, Village Nanusar, Dist Jaipur (Office: Bhagat Niwas, Bhagat Marg, Jaipur 302001)	ISi: 3196-1982
CM/L-1400829 1985-03-19	Trimurti Weldmesh Pvt Ltd, B-241, Okhla Industrial Area, Phase I, New Delhi 110020	IS : 4948-1974
CM/L-1400930 1985-03-19	Hercules Hoists Ltd, Minerva Industrial Estate, Opp. Ralliwolf, L. B. Shastri Marg, Mulund, (West), Bombay 400080	IS : 3832-1971
CM/L-1401023 1985-03-21	Rallis India Ltd, 431/34, Village Panchpakhadi, Wagle Industrial Estate, P.O. Thane 400604 (Office: Rallis House, 21 D.S. Marg, Fort, Bombay 400001)	IS : 9360-1980
CM/L-1401124 1985-03-21	Eastern Chemical Industries, Taki Road, Bamanmura, P.O. Badu, Dist 24 Parganas (Office: Jessore Road, Madhyamgram, Dist 24 Parganas)	IS : 2865-1978
CM/L-1401225 1985-03-21	Navalakha Agro Equipments, 38 Shankerseth Road, Pune 411037	IS : 1971-1982
CM/L-1401326 1985-03-21	Balmer Lawrie & Company Ltd, P-43 Hide Road Extension, Calcutta	IS : 7623-1974
CM/L-1401427 1985-03-21	Bharat Creations, 6-B, Lakshmi Nagar, Ist Street, Tirupur 638602	IS : 4964-1980
CM/L-1401528 1985-03-21	Alvin Chemicals, W-9, MIDC Industrial Area, Ahmednagar 414111	IS : 4467 (Part 3)-1980
CM/L-1401629 1985-03-21	Tenzing Match Works, 1204/1-1C & 2, Virudhunagar Road, Thiruthangal, Via Sivakasi (Tamil Nadu) (Office: Boopathy Buildings, Virudhunagar Road, Sivakasi)	IS : 2653-1980
CM/L-1401730 1985-03-21	Merina Hosiery Mills, 97 Ramaiah Colony, Tirupur 638602	IS : 4964-1980
CM/L-1401831 1985-03-21	Rajukesh Enterprises (Chemicals), Shed No. 3, Pinki Industrial Area, Site No. 2, Kanpur (Office: 7/171-C, Swaroop Nagar, Kanpur 208002)	IS : 4467 (Part 2)-1980
CM/L-1401932 1985-03-21	do	IS : 4467 (Part 3)-1980
CM/L-1402025 1985-03-21	Sachdeva Industries, Pur Road, Bilea Khurd, Bhilwara 311001 (Rajasthan)	IS : 9020-1979
CM/L-1402126 1985-03-21	R. S. Industries, A-241, 242 (b), 6-D Road, Vishwakarma Industrial Area, Jaipur 302013	ISi: 226-1975

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CM/L-1402227 1985-03-21	Anupam Industries, Truck Union, Faizapura Road, Batala 143505	IS : 774-1971
CM/L-1402328 1985-03-21	Coimbatore Rajendra Industries, No. 17 Avarampalayam Road, Ganapathy, Coimbatore 641006	IS : 9079-1979
CM/L-1402429 1985-03-21	Jindal (India) Ltd, 107/2 Joyabibi Lane, P.O. Ghusury, Dist Howrah (Office: 2/1, Ahmed Mamuji Street, P.O. Liluah, Dist Howrah)	IS : 1239 (Part 1)-1979
CM/L-1402530	Premier Deep Well Hand Pumps (P) Ltd, A-6, Cooperative Industrial Estate, Balanagar, Hyderabad 500037	IS : 9301-1982
CM/L-1402631 1985-03-21	Rajukesh Enterprises (Chemicals), Shed No. 3, Pinki Industrial Area, Site No. 2, Kanpur (Office: 7/171-C, Swaroop Nagar, Kanpur 208002)	IS : 4467 (Part 1)-1980
CM/L-1402732 1985-03-21	Chetak Krishi Yantra Industries, Hospital Road, Bus Stand, Bari Sadri 312403 (Rajasthan)	IS : 9020-1979
CM/L-1402833 1985-03-22	Agarwal General Engg Works (P) Ltd, C-176, Road No. 9 J, Vishwakarma Industrial Estate, Jaipur	IS : 398 (Part 1)-1976
CM/L-1402934 1985-03-22	Expo Gas Containers Pvt Ltd, A-10 MIDC, Murbad 421401, Dist Thane (Office: 150 Sheriff Devji Street, Bombay 400003)	IS : 3196-1982
CM/L-1403027 1985-03-22	Jain Tubes Company Ltd, 21 km, Meerut Road, Ghaziabad (UP) (Office: D-20, Connaught Place, New Delhi 110001)	IS : 1978-1971
CM/L-1403128 1985-03-22	Sagar Industries, 1255 Subhash Road, Gandhi Nagar, Delhi 1100031	IS : 4246-1984
CM/L-1403229 1985-03-22	Mittal Chemicals, Khasra No. 65, Village & P.O. Shahabad, Delhi (Office: 2052/108 Bubna Chamber, Katra Tambaku, Khari Baoli, Delhi)	IS : 4654-1974
CM/L-1403330 1985-03-22	Electrosteel Castings Ltd, P.O. Elavur, Taluk Gummidi Poondi, Dist Chingleput 601201 (Office: 2 Archbishop Mathias Avenue, Madras 600028)	IS : 1536-1976
CM/L-1403431 1985-03-22	Feeder Balancing Dairy, Industrial Area, Ram Nagar, Varanasi	IS : 1165-1975
CM/L-1403532 1985-03-22	National Rubber Corporation, Kashmir Road, Verka, Amritsar	IS : 1891 (Part 1)-1978
CM/L-1403633 1985-03-22	Kirloskar Bros Ltd, Ujjain Road, Opp. Rly Station, Dewas 455001 (MP)	IS : 10805-1984
CM/L-1403734 1985-03-22	Pradhan Engineering Company, B/48 Kalani Bag, Dewas 455001	do
CM/L-1403835 1985-03-22	Dynamatic Engineering Works, Shed No. 12, Sector D-2, Sanwar Road, Industrial Area, Indore (MP)	do
CM/L-1403936 1985-03-22	Perfect Engineering Company, H. No. 217, Line No. 08, Sastri Nagar Colony, Ujjain (Office: 81 Khara Kuwa, Ujjain)	do
CM/L-1404029 1985-03-25	Carbon India, 7/154 Swaroop Nagar, Kanpur (UP)	IS : 3450-1976
CM/L-1404130 1985-03-25	do	IS : 1551-1976
CM/L-1404231 1985-03-26	C. D. Steel (P) Ltd, Banaras Road, P.O. Chamrail, Near Eksara Masjid, Howrah [Office: 2A Ganesh Chandra Avenue, 8 E, Commerce House (9th floor), Calcutta 700013]	IS : 226-1975
CM/L-1404332 1985-03-26	do	IS : 1786-1979
CM/L-1404433 1985-03-26	B. K. Cement Products, Sweetha Khurd, Plot No. 646, Shahganj-Khuthan Road, Jaunpur (UP) (Office: 20, C.Y. Chintamani Road, George Town)	IS : 458-1971
CM/L-1404534 1985-03-26	C.R. Auluck & Sons (P) Ltd, 426 Industrial Area 'A', Ludhiana 141003	IS : 1610-1981
CM/L-1404635 1985-03-26	Shree Shivadham Steel (P) Ltd, Makum Road, Shivdham, P.O. Tinsukia 786125 (Assam) (Office: 106, Girish Ghosh Road, P.O. Belurmath, Howrah)	IS : 1786-1979
CM/L-1404736 1985-03-26	Posil Rolling Mills Ltd, F-17, MIDC, Navapur Road, Boisar 401506 (Office: Piramal Bhavan Ganpatrao Kadam Marg, Bombay 400013)	IS : 226-1975

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CM/L-1404837 1985-03-26	Karthikeya Engineering Enterprises, 49-A, Avanashi Road, Papanaiicken-Palayam, Coimbatore 641037	IS : 6595-1980
CM/L-1404938 1985-03-26	Arun Engineering Industry Pvt Ltd, Shanti Nagar Co-operative Industrial Estate, Vakola, Santa Cruz (East), Bombay 400055	IS : 9079-1979
CM/L-1405031 1985-03-26	Lakom Electricals Pvt. Ltd, Acidwala Estate, Nagarvel Hanuman Road, Amaraivadi, Ahmadabad 380026	IS : 9079-1979
CM/L-1405132 1985-03-26	Shree Shivdham Steel (P) Ltd, Makum Road, P.O. Shivdham, Tinsukia 786125 (Assam) (Office: 106, Girish Ghosh Road, P.O. Belurmath, Howrah)	IS : 226-1975
CM/L-1405233 1985-03-26	Persuram Cements Ltd, Dist Lohit Tezu 792001 (Arunachal Pradesh)	IS : 269-1976
CM/L-1405334 1985-03-26	Mauria Udyog Ltd, Sohna Road, Sector 25, Faridabad 121004 (Haryana) (Office: 231 Okhla Industrial Area, Phase I, New Delhi 110020)	IS : 8737 (Part 2)-1978
CM/L-1405435 1985-03-26	Kshitiz Plastic (P) Ltd, Post Box No. 53, Hamirgarh Road, Bhilwara 311001 (Rajasthan)	IS : 4985-1981
CM/L-1045536 1985-03-26	Associated Flexibles & Wires Pvt Ltd, Gate No. 956, Village Kasar Ambol, Post Pirangut, Pune-Paud Road, Dist Pune	IS : 1554 (Part 1)-1976
CM/L-1405637 1985-03-26	Zenith Fire Services, 28 Parel Tank Road, Ambawadi, Cotton Green, Bombay 400033 (Office: Vadhani Industrial Estate, LBS Marg, Ghatkopar, Bombay 400086)	IS : 5490 (Part 1)-1977
CM/L-1405738 1985-03-26	Solar Cements (P) Ltd, Village Narodara, Tehsil Laxmangarh, Dist Sikar (Rajasthan)	IS : 269-1976
CM/L-1405839 1985-03-26	Agarwal Electricals, D/46/1, MIDC, Jalgaon	IS : 398 (Part 1)-1976
CM/L-1405940 1985-03-26	Rajkamal Water Meter Mfg Company, Shed No. Z 8/9, Howrah Industrial Estate, Baltikuri, Howrah (Office: 75 Netaji Subhash Road, Calcutta 700001)	IS : 2373-1981
CM/L-1046033 1985-03-26	Bengal Ferro Alloy & Steel Ltd, Plot No. 36, Block D, Industrial Estate, Kalyani (Office: Everest House, 46C, J. L. Nehru Road, Calcutta 700071)	IS : 6915-1978
CM/L-1406134 1985-03-26	Shree Hari Rolling Industries, Road No. 9 J, Vishvakarma Industrial Area, Jaipur	IS : 7452-1982
CM/L-1406235 1985-03-26	Bengal Saws & Steel Products Ltd, 20 B. T. Road, Calcutta 700056 (Office: P-12, New C.I.T. Road, Calcutta 700073)	IS : 5030 (Part 3)-1982
CM/L-1406336 1985-03-26	Indodan Milk Products Ltd, Budhana Road, Muzaffarnagar 251002 (UP)	IS : 1165-1983
CM/L-1406437 1985-03-26	Damodar Iron Works, Poona-Bangalore Road, Belgaum 590016	IS : 3950-1979
CM/L-1406538 1985-03-26	Sabari Foundry, SF 269, Sanganur Village, Mettupalayam Road, Coimbatore 641043	IS : 9079-1979
CM/L-1406639 1985-03-26	Hilton Rubbers Ltd, Badkhalsa, Dist Sonapat (Office: S-23, Green Park Extension, New Delhi)	IS : 1370-1976
CM/L-1406740 1985-03-26	Jainsons Steel Industries, Basti Bawa Khel, Kapurthala Road, Jalandhar 144021	IS : 778-1980
CM/L-1406841 1985-03-26	Carry Power Enterprises, 15 Industrial Area, Richhai, Jabalpur	IS : 398 (Part 2)-1976
CM/L-1406942 1985-03-26	Raigarh Jute and Textile Mills Ltd (Jute Division), Sarangarh Road, Raigarh (MP)	IS : 2580-1982
CM/L-1407035 1985-03-26	Parikh Enterprises Pvt Ltd, Plot No. 442, GIDC Industrial Estate, Behind Water Tank, Odhav, Ahmadabad 382410 (Office: Gopal Krishna Flour Mills Compound, Outside Raipur Gate, Ahmadabad 380022)	IS : 1486-1978
CM/L-1407136 1985-03-26	B. L. Industries, F-218, Road No. 10, Vishvakarma Industrial Area, Jaipur 302013	IS : 8074-1983
CM/L-1407237 1985-03-26	do	IS : 9356-1980
CM/L-1407338 1985-03-26	Tropical Agrosystems Pvt Ltd, 530/28, Vanagram Road, Ambattur, Madras 600058	IS : 8708-1978

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CM/L-1407439 1985-03-26	Prakash Pulverising Mills, 1 Old Industrial Area, Alwar	IS : 3903-1975
CM/L-1407540 1985-03-26	Rajasthan Chemical Corporation, F-43, Marudhar Industrial Area, Basni, Phase I, Jodhpur 342005 [Office: Churighar Bazar, Jodhpur 342001 (Rajasthan)]	IS : 4956-1977
CM/L-1407641 1985-03-26	International Industries, 10 Bombay Timber Market, Signal Hill Avenue, Reay Road, Bombay 400010	IS : 4246-1984
CM/L-1407742 1985-03-26	Madhya Pradesh Asbestos Pvt Ltd, 5 New Sector Industrial Area, Mandideep, Dist Raisen (Office: E-7/18, Arera Colony, Bhopal 462016)	IS : 1592-1980
CM/L-1407843 1985-03-26	do	IS : 9627-1980
CM/L-1407944 1985-03-26	The General Engineering Company, 9-8, Mettupalayam Road, Kavandampalayam, Coimbatore 641030	IS : 325-1978
CM/L-1408037 1985-03-26	Polycab Industries, 333/336, Baska Village, Near Halol, Dist Panchmahal (Gujarat)	IS : 694-1977
CM/L-1408138 1985-03-26	Polycab Industries, 333/336 Baska Village, Near Halol, Dist Panchmahal (Gujarat)	IS : 1554 (Part 1)-1976
CM/L-1408239 1985-03-26	Masanto Containers Pvt Ltd, 2-3-37 Amberpet, Hyderabad 500013	IS : 10212 (Part 1)-1982
CM/L-1408340 1985-03-26	Abrol Engineering Company Pvt Ltd, Industrial Area, Kapurthala 144601	IS : 2208-1962
CM/L-1408441 1985-03-26	Prominent Cement Pvt Ltd, 30 Industrial Estate, Malanpur, Gwalior (Office : J-63, Gandhi Nagar, Gwalior)	IS : 259-1976
CM/L-1408542 1985-03-26	Gemini Steel Tubes Ltd, No. 55, KIADB, Industrial Area, Chintamani Road, Hoskote, Dist Bangalore [Office: 2C, S.J.P. Road (First Floor), Bangalore 560002]	IS : 3601-1966
CM/L-1408643 1985-03-26	Agarwala Plastics, 101 Sant Bhawan, Sharma Industrial Estate, Walbhat Road, Goregaon, Bombay 400063	IS : 7231-1975
CM/L-1408744 1985-03-26	Arif Cement Industries [Unit of Arif Construction (P) Ltd], C-2, C-3, Sector 22, Jagdishpur Industrial Estate, Jagdishpur, Dist Sultanpur	IS : 269-1976
CM/L-1408845 1985-03-26	U. P. Cement Pipe Factory, C-17-18 Industrial Estate, Amawan Road, Raebareli	IS : 458-1971
CM/L-1408946 1985-03-26	Karnataka Milk Products Ltd (A unit of M/s Karnataka Co-operative Milk Producers Federation Ltd), Lakkamanabhally Industrial Area, Poona-Bangalore Road, Dharwar 580004	IS : 1164-1975
CM/L-1409039 1985-03-26	Triton Paints, F-3 & F-4, Block D, I.D.A., Auto Nagar, Visakhapatnam 530012	IS : 2074-1979
CM/L-1409140 1985-03-26	do	IS : 2932-1974
CM/L-1409241 1985-03-26	Nandon Foundry and Workshop, Rambagh Road, Kaithal Gate, Chandausi (UP)	IS : 9020-1979
CM/L-1409342 1985-03-26	Padmini Industries, WZ-17, Rishi Nagar, Shakurbasti, New Delhi 110034	IS : 4246-1984
CM/L-1409443 1985-03-26	Shree Rajrang Hite Mills Ltd, Ring Road, Guntur 522006 (AP) (Office: 178, Mahatma Gandhi Road, Calcutta 700007)	IS : 2580-1982
CM/L-1409544 1985-03-26	Maruti Home Appliances, Plot No. 63, Sector 27A, Faridabad 121002 (Haryana) (Office: 16-5, Mathura Road, Faridabad 121002)	IS : 4246-1984
CM/L-1409645 1985-03-26	Gayatri Pestichem, 81/4, GIDC, Vatva 382445, Dist Ahmadabad	IS : 8074-1976
CM/L-1409746 1985-03-26	Nirman Industries, B-131, Ansa Industrial Estate, Ist Floor, Saki Vihar Road, Andheri (East), Bombay 400072 (Office: 55 Sutar Chawl, IInd Floor, Bombay 400002)	IS : 5346-1975
CM/L-1409847 1985-03-26	Agro Therm (P) Ltd, 56/1, Nachanahalli Palaya Mananthavady Road, Mysore 570008 (Office: 282, 7th Cross, Gokulam 3rd Stage, Mysore 570002)	IS : 2052-1979

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CM/L-1409948 1985-03-26	Tiki Tar Industries, Village Road, Bhandup, Bombay 400078	IS : 3117-1965
CM/L-1410024 1985-03-26	Piara Singh Darshan Singh, Kunjpura Road, Mandir Marg, Opp Head P. O., Karnal 132001	IS : 9020-1979
CM/L-1410125 1985-03-28	Jet Paints & Allied Products, Post Thellakom, Kottayam 686016 (Kerala) (Office: Vettoor Centre, T. B. Road, Kottayam 686001)	IS : 2932-1974
CM/L-1410226 1985-03-29	Kuber Industries, Singhal Bhavan, Civil Lines, Bulandshahar (UP)	IS : 9020-1979
CM/L-1410327 1985-03-29	Ajanta Foundry, D-63, MIDC, Jalgaon 425003	do
CM/L-1410428 1985-03-29	Vidarbha Gas Vessels Pvt Ltd, T-43 MIDC, Hingna Road, Nagpur 440016 (Maharashtra) (Office : 306, Jaikalpana Building, Ramdaspath, Nagpur 440010)	IS : 8737 (Part 2)-1978
CM/L-1410529 1985-03-29	Varun Enterprises, 27, 28 & 29 MPLUN Sheds, Industrial Area, Govindpura, Bhopal 462023	IS : 9301-1982
CM/L-1410630 1985-03-29	Indian Flavours & Colours, Suvi Estate, Gate Station Road, Surendranagar 363001 (Gujarat)	IS : 5346-1975
CM/L-1410731 1985-03-29	Kejriwal Iron & Steel Works, 1 Kundan Lane, Howrah (Office: Draupadi Mansion, 11 Brabourne Road, Calcutta 700001)	IS : 780-1980
CM/L-1410832 1955-03-29	M. P. Electricals Corporation, S-229 Industrial Area, Jalandhar 144004	IS : 325-1978
CM/L-1410933 1985-03-29	Crystal Cable Industries, Andul Road, Village Alampur, P. O. Newkolorah, Dist Howrah (WB)	IS : 5950-1971
CM/L-1411026 1985-03-29	Engineers Associates, B-2 Industrial Estate, Dist Bolangir (Orissa)	IS : 9301-1982
CM/L-1411127 1985-03-29	Laxmi Cables Pvt Ltd, Godhra Road, Halol 389350, Dist Panchmahals (Gajarat)	IS : 398 (Part 1)-1976
CM/L-1411228 1985-03-29	Laxmi Cables (P) Ltd, Godhra Road, Halol 389350, Dist Panchmahals (Gujarat)	IS : 398 (Part 2)-1976
CM/L-1411329 1985-03-29	United Pesticides, Village Mandhaur, Ambala City 134007 (Haryana)	IS : 633-1975
CM/L-1311430 1985-03-29	Bharat Pesticides Mfg Company, E-17 DSIDC Industrial Complex, Rohtak Road, Nangloi, Delhi 110041	IS : 8074-1983
CM/L-1411531 1985-03-29	Electrical Mfg Company Ltd, 136 Jessore Road, Calcutta 700055	IS : 398 (Part 4)-1979
CM/L-1411632 1985-03-29	Alpha Cables & Electricals Pvt Ltd, 64 SIDCO Industrial Estate, Panipat 632403	IS : 694-1977
CM/L-1411733 1985-03-29	Shah Foods Pvt Ltd, Kalol-Mehsana Highway, Chhatral 382729, Taluka Kalol, Dist Mehsana (Office: Sarayu 16/1 Kalyan Society, Ellis Bridge, Ahmadabad 380006)	IS : 1011-1981
CM/L-1411834 1985-03-29	Jessore Comb Industry Company, 117 Baitakkhana Road, P.O. Box No. 10813, Calcutta 700009	IS : 4984-1978
CM/L-1411935 1985-03-29	Opec India Pvt Ltd, 27 Co-operative Industrial Estate, Balanagar Extension, Hyderabad 500037	IS : 4174-1977
CM/L-1412028 1985-03-29	S & K Electrodes, 414/2, GIDC Estate, Vatva, Phase II, Ahmadabad 382445 (Office: 6 Kanchan Mahal, Opposite Vardhman Nagar, Drive-in-road, Ahmadabad 380009)	IS : 1065-1971
CM/L-1412129 1985-03-29	Cannanore Spinning & Weaving Mills, Mahe 67310 (Pondicherry)	IS : 171-1973
CM/L-1412230 1985-03-29	Kishnaveni Textile Mills [A unit of National Textile Corporation (TN & P) Ltd], Trichy Road, P.O. Singanallur, Coimbatore 641005	IS : 834-1975
CM/L-1412331 1985-03-29	Godrej Soaps Ltd, 1-B Industrial Estate, Ambattur, Madras 600098	IS : 1374-1979
CM/L-1412432 1985-03-29	Bombay Paints & Allied Products Ltd, Corridor Road, Gavanpada, Chembur, Bombay 400074	IS : 133-1975
CM/L-1412533 1985-03-29	Art Plywood Industries Ltd, P.O. Marcherita 786181, Dist Dibrugarh (Assam) (Office: 26 Chit-taranjan Avenue, Calcutta 700012)	IS : 2191 (Part 1)-1983

LICENCE NO AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1412634 1985-03-29	Tada-Yodogawa Ltd, Tata Complex, Crammaria, Singhbhumi Centre, (Office: KLRJ Computer, Jamshedpur 831001)	IS : 8051-1976
CM/L-1412735 1985-03-29	Indian Cable Company Ltd, Golmuri, Jamshedpur 831003	IS : 996 (Part 2)-1981
CM/L-1412836 1985-03-29	Indian Cable Company Ltd, Golmuri, Jamshedpur 831003	IS : 9857-1981
CM/L-1412937 1985-03-29	Sir Agro Engineers, Tanti Road, Mavdi Plot, Rajkot 360004	IS : 1001-1981
CM/L-1413030 1985-03-29	Swati Enterprize, Aji Industrial Estate, Rajkot	do
CM/L-1413131 1985-03-29	Sun Oil Company (P) Ltd, 238 Rai Bahadur Road, Calcutta 700053 (Office: 10 B, British Indian Street, Calcutta 700069)	IS : 719-1974
CM/L-1413232 1985-03-29	Birla Jute & Industries Ltd (Unit: Birla Vikas Cement), P.O. Birla Vikas, Satna 485005 (MP)	IS : 269-1976
CM/L-1413333 1985-03-29	Universal Traders, Khasra No. 299, Gokulpur, P.O. Gokulpuri, Delhi 110094	IS : 9857-1981
CM/L-1413434 1985-03-29	Package India, Aasramam, Quilon 691002 (Office: Box No. 46, Beach Road, Quilon 691001)	IS : 916-1975
CM/L-1413535 1985-03-29	Match Well Electricals (India) Ltd, Off Nagar Road, Vadgaonsneri, Pune 411014	IS : 374-1979
CM/L-1413636 1985-03-29	Shivalik Agro Chemicals, B-59/60, Phase VII, Industrial Focal Point, SAS Nagar, Mohali	IS : 9356-1980
CM/L-1413737 1985-03-29	Mahabir Wax Refiners, Gaushala Road, Begusarai 851101 (Bihar)	IS : 4654-1974
CM/L-1413838 1985-03-29	Vishal Industries, Barauni Industrial Area, P. O. Tilrath, Dist Begusarai (Bihar)	do
CM/L-1413939 1985-03-29	Vikas Industries, B-66 Barauni Industrial Area, P.O. Tilrath 851117, Dist Begusarai (Bihar)	do
CM/L-1414032 1985-03-29	Bee-Ess Chemical Industries, Chabhal Kalan, Dist Amritsar (Punjab) (Office: 5-B, Court Road, Amritsar)	IS : 8249-1976
CM/L-1414133 1985-03-29	Sati Chemical Industries, P. O. Paprou, NH 31, Begusarai (Bihar) (Office: C/o Kwaliti Dresses, Main Road, Begusarai)	IS : 4654-1974
CM/L-1414234 1985-03-29	Vinayak Chemical Industries, Plot No. 1282, Village Jewdhra, P. O. Ambica Katra, Dist Burdwan (WB) (Office: 45 A, Adhya Sardhya Ghat Road, Calcutta 700070)	do
CM/L-1414335 1985-03-29	De-rust Chemical Corporation of India, 5 Gobinda Banerjee Lane, Calcutta 700033	IS : 2074-1979
CM/L-1414436 1985-03-29	Indo Fab Engineers, Survey No. 112, Dommer Pochampally, Taluq Medchal, Dist R. R. (Office: 19 Kakatiya Nagar, Golconda Road, Hyderabad 500008)	IS : 3224-1979
CM/L-1414537 1985-03-29	Dynamic Corporation Mfg Division, Opp.GSFC, Near IOC Pump, National Highway No. 8, Vadodara (Office: Indira Nivas, Pratap Road, Dandia Bazar, Vadodara 390001)	IS : 934-1976
CM/L-1414638 1985-03-29	Paints & Adhesives Corporation, 32-A Industrial Area, Govindpura, Bhopal 462023	IS : 2932-1974
CM/L-1414739 1985-03-29	Kejriwal Iron & Steel Works, 1 Kundan Lane, Liluah, Howrah (Office: Draupadi Mansion, 11 Brabourne Road, Calcutta 700001)	IS : 2906-1980
CM/L-1414840 1985-03-29	Selfshine Industries, C-10 Central Road, Marol, MIDC, Andheri (East), Bombay 400093	IS : 7834 (Part 4)-1975
CM/L-1414941 1985-03-29	Rungta Rolling Mills, Village Devoda, G. E. Road, Dist Rajnandgaon (Office: Rungta Nivas, G. E. Road, Ganjpara, Durg)	IS : 226-1975
CM/L-1415034 1985-03-29	Birla Jute & Industries Ltd (Unit: Birla Vikas Cement), P.O. Birla Vikas, Satna 485005 (MP)	IS : 1489-1976
CM/L-1415135 1985-03-29	Rasoi Ltd, 1 Station Road, New Alipore, Calcutta 700053 (Office: 20 Sir R. N. Mukherjee Road, Calcutta 700001)	IS : 10325-1982
CM/L-1415236 1985-03-29	B. S. Engineering Enterprises, 17/10/E Mall Road, Calcutta 700080	IS : 1891 (Part 2)-1978

LICENCE NO AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1415337 1985-03-29	Anupama Industries, Rasalgarh, Bhubneshwar 751010	IS : 780-1980
CM/L-1415438 1985-03-29	Mantri Brothers, 36 Foreshore Road, Shibpur, Howrah (WB) (Office: 15 India Exchange Place, Calcutta 700001)	IS : 5410-1969
CM/L-1415539 1985-03-29	National Casting Company, 103 Foreshore Road, Howrah [Office: 8 B. B. D. Bag (East), Calcutta 700001]	IS : 1538-1976
CM/L-1415640 1985-03-29	Hindustan Valves, 37 Ichapore Road, Howrah 711001	IS : 780-1980
CM/L-1415741 1985-03-29	Minichem Industries, B-2, MIDC, Sewagram Road, Wardha 442001 (Maharashtra)	IS : 261-1982
CM/L-1415842 1985-03-29	Maharashtra Agro Industries Development Corporation Ltd (Pesticides Formulation Plant), Plot No. C-4, MIDC, Akola (Office: Rajan House, 3rd Floor, Prabhadevi, Bombay 400025)	IS : 561-1978
CM/L-1415943 1985-03-29	Joseph Le slie Agencies (P) Ltd, 106 Unique Industrial Estate, Off Veer Savarkar Marg, Prabhadevi, Bombay 400025 (Office: 11/12 Appeejay House, 4th Floor, Post Box No. 668, 130 Apollo Street, Bombay 400001)	IS : 9563-1980
CM/L-1416036 1985-03-29	Corn Products Company (India) Ltd, Plot No. 7, 7A, MIDC Area, Thana-Belapur Road, P. O. Gausoli, Thane 400701 (Office: 26 H. Somani Marg, Shree Niwas House, Bombay 400001)	IS : 4467 (Part 3)-1980
CM/L-1416137 1985-03-29	Pragati Udyog, 3 & 4 Kanai Diwantala Lane, Chatugan, P.O. Sheoravhully, Dist Hoogly (WB) (Office: 4 Gangadhar Babu Lane, 3rd Floor, Calcutta 700012)	IS : 4654-1974
CM/L-1416238 1985-03-29	Abhi Chemicals Pharmaceutical Pvt Ltd, MIDC, Plot No. T-37 & T-38, Bhosari Industrial Area, Pune 411026	IS : 4467 (Part 2)-1980
CM/L-1416339 1985-03-29	Vidarbha Co-operative Marketing Society Ltd, Badnera Road, Post Box No. 46, Amravati	IS : 561-1978
CM/L-1416440 1985-03-29	Alvin Chemicals, Plot No. W-9, MIDC Area, Ahmednagar 414111	IS : 2557-1963
CM/L-1416541 1985-03-29	Modi Trading & Mfg Company, 172 Manicktalla Main Road, Calcutta 700054 (Office: 10 Clive Row, Calcutta 700001)	IS : 2089-1977
CM/L-1416642 1985-03-29	Safex Fire Services, 202 A, Dhanraj Industrial Estate, Sun Mill Road, Lower Parel (West), Bombay 400013	IS : 5490-(Part 2)-1977
CM/L-1416743 1985-03-29	Gupta Asbestos, Village Shamsherpura, Taluka Deesa, Dist Banaskantha, [(Office: Sadar Bazar, Deesa 385535, Dist Banaskantha (Gujarat)]	IS : 9627-1980
CM/L-1416844 1985-03-29	Parry Engineering & Electronics Ltd, 178 GIDC, Industrial Estate, Naroda, Ahmadabad 382330 (Office: Opposite Jain Temple, Gandhi Road, Ahmadabad 382001)	IS : 7452-1982
CM/L-1416945 1985-03-29	Inline Control and Equipment Pvt Ltd, A-9/10, Adityapur Industrial Area, Gamaria, Jamshedpur (Office: Natraj Mansion, Bistupur, Jamshedpur 831001)	IS : 780-1980
CM/L-1417038 1985-03-29	K. L. Parui & Sons, 207 Belilious Road, Howrah 711101	do
CM/L-1417139 1985-03-29	N. S. Mechanical Works, Jarag Road, Malerkotla, Dist Sangrur (Punjab)	IS : 9020-1979
CM/L-1417240 1985-03-29	Matchwell Electricals (India) Ltd, Off Nagar Road, Vadgaonsneri, Pune 515014	ISi: 555-1979
CM/L-1417341 1985-03-29	Reena Sewing Machine Company, Villikkadavu, P. O. Ayroor, Varkala	IS : 1610-1981
CM/L-1417442 1985-03-29	Sivasakthi Engineering Company, Subroto Mukherjee Road, Peenya, P. O. Dasarahalli, Bangalore 560057 (Office: 263, 4th Main Road, Mahalakshmi Layout, Rajajinagar, Bangalore 560057)	IS : 1783 (Part 2)-1983

LICENCE NO AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1417543 1985-03-29	A.P.K. Industries, Killikolloor, P. O. Kallumthazham, Quilon 691004	IS : 916-1975
CM/L-1417644 1985-03-29	Gemini Steel Tubes Ltd, No. 55, KIADB Industrial Area, Chintamani Road, Hoskote, Dist Bangalore [Office: No. 20 SJP Road, (First Floor) Bangalore 560002]	IS : 7138-1973
CM/L-1417745 1985-03-29	The Premier Cable Company Ltd, Karukutty, P.O. Angamally, Dist Ernakulam (Kerala)	IS : 398 (Part 5)-1982
CM/L-1417846 1985-03-29	Unique Valve Mfg Concern, 1 Kedar Mukheree Lane, Kadamtala, Howrah 700001 (WB)	IS : 780-1980
CM/L-1417947 1985-03-29	National Casting Company, 103 Foreshore Road, Howrah [Office: 8 B.B.D. Bag (East), Calcutta 700001]	IS : 1537-1976
CM/L-1418040 1985-03-29	do	IS : 5531 (Part 1 to 3)-1977
CM/L-1418141 1985-03-29	Calcutta Concrete Industries, 180 M.B. Road, Birati, Calcutta 700051	IS : 1626 (Part 1)-1980
CM/L-1418242 1985-03-29	Tinplate Company of India Ltd, Golmuri, Jamshedpur 831003	ISi: 648-1980
CM/L-1418343 1985-03-29	do	IS : 1993-1982
CM/L-1418444 1985-03-29	The General Electric Company of India Ltd, AEI Works, 1 Taratalla Road, Calcutta 700024 (Office: 6 Chittaranjan Avenue, Calcutta 700072)	IS : 9079-1979

ADDITIONAL VARIETIES OF PRODUCTS INCLUDED IN THE EXISTING LICENCES

Sl. No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-0121921	Modi Arc Electrodes Company, Modinagar	IS : 814 (Part 1)-1978	New variety of covered electrodes for metal arc welding of structural steel for welding products other than sheets of brand Modi 7018 and Modi 7016 with Code E611514 HJ and E 614514 H respectively, included in the licence with effect from 1985-03-23
2	CM/L-0410827	Globe Super Parts, Faridabad	IS : 4246-1984	Domestic gas stove for use with liquefied petroleum gases, three burners (one big and two small), CRC sheet body with total gas consumption 475 g/h, big burner 2064 kcal/h and small burner 1554 kcal/h (each) included in the licence with effect from 1985-03-23
3	CM/L-0525440	Devidayal Aluminium Industries (P) Ltd, Sahibabad, Dist Ghaziabad	IS : 2347-1974	Domestic pressure cookers 2.5 and 3.5 litre, inner lid type included in the licence with effect from 1985-03-02
4	CM/L-0778974	Oswal Electricals, Faridabad	IS : 9079-1979	New variety of monoset pumps for clear, cold, fresh water for agricultural purposes of size 100 x 100, speed — 1425 rev/min, head 10 m, discharge 14.3 l/s, overall efficiency 42 percent, motor 2.2 kW of class A included in the licence with effect from 1985-03-02
5	CM/L-0883769	Bharat Udyog, Bahadurgarh	IS : 1161-1979	Steel tubes for structural purposes, classes light, medium and heavy, ERW Yst 210, sizes above 100 mm NB up to and including 150 mm NB, black included in the licence with effect from 1985-02-02

SL No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
6	CM/L-0985676	Jain Spun Pipe Company, Village Haluwa, Dist Bhiwani	IS : 458-1971	Concrete pipes (with and without reinforcements) of classes NP2 and NP3 with sizes above 600 mm up to and including 1200 mm and above 600 mm up to and including 800 mm included in the licence with effect from 1985-03-02
7	CM/L-1002009	Faridabad gas Gadgets (P) Ltd, Faridabad	IS : 4246-1984	New variety of domestic gas stoves for use with liquified petroleum gases, double burner cast iron body, painted total gas consumption 312 g/h with big burner 1930 kcal/h and small burner 1474 kcal/h included in the licence with effect from 1985-02-02
8	CM/L-1090941	Deepee Kagaj Udyog (P) Ltd, Noida	IS : 1551-1976	New variety of carbon papers for typewriters, grade 2 included with effect from 1985-03-02
9	CM/L-1091034	do	IS : 3450-1976	New variety of carbon papers, handwriting, grade B and C included in the licence with effect from 1985-03-02
10	CM/L-1093341	Sunflame Industries, Faridabad	IS : 4760-1979	New variety of domestic cooking ranges for use with liquefied petroleum gas, top surface ranges, CRC sheet body having two boiling burners and a griller-cum-oven of total gas consumption 606 g/h, with big boiling burner of rating 2010 kcal/h, small boiling burner rating 1688 kcal/h and oven burner rating 1206 kcal/h included in the licence with effect from 1985-03-02
11	CM/L-1107225	Jayco Chemicals India, Dhirkhera, Dist Meerut	IS : 561-1978	New variety of BHC (HCH) dusting powders 0.65 percent gamma content included in licence with effect from 1985-03-02
12	CM/L-1120419	Kissan Agro Chemicals, Muzaffarnagar	IS : 561-1978	New variety of BHC (HCH) dusting powders 0.65 percent gamma isomer content included in the licence with effect from 1985-03-23
13	CM/L-1272543	Mahavir PVC Pipes (P) Ltd, Village Haluwas, Dist Bhiwani	IS : 4985-1981	New variety of unplasticized PVC pipes for potable water supplies, class 3, sizes up to and including 110 mm included in the licence with effect from 1985-02-09
14	CM/L-1288861	Gurshant Motor Pump (P) Ltd, Faridabad	IS : 996-1979	New variety of single phase small ac and universal electrical motors 9 and 75 W, Class E insulation included in the licence with effect from 1985-03-02
15	CM/L-1300522	Jain Industrial Manufacturing Company, Gurgaon	IS : 4246-1984	New variety of domestic gas stoves for use with liquefied petroleum gases, CRC sheet body, double burner, total gas consumption 332 g/h with big burner 2064 kcal/h and small burner 1554 kcal/h, included in the licence with effect from 1985-02-06

Sl No.	LICENCE NO.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
16	CM/L-1323938	Shambhavi Gas Gadgets (P) Ltd, New Delhi	do	New variety of domestic gas stoves for use with liquefied petroleum gases, double burner, CRC sheet nickel/chromium plated of penta dip brand with total gas consumption 298 g/h, big burner 1688 kcal/h and small burner 1554 kcal/h and penta delux brand with total gas consumption 332 g/h, big burner 2664 kcal/h and small burner 1554 kcal/h included in the licence with effect from 1985-03-29
17	CM/L-1369255	Sunflame Industries, Faridabad	IS : 4246-1984	New variety of domestic gas stoves for use with liquefied petroleum gases double burner, CRC sheet nickel/chromium plated painted, and cast iron body, total gas consumption 340 g/h, big burner 2010 kcal/h and small burner 1688 kcal/h included in the licence with effect from 1985-03-02
18	CM/L-1387762	Sankla Appliances Pvt Ltd, Faridabad	IS : 4246-1984	New variety of domestic gas stoves for use with liquefied petroleum gases, double burner, CRC sheet body nickel/chromium plated, total gas consumption 332 g/h, big burner 2064 kcal/h and small burner 1554 kcal/h included in the licence with effect from 1985-03-23

LICENCES CANCELLED

Sl No.	LICENCE NO.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-0410322	Bharat Pulverising Mills (P) Ltd, Madras	IS : 7122-1973	Cancelled with effect from 1984-12-01 as the firm is not interested in holding the licence
2	CM/L-0589365	Swastic Pesticides Chemicals, Muzaffarnagar	IS : 3903-1975	Cancelled with effect from 1985-02-15 as the firm is not interested in holding the licence

LICENCES LAPSED

Sl No.	LICENCE NO.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARDS	REMARKS
1	CM/L 0203216	Vijaya Industries, Palghat	IS : 2209-1976	Renewal was deferred after 1983-08-15, the licence now stands lapsed after that date
2	CM/L-0232627	Standard Furniture Company, Calicut	IS : 10 (Part 2)-1976	Renewal was deferred after 1982-05-15, the licence now stands lapsed after that date
3	CM/L-0316835	Textool Company Ltd, Coimbatore	IS : 10001-1981	Renewal was deferred after 1984-09-30, the licence now stands lapsed after that date
4	CM/L-0368753	Partap Steels, Mandi Govindgarh	IS : 6915-1978	Lapsed after 1985-01-31
5	CM/L-0372340	Assam Chemical Industries, Assam	IS : 633-1975	Renewal was deferred after 1984-02-29, the licence now stands lapsed after that date
6	CM/L-0379051	Rallis India Ltd, Madras	IS : 5282-1979	Lapsed after 1985-01-31

Sl. No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
7	CM/L-0414229	SMP Pvt Ltd, Roha	IS : 562-1978	Renewal was deferred after 1984-12-15, the licence now stands lapsed after that date
8	CM/L-0532538	Drolia Chemical Works, Patna	IS : 1061-1982	Renewal was deferred after 1984-06-30, the licence now stands lapsed after that date
9	CM/L-0534744	Southern Insecticides & Fertilizers, Madras	IS : 5281-1979	Renewal was deferred after 1984-06-15, the licence now stands lapsed after that date
10	CM/L-0566454	Assam Veneer (P) Ltd, Assam	IS : 10 (Part 2)-1976	Renewal was deferred after 1982-11-15, the licence now stands lapsed after that date
11	CM/L-0597263	Bhangar Bros & Company Pvt Ltd, Thane	IS : 9079-1979	Renewal was deferred after 1984-01-15, the licence now stands lapsed after that date
12	CM/L-0646250	Engineering Products Ltd, Bombay	IS : 325-1978	Renewal was deferred after 1983-10-31, the licence now stands lapsed after that date
13	CM/L-0667460	Rallis India Ltd, Bombay	IS : 3903-1975	Lapsed after 1985-01-31
14	CM/L-0694160	Rajdhani Flour Mills, Delhi	IS : 2400-1976	Renewal was deferred after 1984-04-15, the licence now stands lapsed after that date
15	CM/L-0796673	Kamrup Wax Industries, Gauhati	IS : 4654-1974	Renewal was deferred after 1984-09-15, the licence now stands lapsed after that date
16	CM/L-0855057	Shri Mahabir Steel Re-Rolling Mills, Patna	IS : 1786-1979	Renewal was deferred after 1984-04-15, the licence now stands lapsed after that date
17	CM/L-0864664	Mysore Insecticides Company Pvt Ltd, Madras	IS : 633-1975	Renewal was deferred after 1984-04-30, the licence now stands lapsed after that date
18	CM/L-0913954	MLR Industries, Bangalore	IS : 612-1983	Renewal was deferred after 1984-11-30, the licence now stands lapsed after that date
19	CM/L-0936865	Eastern Concrete Industries, Assam	IS : 458-1971	Renewal was deferred after 1984-02-15, the licence now stands lapsed after that date
20	CM/L-0947769	Kavisa Cables, Ghaziabad	IS : 694-1977	Renewal was deferred after 1984-02-29, the licence now stands lapsed after that date
21	CM/L-0951558	PVS Industries, Hospet	IS : 565-1975	Lapsed after 1985-03-15
22	CM/L-0952964	Sabai Match Industries, Sivakasi	IS : 2653-1980	Renewal was deferred after 1983-03-15, the licence now stands lapsed after that date
23	CM/L-0989987	Andhra Steel Corporation, Visakhapatnam	IS : 7283-1974	Renewal was deferred after 1983-09-15, the licence now stands lapsed after that date
24	CM/L-0994677	Indian Chemical & Fertilizer Industries, Bhagalpur	IS : 1308-1974	Renewal was deferred after 1984-10-15, the licence now stands lapsed after that date
25	CM/L-0996782	Emco Esta Capacitors, Bombay	IS : 2834-1964	Renewal was deferred after 1982-09-30, the licence now stands lapsed after that date
26	CM/L-1004821	Andhra Steel Corporation, Visakhapatnam	IS : 9550-1980	Renewal was deferred after 1984-11-15, the licence now stands lapsed after that date
27	CM/L-1011616	Lubrichem, New Delhi	IS : 9182 (Part 3)-1979	Renewal was deferred after 1984-11-30, the licence now stands lapsed after that date
28	CM/L-1012820	Mascot Agro Chemicals Pvt Ltd, Bangalore	IS : 1488-1969	Renewal was deferred after 1984-12-15, the licence now stands lapsed after that date
29	CM/L-1046433	Mahajan Iron Foundry, Agra	IS : 1879 (Part 6)-1975	Lapsed after 1984-03-15
30	CM/L-1054129	Batra Iron & Steel Works (P) Ltd, Durg	IS : 226-1975	Renewal was deferred after 1984-03-31, the licence now stands lapsed after that date
31	CM/L-1055333	PVS Industries, Hospet	IS : 562-1978	Lapsed after 1985-03-31



ISO STANDARDS

AGRICULTURAL FOOD PRODUCTS (TC 34)

ISO 5534-1985 Cheese and processed cheese — Determination of total solids content (Reference method)

ISO 6658-1985 Sensory analysis — Methodology — General guidance

AIRCRAFT AND SPACE VEHICLES (TC 20)

ISO 3225-1985 Aerospace — Self-locking, fixed, two lug anchor nuts, reduced series, with counterbore, strength classification 1 100 MPa and maximum operating temperature 235°C

ISO 5843/6-1985 Aerospace — List of equivalent terms : Part 6 Standard atmosphere

AIR QUALITY (TC 146)

ISO 6768-1985 Ambient air — Determination of the mass concentration of nitrogen dioxide — Modified Griess-Saltzman method

CHEMISTRY (TC 47)

ISO 6997-1985 Carbonaceous materials for the production of aluminium — Calcined coke — Determination of apparent oil content — Heating method

ISO 7105-1985 Liquefied anhydrous ammonia for industrial use — Determination of water content — Karl Fischer method

ISO 7106-1985 Liquefied anhydrous ammonia for industrial use — Determination of oil content — Gravimetric and infrared spectrometric methods

ISO 7109-1985 Ammonia solution for industrial use — Determination of residue after evaporation at 105°C — Gravimetric method

ISO 8003-1985 Carbonaceous materials used in the production of aluminium — Pitch for electrodes —

Measurement of dynamic viscosity

CINEMATOGRAPHY (TC 36)

ISO 26-1985 Cinematography — Projector usage of 16 mm motion-picture films for direct front projection — Specifications

COMPUTERS AND INFORMATION PROCESSING (TC 97)

ISO 7929-1985 Information processing — Magnetic disk for data storage devices — 83 000 flux transitions per track, 130 mm (5.12 in) out diameter, 40 mm (1.57 in) inner diameter

CRANES, LIFTING APPLIANCES AND RELATED EXCAVATOR EQUIPMENT (TC 96)

ISO 4306/1-1985 Lifting appliances — Vocabulary : Part 1 General

DOORS AND WINDOWS (TC 162)

ISO 8270-1985 Doorsets — Soft heavy body impact test

ISO 8272-1985 Doorsets — Air permeability test

FLUID POWER SYSTEMS AND COMPONENTS (TC 131)

ISO 6432-1985 Pneumatic fluid power — Single rod cylinders — 10 bar (1 000 kPa) series — Bores from 8 to 25 mm — Mounting dimensions

FLUORSPAR ORE (TC 175)

ISO 5438-1985 Acid-grade and ceramic-grade fluorspar — Determination of silica content — Reduced molybdosilicate spectrometric method

IMPLANTS FOR SURGERY (TC 150)

ISO 5835/1-1985 Implants for surgery — Metal bone screws — Dimen-

sions : Part 1 Screws with asymmetrical thread, spherical under-surfaces

ISO 5837/1-1985 Implants for surgery — Intramedullary nailing systems : Part 1 Intramedullary nails with cloverleaf or V-shaped cross-section

LIGHT METALS AND THEIR ALLOYS (TC 79)

ISO 3134/1-1985 Light metals and their alloys — Terms and definitions: Part 1 Materials

ISO 3134/2-1985 Light metals and their alloys — Terms and definitions : Part 2 Unwrought products

ISO 3134/3-1985 Light metals and their alloys — Terms and definitions : Part 3 Wrought products

ISO 3134/4-1985 Light metals and their alloys — Terms and definitions : Part 4 Castings

MACHINE TOOLS (TC 39)

ISO 1985-1985 Acceptance conditions for surface grinding machines with vertical grinding wheel spindle and reciprocating table — Testing of accuracy

ISO 1986-1985 Acceptance conditions for surface grinding machines with horizontal grinding wheel spindle and reciprocating table — Testing of accuracy

ISO 7945-1985 Woodworking machines — Single spindle boring machines — Nomenclature and acceptance conditions

ISO 7946-1985 Woodworking machines — Slot mortising machines — Nomenclature and acceptance conditions

ISO 7947-1985 Woodworking machines — Two, three and four-side moulding machines — Nomenclature and acceptance conditions

ISO 7950-1985 Woodworking machines — Single chain mortising machines — Nomenclature and acceptance conditions

ISO 7987-1985 Woodworking

machines — Turning lathes — Nomenclature and acceptance conditions

PHOTOGRAPHY (TC 42)

ISO 5/2-1985 Photography — Density measurements : Part 2 Geometric conditions for transmission density

POWER METALLURGY (TC 119)

ISO 4492-1985 Metallic powders, excluding powders for hardmetals — Determination of dimensional changes associated with compacting and sintering

ROAD VEHICLES (TC 22)

ISO 7630-1985 Road vehicles — Elastomeric O-rings for hydraulic drum brake wheel cylinders using a petroleum base hydraulic brake fluid (service temperature 120°C max)

ISO 7632-1985 Road vehicles — Elastomeric seals for hydraulic disc brake cylinders using a petroleum base hydraulic brake fluid (service temperature 120°C max)

ROLLING BEARINGS (TC 4)

ISO 15-1981/Add 1-1985 Rolling bearings — Radial bearings — Boundary dimensions — General plan Addendum 1 Diameter series 7 (12 mm < d < 30 mm)

SEMI-MANUFACTURERS OF TIMBER (TC 99)

ISO 1324-1985 Solid wood parquet — Classification of oak strips

SHIPBUILDING (TC 8)

ISO 21-1985 Shipbuilding — Inland navigation — Cable-lifters for studlink anchor chains

ISO 7608-1985 Shipbuilding — Inland navigation — Couplings for disposal of oily mixture and sewage water

TRACTORS AND MACHINERY FOR AGRICULTURE AND FORESTRY (TC 23)

ISO 8016-1985 Machinery for agriculture — Wheels with integral hub

TYRES, RIMS AND VALVES (TC 31)

ISO 4000/1-1985 Passenger car tyres and rims : Part 1 Tyres (Metric series)

WELDING AND ALLIED PROCESSES (TC 44)

ISO 7931/1985 Insulation caps and and bushes for resistance welding equipment

■ IEC PUBLICATIONS

ELECTRICAL EQUIPMENT IN MEDICAL PRACTICE (TC 62)

Amendment No. 1 (1984) to IEC 601-1(1977) : Safety of medical electrical equipment : Part 1 General requirements

ELECTRICAL INSTALLATIONS OF BUILDINGS (TC 64)

IEC 364-4-45(1984) Electrical installations of buildings : Part 4 Protection for safety : Chapter 45 Protection against undervoltage

IEC 364-7-703(1984) Electrical installations of buildings : Part 7 Requirements for special installations or locations, Section 703 Locations containing sauna heaters

IEC 364-7-705(1984) Electrical installations of buildings : Part 7 Requirements for special installations or locations, Section 705 Electrical installations of agricultural and horticultural premises

IEC 364-7-707 (1984) Electrical installations of buildings : Part 7 Requirements for special installations or locations, Section 707 Earthing requirements for the installation of date processing equipment

ELECTRIC CABLES (TC 20)

IEC 724 (1984) Guide to the short-circuit temperature limits of electric cables with a rated voltage not exceeding 0.6/1.0 kV

INDUSTRIAL PROCESS MEASUREMENT AND CONTROL (TC 65)

IEC 801-3 (1984) Electromagnetic compatibility for industrial-process measurement and control equipment :

Part 3 Radiated electromagnetic field requirements

INSULATING MATERIALS (TC 15)

IEC 455-2-2 (1984) Specification for solventless polymerisable resinous compounds used for electrical insulation: Part 2 Methods of test — Test methods for coating powders for electrical purposes

INSULATION SYSTEMS (TC 63)

IEC 791(1984) Performance evaluation of insulation systems based on service experience and functional tests

LAMPS AND RELATED EQUIPMENT (TC 34)

IEC 82(1984) Ballasts for tubular fluorescent lamps

ROTATING MACHINERY (TC 2)

IEC 34-11-2(1984) Rotating electrical machines : Part 11 Built-in thermal protection, Chapter 2 Thermal detectors and control units used in thermal protection systems

SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES (TC 61)

IEC 335-2-4(1984) Safety of household and similar electrical appliances : Part 2 Particular requirements for spin extractors

IEC 335-2-11(1984) Safety of household and similar electrical appliances : Part 2 Particular requirements for tumble dryers

IEC 335-2-14(1984) Safety of household and similar electrical appliances : Part 2 Particular requirements for electric kitchen machines

IEC 335-2-24(1984) Safety of household and similar electrical appliances : Part 2 Particular requirements for refrigerators and food freezers

IEC 335-2-41(1984) Safety of household and similar electrical appliances : Part 2 Particular requirements for electric pumps for liquids having a temperature not exceeding 35°C

SWITCHGEAR AND CONTROLGEAR (TC 17)

IEC 129(1984) Alternating current disconnectors and earthing switches

INDIAN STANDARDS

The standards listed below have been classified departmentwise.

NEW AND REVISED INDIAN STANDARDS

AGRICULTURAL AND FOOD PRODUCTS DEPARTMENT

IS : 1547-1985 Infant milk foods (second revision). Gr 7



IS : 1656-1985 Milk-cereal based weaning foods (second revision). Gr 3

IS : 4931-1984 Technical requirements for power take-off of agricultural tractors (second revision). Gr 3

IS : 5864-1983 Methods for determination of DDT residues in food commodities (first revision). Gr 4

IS : 6169-1983 Methods for determination of BHC (HCH) residues in food commodities (first revision). Gr 4

IS : 10768-1984 Method of test for quality characteristics of pulses. Gr 2

IS : 11063-1984 Metoxuron water dispersible powders. Gr 2

IS : 11156-1985 Infant formulae. Gr 3

CIVIL ENGINEERING DEPARTMENT

IS : 903-1984 Fire hose delivery couplings, branch pipe, nozzles and nozzle spanner (third revision). Gr 4

IS : 2185 (Part 3)-1984 Concrete masonry units: Part 3 Autoclaved cellular (aerated) concrete blocks (first revision). Gr 4

IS : 2858-1984 Code of practice for roofing with mangalore tiles (first revision). Gr 5

IS : 4127-1983 Code of practice for laying of glazed stoneware pipes (first revision). Gr 6

IS : 4989 (Part 2)-1984 Foam concentrate for producing mechanical foam for fire fighting: Part 2 Aqueous film forming foam (AFFF). Gr 7

CONSUMER PRODUCTS AND MEDICAL INSTRUMENTS DEPARTMENT

IS : 4246-1984 Domestic gas stoves for use with liquefied petroleum gases (third revision). Gr 5

IS : 10953-1984 Catheter uterine, single channel (Nelson type). Gr 1

ELECTRONICS AND TELECOMMUNICATION DEPARTMENT

IS : 4007 (Part 2/Sec 8)-1983 Terminals for electronic equipment: Part 2 Detail specification for terminals, Section 8 Terminal, insulated, with insulated captive spring cap, type TSL 3. Gr 1

IS : 7354 (Part 2)-1984 Guide on reliability of electronic and electrical items: Part 2 Reliability and maintainability management (first revision). Gr 4

IS : 10825 (Part 2)-1984 Ceramic dielectric capacitors, type 1: Part 2 Type FCCT-1. Gr 5

IS : 11137 (Part 2)-1984 Analysis Techniques for system reliability: Part 2 Procedures for failure mode and effects (FMEA) and failure mode, effects and criticality analysis (FMECA). Gr 7

IS : 11162 (Part 1)-1985 Dimensions of non-insulated terminal tags for electronic equipment: Part 1 Type 1. Gr 1

IS : 11162 (Part 2)-1985 Dimensions of non-insulated terminal tags for electronic equipment: Part 2 Type 2. Gr 1

IS : 11162 (Part 3)-1985 Dimensions

of non-insulated terminal tags for electronic equipment: Part 3 Type 3. Gr 1

IS : 11162 (Part 4)-1985 Dimensions of non-insulated terminal tags for electronic equipment: Part 4 Type 4. Gr 1

ELECTROTECHNICAL DEPARTMENT

IS : 1885 (Part 00)-1984 Electro-technical vocabulary: Part 60 Terms related to electrical apparatus for atmospheres. Gr 7

IS : 10322 (Part 2)-1982 Luminaires: Part 2 Constructional requirements. Gr 7

IS : 10810 (Part 0)-1984 Methods of test for cables: Part 0 General. Gr 2

IS : 10810 (Part 1)-1984 Methods of test for cables: Part 1 Annealing test for wires used as conductors. Gr 1

IS : 10810 (Part 2)-1984 Methods of test for cables: Part 2 Tensile test for aluminium wires. Gr 1

IS : 10810 (Part 3)-1984 Methods of test for cables: Part 3 Wrapping test for aluminium wires. Gr 1

IS : 10947-1984 Code of practice for lighting for ports and harbours. Gr 3

MECHANICAL ENGINEERING DEPARTMENT

IS : 1364 (Part 3)-1983 Hexagon head bolts, screws and nuts of product grade A and B: Part 3 Hexagon nuts (size range M 1.6 to m 36) (second revision). Gr 2

IS : 7879 (Part 7)-1984 Glossary of aeronautical and astronautical terms: Part 7 Air traffic and ground services. Gr 12

IS : 8198 (Part 3)-1984 Code of practice for steel cylinders for compressed gases: Part 3 High pressure liquefiable gases (first revision). Gr 5

IS : 8198 (Part 5)-1984 Code of practice for steel cylinders for compressed gases: Part 5 Liquefied

petroleum gas (LPG) (first revision). Gr 3

IS : 9609-1983 English lettering for technical drawings (first revision). Gr 4

IS : 10881-1984 Method of measurement of fuel consumption of scooters and motorcycles. Gr 2

IS : 10962-1984 Technical supply conditions for reciprocating air compressors above 60 kW. Gr 7

IS : 11016-1984 General safety requirements for machine tools and their operation. Gr 6

IS : 11028-1984 Handle bars for mopeds. Gr 1

IS : 11103-1984 Cylindrical measuring pins (size range from 0.1 mm up to and including 20 mm). Gr 2

IS : 11119-1984 Technical supply conditions for sliding vane rotary air compressors. Gr 4

IS : 11120-1984 Carbide tipped single point boring tools (arbor mounted type), IND 4. Gr 3

IS : 11122 (Part 3)-1984 Letterpress printing plates and equipment: Part 3 Galleys. Gr 1

IS : 11122 (Part 4)-1984 Letterpress printing plates and equipment: Part 4 Jobbing chases. Gr 1

IS : 11127-1984 Holders for knurling wheels. Gr 2

IS : 11132-1984 Ammonia valves. Gr 7

IS : 11138-1984 Snow dead-boy and dead-man for mountaineering. Gr 2

IS : 11139-1984 Adjusters for control cables for mopeds. Gr 2

IS : 11149-1984 Rubber gaskets. Gr 2

IS : 11152-1984 Laboratory stands (metallic). Gr 3

PETROLEUM, COAL AND RELATED PRODUCTS DEPARTMENT

IS : 2409-1985 Calcium ammonium nitrate (second revision). Gr 2

IS : 11126-1984 3-Toluidine. Gr 3

STATISTICS DEPARTMENT

IS : 6200 (Part 4)-1983 Statistical tests of significance: Part 4 Non-parametric tests. Gr 8

IS : 10427-1982 Designs for industrial experimentation. Gr 7

STRUCTURAL AND METALS DEPARTMENT

IS : 1501 (Part 1)-1984 Method for Vickers hardness test for metallic materials: Part 1 HV 5 to HV 100 (second revision). Gr 4

IS : 1501 (Part 2)-1984 Method for Vickers hardness test for metallic materials: Part 2 HV 0.2 to less than HV 5 (second revision). Gr 4

IS : 1538 (Part 14)-1984 Cast iron fittings for pressure pipes for water, gas and sewage: Part 14 Specific requirements for double socket tapers (third revision). Gr 2

IS : 1811-1984 Methods of sampling foundry sand (first revision). Gr 3

IS : 2708-1984 1.5 Percent manganese steel castings for general engineering purpose (second revision). Gr 3

IS : 3601-1984 Steel tubes for

mechanical and general engineering purposes (first revision). Gr 4

IS : 4699-1984 Refined secondary zinc (first revision). Gr 2

IS : 6158-1984 Recommended practice for safeguarding against embrittlements of hot-dip galvanized iron and steel products (first revision). Gr 2

IS : 11093-1984 Iron ore lumps for direct reduction processes. Gr 1

IS : 11099-1984 Universal sand testing machines. Gr 2

IS : 11109-1984 Silicon brass ingots and castings. Gr 2

IS : 11111-1984 Leaded bronze powders. Gr 2

TEXTILE DEPARTMENT

IS : 1313-1984 Method for determination of dimensional changes on washing of knitted goods containing wool (first revision). Gr 4

IS : 2010-1984 Methods for detection and estimation of damage in jute fabrics due to micro-organisms (first revision). Gr 3

IS : 2011-1984 Methods for detection and estimation of damage in jute yarn and cordage due to micro-organisms (first revision). Gr 3

IS : 3625 (Part 3)-1984 Warp tubes for ring spinning and doubling spindles: Part 3 Recommended dimensions for tubes, taper 1:6 (second revision). Gr 3

IS : 9755-1985 High density polyethylene (HDPE) woven sacks for packing fertilizers (first revision). Gr 2

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GATT COMMITTEE ON TECHNICAL BARRIERS TO TRADE — Continued from Page 208

stated that the solution of these administrative problems did not necessarily require development of sophisticated methods.

It was felt that, on the whole, the Agreement had operated adequately and had met initial expectations. The non-signatory contracting parties present at the meeting observed that a fuller understanding of the technical matters covered by the provisions of the Agreement as well as of the various actions taken by the Committee would

be of great help to them in finalizing their decision-making process for becoming signatories.

NEXT MEETING

It was decided that the next meeting of the Committee would be held during 31 October - 1 November 1985 at Geneva. The proposed agenda for the meeting would be as follows:

a) Statements on implementation and administration of the Agreement;

- b) Testing and inspection;
- c) Criteria for assessing the significance of proposed technical regulations;
- d) Translation of document relating to notifications;
- e) Second three-yearly review of the operation and implementation of the Agreement;
- f) Sixth annual review of implementation and operation of the Agreement; and
- g) 1985 Report to the Contracting Parties.

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THE COVER — The National Electrical Code. This special publication recently brought out by ISI provides information in a consolidated form to electrical engineers and contractors in the country concerned with design, execution, inspection and maintenance of electrical installations in different locations (see also page 247).



ISI Bulletin is published every month and supplied free of charge to all ISI members. Subscription for non-members: Annual, Rs 36'00 (£5'40) or \$ 18'00; Single copy Rs 4'00 (£ 0'60 or \$ 2'00).

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6978

National Electrical Code

■ Time and again, two questions have been asked in relation to the National Electrical Code (NEC): What is the need for a handbook of this nature? And what would be its status *vis-a-vis* the *Indian Electricity Rules*? Interestingly, the answers to these questions bring out the importance of the work accomplished.

ISI had brought out over the last two decades a number of codes on specific areas of electrical installation practice and use of individual electrical products. By and large, these catered to the needs of application engineers and electrical workmen. The installation design engineer, however, didn't have much to guide him. His need could be met by putting together the available information in an altogether different format. This was a complex task in view of the wide variety of occupancies encountered, such as residential, commercial, industrial and agricultural, each requiring a different degree of sophistication in electrical services and, therefore, a different treatment from standards engineering point of view. There was also a pressing need for guidelines for the use of electricity at building sites, open cast mines, public lighting installations, exhibition sites and a variety of temporary installations. No single standard in the conventional sense of the term could do justice to this vast requirement and, therefore, formulation of a comprehensive handbook was felt necessary. The National Electrical Code (NEC), prepared after long deliberations and in the form it is being made available, can be justifiably claimed to meet the above need.

The National Electrical Code is a national standard—albeit a special publication from India's national standards body — meant to complement the *Indian Electricity Rules (IE Rules)* and other statutory provisions. This status envisaged for NEC was clearly outlined even before the task commenced. While all matters concerning installation practice in the country are governed by the *IE Rules*, which are statutory in nature, there do arise occasions in the field when need is felt for technical amplification in regard to implementation of the Rules. Indian Standard codes in vogue in the past had in such situations played a significant role by providing technical elaborations for field personnel implementing the *IE Rules*. In a similar way, NEC is primarily meant to complement the efforts of the Central Electricity Board (CEB) which is the *IE Rule*-making authority. The fact that the process of formulation of NEC itself was ably aided by several experts from CEB bears testimony to the status NEC would enjoy. For this reason, other bodies formulating rules — insurance agencies and approval authorities — would also find the Code useful in their activity.

The contents of the Code also underscore its usefulness to various sections of the engineering fraternity. By harmonizing the requirements of individual electrical equipment with the rules applicable to installations, NEC becomes an important tool for the product design engineer who wishes to meet the specific needs of installation in different occupancies. Besides, organizations and individuals wishing to operate as consultants would find the Code as an important guide on matters of selection of equipment and design of installations. The contractors undertaking installation work would also find their work being made easier by a set of detailed guidelines contained in NEC which can be applied in a uniform manner. From safety considerations, the installation users themselves would find the Code informative.

Preparing NEC has been a rewarding experience. As on other occasions, the Institution has brought together divergent interests in the electrotechnical field in a single forum at the national level and motivated them to complete the task on the basis of a time-bound plan. All through the preparation of the Code, fruitful interaction has been witnessed amongst a large number of experts who are specialists in their own fields, while they deliberated on wide-ranging issues. Needless to say, NEC embodies the long-standing expertise of all these professionals. Therein lies the importance of the Code.

NORMS AND VALUES

Automatic Bank Operations : Security of Personal Identification Numbers

Bank services in advanced countries include automatic cash dispensing which involves electronic transmission of funds between financial institutions and individual customers. Electronic funds transfer (EFT) transactions cannot be processed safely unless customer identities can be verified securely and the correct unaltered transmission of messages between networks, terminals, computers, etc, can be assured. The process of verifying customer identities is known as personal identification whereas that of verifying messages is called message authentication. The technique of personal identification widely adopted by financial institutions involves use of a secret code or password known as a personal identification number (PIN). This number, usually between 4 and 6 digits in length, is to be memorized by customers.

The PIN is normally used in conjunction with an embossed magnetic stripe identification card containing the issuer's identification number, the card's expiry date and an account number. At an entry point to the EFT system — for example, the cash dispenser — information on the customer's card is read into the system and the customer enters the PIN. If the customer has supplied the correct PIN and if the balance in the account is sufficient, the system makes the payment. Verification of the correct PIN is achieved by comparing the PIN entered by the customer against the reference PIN as recorded by the issuing financial institution.

Since PIN disclosure is the key to the success of most fraud efforts, it is vital to the security of all electronic fund transfer systems that the confidentiality of the PIN is maintained at all times. Although the most difficult risks to counter are those which involve the customer's negligence in the handling of his or her own PIN, these risks are not of extreme concern. Risk of fraud tends to be greater when customer transactions can be initiated at terminals of a number of participating financial institutions and the system allows for the acceptance of overseas cards. In these circumstances, the obligation for protecting PINs against unauthorized disclosure extends beyond the customer and the issuing financial institution. For example, in the case of an international financial transaction, PIN security is additionally the

responsibility of the financial institution controlling the EFT terminal in the transaction country (as agent for the financial institution in the issuing country) and various network service providers, both local and international.

According to an article by Mr J Griffiths in the *ISO Bulletin* (Vol 16, No. 3; March 1985), financial institutions have come to realize that an International Standard for PIN management and security is now essential. The International Organization for Standardization (ISO) has established a Technical Committee ISO/TC 68 Banking to meet this need. The aim is to provide a standard means for the interchange of PIN data between financial institutions and specify a number of techniques for the management and protection of the PIN throughout its life cycle. Work is already in progress on a draft proposal for an International Standard on the management and security of PINs and consensus on the draft proposal is likely to emerge before the year is out. Essentially, PIN security will be based on the general principle that PINs must be cryptographically protected except when in a physically secure device or environment. By cryptographic protection is meant the mathematical process of transforming (PIN) data in such a way that the resulting text is unintelligible to unauthorized parties.

The ultimate value of an International Standard will lie in giving the necessary assurance to financial institutions that the PINs of their customers, while under the control of other institutions, are properly managed without the risk of fraud.

■ ■ ■ Portable Safety Tester For Electrical Appliances

A compact, easy-to-use instrument developed by a British firm carries out five separate safety tests on most types of portable mains-operated domestic or industrial appliances, ranging from irons and kettles to hand drills and saws. The tester is available in ten versions which, between them, are said to cater for a wide variety of mains voltages and types of plugs/sockets in use throughout the world.

The instrument meets the growing need of workshops engaged in the repair or servicing of electrical appliances for a reliable, quick and

comprehensive safety-testing facility — incorporated in a single portable unit — which can be used not only as a final check on repaired/serviced appliances before they are passed on for use by the public but also as a diagnostic aid which can save time and labour by pinpointing specific faults immediately. It is also claimed to have applications for firms manufacturing or assembling electrical appliances.

Both earthed (grounded) and double-insulated appliances can be tested to BS and IEC Class 1 and BS and IEC Class 2 safety standards respectively. The five tests carried out are for earth (ground) bond, insulation, flash, load and appliance operation, in that order. The testing procedure is simple. The instrument is plugged into the mains supply and the appliance to be tested plugged into the instrument via an appropriate socket on the instrument's panel. The operator then sets the pointer of a rotary switch to the first of the five numbered testing positions on the panel, each clearly indicating the name of the test button. When the first test has been completed, the switch is set to the second test position and so on until all tests have been completed.

Readings from each test are shown clearly on an analogue panel meter which incorporates a green 'pass' scale band and a calibration scale, giving not only an immediate indication as to whether the appliance has passed or failed the test, but also the actual pass/fail reading within the corresponding band.

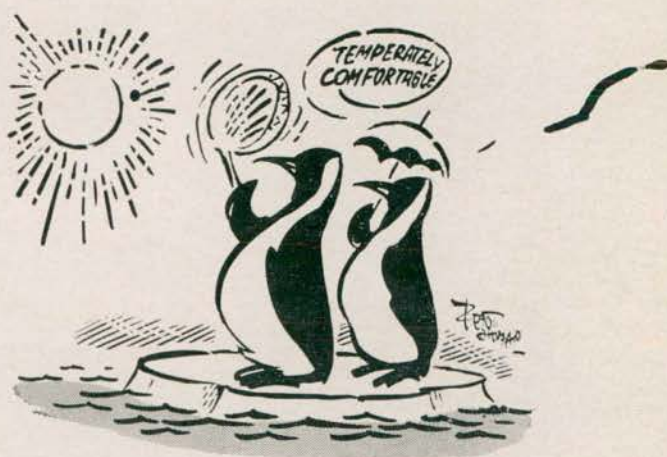
A circuit breaker (with a reset button on the panel) protects the instrument — and operator — should heavy currents be drawn into the equipment during the 'operation' test although sufficient time is allowed for a reading to be obtained before the circuit is tripped. In the interests of safety, the circuit also restricts the output for each function to a minimum.



Hot, Cold or Comfortable

Physical disabilities associated with excessive heat exposure are heat rash, heat exhaustion and heat stroke. Prolonged exposure to excessive heat also causes irritability, lassitude, increased anxiety and inability to concentrate — all of which are known to be reflected in efficiency at work. The concern for welfare and efficiency in relation to this problem is known to professions, such as in cookery and catering, foundries, glass manufacturing, mining, steel smelting, textile manufacture and any activity involving coke ovens.

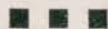
We can adapt to cold to a certain extent, but our natural mechanisms for heat conservation are severely strained by chilling of the extremities; toes and fingers approach freezing temperatures very rapidly, but long before that they become insensitive. The worst effects are frostbite (actual freezing of the tissues) and other painful conditions caused by long continuous exposure without freezing, general hypothermia and many vascular abnormalities, such as chilblain. These are occupational hazards among people working in various types of refrigerated environments and also



firemen, divers, liquefied petroleum gas workers, and anyone working out of doors during cold weather.

Between these extremes are many conditions of discomfort affecting our health, disposition and efficiency.

Of late increasing interest has been shown in the problems resulting from exposure of man to hot or cold environments. Yet very little literature is so far available in this field. The International Organization for Standardization is now engaged in the preparation of a series of International Standards intended for use in the study of thermal environments. An International Standard just published in the series is 'ISO 7726 Thermal environments — Instruments and methods for measuring physical quantities' which specifies the characteristics of appliances for measuring the physical quantities that characterize an environment and applies to hot, cold and comfortable environments in any place occupied by man. It also standardizes the process of recording information leading to the determination of heat index and can be used as a reference while establishing specifications for manufacturers and users of measuring instruments as also for finalizing a written contract between two parties for the measurement of these quantities.



Certification — A Worldwide Affair

Interest in product certification is increasing all over the world. This is evidenced in the appearance of the various 'marks of conformity' on more and more products. It reflects a greater awareness by both purchasers and manufacturers in the value of standards bodies third-party certification as a means of ensuring compliance with relevant standards.

Because of this interest exporters are more conscious of the benefits to be gained by using a mark of the importing country.

— Standards (Vol 30, No. 12 December 1984)



CONSUMER NEWS

RUBBERIZED COIR CUSHIONING

A major part of our daily routine is spent while sitting or sleeping. Naturally, one wants to be as comfortable as possible whether sitting in an office chair, a sofa, a dining chair or a bus seat, or while taking rest on a bed or a divan. A variety of cushioning materials are used to provide comfort in such situations, ranging from the conventional fibre-filled foam to the modern polyurethane and rubber foam. However, all cushioning materials do not provide the same comfort and service. Then there are problems of tropical climate which make it necessary for the cushioning material to have air pores to ensure circulation of air and avoid sweating. To overcome these problems, rubberized coir cushioning material has been developed.

Rubberized coir is basically a resilient product of porous structure containing curled coir fibre suitably coated and bonded with natural or synthetic rubber or a combination of both containing suitable ingredients and vulcanized for the final set to the desired size and shape.

For the rubberized coir to have lasting shape and durability, it is necessary that the right type of coir fibre and rubber are used and the product is properly vulcanized and free from harmful impurities. To provide guidance to the manufacturers and ensure lasting comfort

to the consumers, the Indian Standards Institution has formulated Indian Standards for rubberized coir sheets for cushioning (IS: 8391-1977) as well as moulded rubberized coir cushioning (IS: 11060-1984). IS: 8391-1977 covers requirements for rubberized coir sheet cushioning

material which has application for domestic and office furniture like chairs, sofas, divans and beds. The Standard prescribes requirements for four grades of rubberized coir cushioning material based on its density and hardness and lays down dimensional tolerances as well as quality of finish of the product. To provide long-term service without losing shape, and safeguard against long-term chemical degradation, the Standard stipulates requirements for ageing, flexing and compression set of the product and limits of pH value and chloride and sulphate content. IS: 11060-1984 covers requirements for moulded rubberized coir cushioning for use as seats, back rests, etc. These include requirements similar to those for rubberized coir cushioning material. Besides, a special requirement regarding reinforcement of edges in respect of moulded products has been given. This requires the reinforcement of latex coated curled coir fleeces to be up to 25mm wide with apparent density at the edges not exceeding 120g/dm³ for seats and 100g/dm³ for back rests.

Widespread implementation of standards for rubberized coir cushioning by the industry will no doubt add to the comfort of consumers while travelling, working in the office or taking rest at home by ensuring production of a cosy cushion of uniform performance and lasting service.



OF LEAKY TAPS AND WASHERS

Leaky taps in the kitchen, bathroom, or even in a public hydrant are a real nuisance, not only for the mess they are likely to create, but also due to the consequent wastage of potable water, conservation of which has become a necessity. The cause of such a leakage is usually a faulty washer, unable to effectively perform its function of shutting the tap orifice or valve against further flow, when closed.

To provide guidance on the quality of washers to manufacturers and consumers, the Indian Standards Institution has published an Indian Standard for washers for use with fittings for water services (IS: 4346). First published in 1967, the Standard was revised in 1982 to incorporate changes found necessary in the light of improvements made by the industry in this field. The Standard covers material, dimensions and other requirements of washers for use in bib taps, stop valves, self-closing taps, flush valves, pillar taps and ferrules.

The Standard stipulates that the material used for a washer should neither impart any taste to water having a residual chloride content not exceeding 0.2mg/litre, nor should it have any toxic effects or foster growth of bacteria. The material should also not corrode the metal seating or the washer plate so

as to impair the performance and life of a tap or valve. The materials for washers recommended in the Standard are synthetic or natural vulcanized rubber, vegetable tanned hydraulic leather, high density polyethylene or vulcanized fibre, meeting the requirements specified in the relevant Indian Standard. Besides, the quality of the material used shall be such that the washer does not crack when the tap is fully closed.

For each nominal size of the tap or valve, the Standard prescribes thickness of the washer and its internal and external diameter, along with tolerances. These dimensions are designed to ensure interchangeability and compatibility of the washers with the size of tap.

To give an assurance to consumers of the quality of washers, there is also a provision for grant of ISI Mark for washers manufactured in accordance with the requirements laid down in IS: 4346-1982.

WHAT SERVES THE CONSUMER BEST

In the ultimate analysis what can serve the consumer best is the availability of a wide range of products of acceptable quality at reasonable prices.

Trade transactions across national frontiers have been hampered by diverse commodity descriptions and coding systems obtaining at the international level. To overcome this problem, a Harmonized Commodity Description and Coding System has been developed. This paper presents a historical perspective of the development of the System as well as its advantages — Ed.

Harmonized Commodity Description and Coding System — Standardization of the Classification Language

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Indian Standards Institution
New Delhi

The complexity of procedures and formalities involved in the application of different national customs tariffs, documentation and other practices in international trade delays the shipment of goods, increases unnecessary cost and restricts the expansion of trade. It is estimated, for example, that the cost of documentation in international trade transactions amounts to at least 10 percent of the value of the goods traded. It is, therefore, important that the cost of paper work and procedures involved in the export-import trade is kept under check to the extent possible, thereby encouraging and facilitating the expansion of international trade among countries. In this context, a standardized nomenclature of goods, tariffs and trade activities assumes importance as it is not only of interest to customs administrators and statisticians but is also employed directly or indirectly by Government officials of related organizations, the business community, carriers, bankers and other users engaged in international trade.

CLASSIFICATIONS IN VOGUE

A number of classification systems are currently in vogue in respect of goods and trade activities all over the world. Some of them are listed below under relevant heads.

International Trade Classifications

- a) The Customs Cooperation Council Nomenclature (CCCN)
- b) The Standard International Trade Classification (SITC)
- c) The Nomenclature of Goods of External Trade Statistics of the Community and Statistics of Trade between Member States (NIMEXE).

Combined Goods and Services Classification or Combined Trade/Production Goods Classifications

- a) The Classification of Commodities by Industrial Origin (CCIO)
- b) The International Standard Classification of All Goods and Services (ICGS)
- c) The Common Nomenclature of Industrial Products of the European Communities (NIPRO)

Multipurpose Nomenclatures

- a) The Integrated System of Classification of Activities and Products (SINAP)
- b) The Harmonized Commodity Description and Coding System (HS)

Activity Classifications

- a) The International Standard Industrial Classification of All Economic Activities (ISIC)
- b) The General Industrial Classification of Economic Activities within the European Communities (NACE)
- c) The Classification of the Branches of National Economy of the Council of Mutual Economic Assistance (CMEA) Member Countries (CBNE)

PREREQUISITES OF A UNIVERSAL CLASSIFICATION SYSTEM

Any classification system to be adopted universally in different fields, namely, excise and customs, industry and trade, shipping, railways, airways and road transport must ensure the following:

- a) Systematic classification of all goods found in international trade;
- b) Internally uniform classification of all goods on a sound basis in the

tariffs of all countries adopting a nomenclature;

- c) Adoption of a common customs 'language' so that customs terminology is readily understood by experts and the public alike, thus simplifying the task of importers, exporters, producers, carriers and customs administrations;
- d) Simplicity and certainty of meaning in the negotiations, application and correct interpretation of bilateral or multilateral customs agreement; and
- e) An internationally uniform collation of data to facilitate analysis and comparison of world trade statistics.

A Study Group was set up by the Harmonized Systems Committee of the Customs Cooperation Council to examine the possibility of preparing a Harmonized Commodity Description and Coding System capable of meeting the principal requirements of customs authorities, statisticians, carriers and producers. Sixteen countries, 9 inter-governmental organizations including European Economic Committee (EEC), General Agreement on Tariffs and Trade (GATT) and United Nations Conference on Trade and Development (UNCTAD), and seven non-governmental international organizations including the International Organization for Standardization (ISO) participated in the effort. The final report of the Study Group concluded that:

- a) The development of a Harmonized Commodity Description and Coding System is not only feasible but also essential in the interest of long-term facilitation of international trade;
- b) The System could be developed from the revised versions of CCCN and SITC. However, the work done to date demonstrated the need for some

changes in these two instruments to bring them in step with current trade conditions; in addition, it would be advisable to modify some parts of CCCN to facilitate establishment of the Harmonized System. Of course, after the System had been developed, steps would have to be taken to ensure that it would be revised as necessary;

c) CCCN should constitute the core of the Harmonized System and should continue to be maintained as a separate 4-digit entity under the provisions of the International Convention on the Harmonized Commodity Description and Coding System;

d) During the development of the System, account should be taken of the existing nomenclatures and commodity description systems which were primarily representative of customs, statistical and transport requirements; and

e) The System should be developed under the auspices of the Customs Cooperation Council, but an international inter-organizational body should be kept in existence throughout the development period to ensure that the needs of all interests involved are fully taken into account and the Harmonized System is properly implemented.

As the principal objective of the Harmonized System is to meet the needs of all those concerned with world trade (customs authorities, international trade statisticians, etc) it was felt that the Harmonized System Committee set up by the Customs Cooperation Council to prepare the System should be representative of all the interests involved. Consequently, in addition to delegates from customs administrations of the various Council member States, the Committee included representatives of a number of national and international organizations.

In carrying out the technical work involved, the Committee was assisted by a Working Party, made up of members of the Committee itself together with representatives of other countries (some of them not even members of the Council) and other organizations. These representatives were also able to attend the Committee's plenary sessions as observers, but in the Working Party they all had the same voting rights as the members of the Committee. This became extremely important when the Committee decided that the Working Party's decisions taken by simple majority would be considered as the Committee's decisions and would not be reviewed unless a delegation entered a formal reservation. It must be pointed out that the course to a formal reservation to have an issue reconsidered by the

Committee in its plenary session was quite exceptional.

The fact that almost 60 countries and more than 20 international and national organizations took part in the activities of the Harmonized System Committee and its Working Party (with their proposals, comments on proposals or participation in the decision-making procedure) is a measure of the very broad interest generated by this project and the support it received. Participants in the preparatory work of the System included, in particular, representatives of national administrations using tariffs not based on CCCN together with the United Nations Statistical Office (UNSO), United Nations Conference on Trade and Development (UNCTAD), General Agreement on Tariffs and Trade (GATT), International Organization for Standardization (ISO), International Chamber of Commerce (ICC), International Chamber of Shipping (ICS), International Air Transport Association (IATA) and International Union of Railways (UIC).

HARMONIZED COMMODITY DESCRIPTION AND CODING SYSTEM

The Harmonized Commodity Description and Coding System is both a multipurpose 6-digit nomenclature and a structured nomenclature based on a series of subdivided 4-digit headings. These are but two different facets of the same system and indeed reflect the way in which the System was developed — the deliberate creation of a number of 4-digit level headings to accommodate particular groupings of predetermined lower-level subdivisions on the one hand and the simple subdivision of previously agreed 4-digit level headings to provide the required lower-level subheadings on the other, care being taken at the same time to ensure that the total content of all divisions at the same level was precisely that of the relevant subheading or heading at the immediately higher level. Both in concept and design, the Harmonized System, therefore, represents a valuable instrument which may be used for a variety of purposes while yet retaining a structure, such as that required for the purposes of tariff classification.

Multipurpose Nomenclature

As a purely numerical 6-digit multipurpose nomenclature, the Harmonized System is designed to be used for transportable goods even if such goods are not actually involved in international trade. The nomenclature comprises 5 019 groups of goods identified by a 6-digit code and is provided with the

necessary definitions and rules to ensure its uniform application. It is of the very nature of the 5 019 groups or categories to be multipurpose, and it is because they are so that the nomenclature they form is a multipurpose nomenclature. From this it is obvious that any intermediate categories or groups which lead to the final sub-heading coded at 6-digit level do not themselves give the whole its character of being multipurpose, even though they are absolutely essential to provide the scope of the 5 019 codified groups with clear limits and definitions. In this connection, 'intermediate categories' means any 4-digit heading in the case of a group coded with a fifth digit which is not zero and all 4-digit headings and their relevant 1-dash sub-heading or subheadings (fifth digit coded with a number other than zero) where the sixth digit is not zero.

An example will clarify this point. On the one hand, 4-digit heading No. 02·06 taken in its entirety covers edible offal of bovine animals, swine, sheep, goats, horses, asses, mules and hinnies — whether fresh, chilled or frozen. On the other hand, heading No. 02·03 covers edible meat of swine, fresh, chilled or frozen. For various reasons information may well be required on both edible meat and edible offal of swine. At 4-digit level such information is not available because the scope of heading No. 02·06 covers a wider range of products than that on which the information is required. However, at subheading level the required information can be easily obtained by simply grouping the available data from subheadings 0206·30, 0206·41 and 0206·49, not with that from the remaining subheadings of heading No. 02·06, but with the aggregate data from heading No. 02·03.

Furthermore, since the activity of the production of frozen goods is of considerable importance, it is also likely that information on, for example, frozen bovine meat and offal will be required. This can be obtained by grouping the data from subheadings 0206·21 (tongues of bovine animals, frozen), 0206·22 (livers of bovine animals, frozen) and 0206·29 (other edible offal of bovine animals, frozen) with the data from the aggregate result of heading No. 02·02 (meat of bovine animals, frozen).

Even if the chosen example relates to relatively simple situations (cases in which the combinations take up only certain but not all 2-dash sub-heading of the same 1-dash sub-heading), they clearly show that it is only the groups coded at 6-digit level which are fully multipurpose, because they constitute the 'building blocks' which

can be combined in different ways to fulfil different needs. If the system is abridged to a uniform higher level of detail, the resulting nomenclature ceases to fulfil a multipurpose function. This applies not only if the Harmonized System is abridged to the 4-digit heading level (1 241 headings), but also if it is reduced to the 1-dash (5-digit) level, in which case the Harmonized System's 5 019 categories would be reduced to 3 558.

Structured Nomenclature

For the purposes of tariff classification, the Harmonized System also provides a legal and logical structure within which a total of 1 241 headings are grouped into 96 chapters, the latter being themselves arranged in 21 sections.

Each heading of the System is identified by a 4-digit code (column entitled 'Heading No.'): the first two digits of which indicate the chapter wherein the heading appears while the latter two digits indicate the position of the heading in the chapter. Thus, heading No. 53·08 (yarn of other vegetable textile fibres; paper yarn) is the eighth heading in Chapter 53 which, in its entirety, covers 'other vegetable textile fibres; paper yarn and woven fabrics of paper yarn'.

In addition, all but 311 of the headings referred to are subdivided into two or more 1-dash subheadings which, where necessary, are themselves further subdivided into two or more 2-dash subheadings and which are identified by a 6-digit code.

Thus the Harmonized System comprises a total of 5 019 separated groups of goods identified by a 6-digit code (column entitled 'HS Code') the first four digits of which correspond to the relevant heading number while the fifth and sixth digits identify the 1- and 2-dash subheadings respectively (the absence of such subheadings being indicated by a zero).

Example

The HS Code for vanilla is 0905·00 which indicates that heading 09·05 (vanilla) has not been subdivided (fifth and sixth digits=0). The HS Code for buckwheat is 1008·10 which means that buckwheat is included in the first 1-dash subheading (fifth digit = 1) of heading 10·08 and that this subheading has not been further subdivided (sixth digit = 0).

Fescue seed is coded 1209·23, that is, this product falls in the third 2-dash subheading (sixth digit = 3) of the second 1-dash subheading (fifth digit = 2) of heading 12·09. As far as possible, the residual

subheadings ('Other') have been identified by the digit 9 (or 8, where the last subheading is set aside for 'Parts') to allow for the possibility of inserting additional subheadings in the future without changing the code number of the existing subheadings.

The headings and subheadings of the Harmonized System are also accompanied by Interpretative Rules and Section and Chapter Notes, which form an integral part of the System. These include an Interpretative Rule (Rule 6) which applies only to the subheadings and certain Section and Chapter Notes (called 'Subheading Notes') which apply only at subheading level and which are designed to clarify the scope of the subheadings to which they relate.

The Harmonized System, therefore, constitutes a coherent set of headings and subheadings which, together with the Interpretative Rules and Section and Chapter Notes, provides a systematic and uniform classification of goods.

As compared with the present CCCN the number of 4-digit headings has increased while that of optional headings has decreased from 2 to 1 (Heading 27·16 'Electrical energy'). Although the number of Sections remains the same, the number of Chapters has been reduced from 99 to 96. Three Chapters have, therefore, been saved either for possible future use in the Harmonized System (Chapter 77) or for special use by contracting parties, for example, for postal shipments and ships' stores (Chapters 98 and 99).

ADVANTAGES OF THE HARMONIZED SYSTEM

As a Tariff Nomenclature

a) The Harmonized System provides, even to a greater degree than the present CCCN, a comprehensive classification system which is simple and precise and which can be objectively applied to secure international uniformity of classification in the tariffs of all countries using it;

b) The Harmonized System takes into account modern technological developments and is, therefore, more up to date as compared to the present CCCN. Indeed, it is for this reason that CCCN is also proposed to be revised exactly in conformity with the Harmonized System at the 4-digit level;

c) The Harmonized System is truly an international nomenclature because it incorporates the input received from all regions of the world and from

countries at different stages of development;

d) The text of the Harmonized System resolves a large number of classification problems under the present CCCN, thus simplifying classification of goods; and

e) In the Harmonized System, the general structure is far more rationalized than the present CCCN.

As a Statistical Nomenclature

a) Under the present CCCN, statistics is collected on the basis of SITC-correlated subheadings the use of which is essentially limited to collection of international trade statistics. On the other hand, the Harmonized System has been so designed that the statistics collected on its basis can be used for a variety of purposes, including data production, market study and national economic analysis. It is, therefore, a very comprehensive and multipurpose statistical nomenclature designed to facilitate the collection, comparison and analysis of statistics;

b) The Harmonized System will promote as close a correlation as possible between import and export trade statistics and production statistics; and

c) A close correlation will be maintained between the Harmonized System and the SITC (*third revision*) of the United Nations.

As a Base for Harmonization of Economic Classifications

The structured nomenclature of the Harmonized System can be used as building blocks for harmonization of economic classification. The United Nations Statistical Commission has already agreed that the harmonization of goods, production and activity classifications should be based on the Harmonized System. In pursuance of this decision, a combined trade/production goods classification, correlated to the United Nations International Standard Industrial Classification (ISIC), is being prepared and ISIC and SITC are also being revised using the structured nomenclature of the Harmonized System as building blocks.

As a Multipurpose Nomenclature

a) Both in concept and design, the Harmonized System represents a valuable instrument which may be used for a variety of purposes while yet retaining a structure such as that required for the purpose of tariff classification; and

b) In view of the fact that the International Union of Railways, International Chamber of Shipping and International Air Transport Association have participated in the development of the Harmonized System, it is almost certain that the carriers will,

were presented by the representatives of various Central and State Government departments and undertakings. On behalf of ISI, Shri N. C. Tyagi, Director, Jaipur Branch Office, presented a paper entitled 'Quality control and standardization in plastics industry'. The paper covered the Indian Standards published and under preparation on plastics, and described the progress made in respect of ISI Certification Marks Scheme in the field.

Shri A. K. Bhargava, Additional Chief Engineer, Public Health and Engineering Department (PHED), Government of Rajasthan, also presented a paper on 'Purchase of Pipes in PHED, Rajasthan'. He brought out the need for increasing the availability of ISI-certified joints, fittings and components of the PVC piping system.

The following recommendations emerged from the deliberations of the Seminar :

a) An institute should be set up in Rajasthan for carrying out R&D work in the plastics processing industry and for providing testing facilities. This is intended to bring about quality improvement and standardization of products;

b) A petrochemical complex should be set up in Rajasthan; and

c) Study tours by officials and entrepreneurs to foreign countries may be arranged to study new developments and bring forth ideas for new products.

PROGRAMME ON BENEFITS OF STANDARDIZATION AND ISI CERTIFICATION, MYSORE

A Programme on Benefits of Standardization and ISI Certification was jointly organized by the Indian Standards Institution and Rotary Club of Mysore (North) in Mysore on 25 July 1985. The Programme was attended by over 50 participants including industrialists and members of the Rotary Club.

Inaugurating the Programme, Shri B. N. Aradhya, President, Small Scale Industries Association, Mysore, said that there were 100 large and 3 000 small scale industries in Mysore district which could take advantage of standards, thereby gaining confidence of the consumer and being able to compete in the international market. He wanted ISI to train technical personnel in medium and small scale industries in quality control methods and suggested that the institutions should organize exhibitions of consumer products with the ISI Mark whenever any programme was held to educate the public.

In his Presidential address, Shri

G. Nagaraju, General Manager, District Industries Centre (DIC), Mysore, said that small scale industries could play an important role in implementing standards to produce quality goods. He called upon the industrialists to ensure production of goods in accordance with the specifications laid down in Indian Standards. Emphasizing the need for production of quality goods by small scale industrial units in the country, Shri Nagaraju said that it would be easy for them to get the ISI Mark once they decided to implement standards and set up the requisite testing facilities for the production of quality goods. He was, however, conscious of the fact that some small scale units could not implement standards on account of non-availability of machinery and raw materials specified in the standards or lack of testing facilities with them. In this context, he called upon the small scale units to avail themselves of the incentives given by financial institutions and the Government in going in for the ISI Certification Marks Scheme. He added that the State government was ready to provide the requisite assistance to small industrial units in Mysore in this connection.

Presenting the keynote paper 'Development of industry through standardization and ISI Certification Marks Scheme', Shri L. Ramachandra Rao, Director, Bangalore Branch office, ISI, explained the procedure to be followed for joining the ISI Certification Marks Scheme and enumerated the various controls exercised by the Institution after the grant of a licence to ensure

the quality of ISI-certified products. He also detailed the benefits of the ISI Certification Marks Scheme to manufacturers, consumers, organized purchasers and exporters and spoke of the various incentives provided by Central and State Governments and financial institutions to small scale industrial units for taking advantage of the Scheme. Shri Rao stated that 342 ISI licences had been granted in Karnataka covering 200 units; of these, only 11 licences were in operation in Mysore. He added that there was considerable scope for more industrial units in Mysore joining the ISI Certification Marks Scheme and assured the industries that ISI would provide the necessary guidance for implementing quality control techniques as prescribed in the relevant standards for ensuring the production of quality goods.

Outlining ISI membership scheme for industries, Shri Rao said that there were 390 members in various categories in Karnataka; of these, only 23 were from Mysore. He called upon the Mysore Small Scale Industries Association and the District Industries Centre to encourage small scale industrial units to become members of ISI and derive the benefits available to subscribing members.

Shri Rao also delivered a lecture on 'Use and importance of ISI certification' besides two lectures on 'Importance of standards and methods of preparation of standards' and 'Basic standards and their implementation and consumer protection' by Shri M. N. Radhakrishna, Deputy Director, Bangalore



Visitors to the ISI Stall in the Exhibition organized by Government Organizations in Coimbatore during 20 April-3 June 1985 evincing keen interest in the Institution's publications including Indian Standards. The ISI Stall was given a shield by the exhibition authorities for attractive and informative presentation.

Branch Office, ISI. A standards exposition was also organized on the occasion in addition to screening a film 'Profile of ISI'.

The following recommendations emerged from the deliberations at the Programme:

a) A closer liaison may be established by District Industries Centre, Mysore, with ISI to facilitate effective involvement with the work of ISI, particularly with reference to certification marking and implementation of Indian Standards. For this, it would be worthwhile if the DIC maintained a set of Indian Standards needed by it and kept it updated for the benefit of small scale industries. Funds may be provided for the purchase of these standards by the Directorate of Industries, Government of Karnataka;

b) The office of the Deputy Commissioner may help in the implementation of Indian Standards by advising the purchase departments and various Government offices to quote the relevant Indian Standards whenever tenders are floated for the procurement of goods;

c) A closer liaison should be maintained between ISI and educational institutions. Though at present some of the educational institutions are members of ISI, it would be useful if their libraries were kept up to date in regard to information relating to Indian Standards. This would be helpful not only to the teaching staff but also to students in various disciplines;

d) The Mysore Small Scale Industries Association and the District Industries Centre should actively participate in the work of ISI by becoming subscribing members of the Institution; and

e) The District Industries Centre may try to persuade small scale industries in the region to become members of ISI and take advantage of the services offered by it.

SAFETY OF ELECTRICALLY-ENERGIZED OFFICE MACHINES — Revised IEC Standard

A revised standard for electrically-energized office machines (IEC Pub 380) designed to be used in offices, shops or similar locations will soon be available from the International Electrotechnical Commission (IEC). It covers safety for the operator and the layman who may come into contact with the machine and, where specifically stated, the service personnel. The Standard also takes into account the influence on safety of suppression devices necessary to achieve a specified degree of radio interference suppression. Examples of machines within
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the scope of this standard are typewriters, adding machines, calculating machines, accounting and book-keeping machines, cash registers, paper tape readers and punches, staples, duplicators, photocopying machines, electrostatic copying machines, erasers, pencil sharpeners, mail processing machines, document shredding machines, magnetic tape handlers, monetary processing machines, electrically-operated drawing machines, paper trimmers, paper jogging machines, postage machines, motor-operated files, dictation equipment, overhead projectors and micrographic office equipment.

However, the Standard does not apply to data processing equipment and its associated electronic systems; communication interface and transmission means associated with data transmission; teleprinters; and duplicating machines, including offset lithographic machines, which are intended primarily for sizes larger than A3.

THE VOCABULARY OF METROLOGY

All branches of science and technology need to choose their vocabulary with care. Each term must have the same meaning for all its users and must, therefore, express a well-defined concept without being in conflict with everyday language. This applies particularly to metrology, but with an additional difficulty: every measurement is tainted by imperfectly known errors, so that the significance that can be attached to it must take account of this uncertainty. It is, therefore, necessary to express with precision that self-same impreciseness.

To resolve this problem at an international level, the ISO Metrology Group decided to propose to the four main international organizations concerned with metrology namely, the International Organization for Standardization (ISO), the International Electrotechnical Commission (IEC), the International Bureau of Weights and Measures (BIMP) and the International Organization of Legal Metrology (OIML) that there should be joint action to produce a common terminology.

PD 6461 Vocabulary of metrology: Part 1 Basic and general terms (international) is the result of their joint work and is being published by ISO on behalf of the four organizations concerned. Together with Part 2 dealing with fundamental terms, it is essential to both national and international trading as it gives both the customer and the supplier an agreed set of terms and definitions to

enable each to understand the requirements of the other.

This authentic bilingual text in English and French should assist all those involved in national and international trade and committee members working in the international field.

INDUSTRIAL RADIOGRAPHIC ILLUMINATORS

Radiography, a non-destructive method of examining opaque components for flaws, discontinuities or impurities, is now routine in many quality control schemes in industry. The performance and design of equipment used for viewing radiographs is as important as quality of the radiograph itself as interpretation of the image requires the skill and knowledge of the viewer to be often applied over long periods as part of a routine inspection programme.

The International Organization for Standardization (ISO) has just published an International Standard 'ISO 5580 Industrial radiographic illuminators — Minimum requirements' which forms part of a series of ISO standards in the field of non-destructive testing. The standard deals with the characteristics of radiographic illuminators, their mechanical construction, details of the viewing screen, luminance and a number of other optical requirements, besides heating characteristics. The well-being of the viewer and efficiency of the viewing operation are also taken into account. In addition, methods of test for determination of certain characteristics, including luminance, have been specified. The Standard also stipulates marking requirements and recommends the instructions which should be provided with each illuminator to ensure correct operation, including those for replacement of lamps and screens, safety precautions and frequency of luminance level checking.

ANNOUNCEMENT

Dr S. N. Ghosh, Manager, Technical Coordination, Siemens India Ltd, Bombay, has been conferred Ph.D.

by Jadavpur University Calcutta, for his thesis 'Development of standards and standardization with special reference to electrical power equipment'. Award of a doctorate on the subject will be considered an important event in standardization circles in the country.

Dr Ghosh has been actively asso-



Panel to Study Safety in Small Chemical Units

The Government has set up a 10-member Committee with the Labour Secretary, Government of Tamil Nadu, as Chairman to go into all aspects of safety in small chemical units.

It will study the working conditions in units engaged in manufacturing, handling and formulation of chemical and other hazardous materials responsible for unsafe working conditions and suggest a strategy for the promotion of safety.

The other members of the Committee include Labour Secretaries of Maharashtra, Andhra Pradesh, West Bengal, Gujarat and Karnataka along with a representative of the Central Pollution Control Board, Departments of Chemicals and Environment. The Director General, Factory and Labour Institute, will be member-secretary.

— The Financial Express, 7 June 1985



AIEI Sets up Cell on Quality Complaints

The Association of Indian Engineering Industry has decided to set up a special cell which will undertake arbitration on complaints from the importers of Indian engineering goods relating to their quality.

This was announced in New Delhi on 1 June 1985 by Shri Ramesh Maheshwari, President of the Association. He hoped that the Cell would acquire over the years reputation enjoyed by similar organizations in France and that the importers and exporters would come to it for settlement of all claims.

He said that the Association has undertaken this step as it anticipated some problems with regard to quality with growth in the export of consumer goods by the industry.

— The Hindustan Times, 2 June 1985



Plea for Inclusion of Information Network in Seventh Plan

The National Council for Science and Technology (NCST), at its meeting in New Delhi on 24 May 1985, gave priority to building up of a National Science and Technology Information Network and its inclusion in the Seventh Five-Year Plan.

The meeting was chaired by the Minister for Science and Technology, Shri Shivraj V. Patil.

Institution of awards and prizes including fellowships and scholarships at both the State and national levels to promote outstanding work in areas of interest to NCST, such as science and technology (S & T), coverage in newspapers, films and

video programmes was also recommended.

Among other Plan Programmes approved were development of communication software for the media on a countrywide scale and their dissemination abroad; generation and maintenance of computerized data based on agencies working in areas of interest to NCST; S & T communicators in all Indian languages with their special areas of knowledge and skills; popular S & T magazines, journals, newspapers, S & T exhibitions, films and other audio-visual materials available in the country; and development of field-level projects to help popularize science and technology.

The Council also approved observance of National Science Day each year when NCST awards and prizes would be conferred.

— The Statesman, 25 May 1985



New Cheques

A new technology involving printing of cheques on a special quality paper with special ink is being introduced in the four metropolitan cities — Bombay, Delhi, Madras and Calcutta. The technology called MICR (Magnetic Ink Character Recognition) is aimed at getting the writing deciphered by the computer.

The purpose of the system is improving the customer service specially in avoiding delays in the clearance of cheques through the national grid system.

— The Hindustan Times, 11 June 1985



IPCL Sets Up Safety Record

The Indian Petrochemicals Corporation Limited (IPCL) registered the highest-ever safety record this year by operating for 4.56 million manhours without a single loss of time injury case during the period from 7 February to 1 May 1985, surpassing its earlier record of operating for 4.2 million manhours.

The National Safety Council of the United States already declared IPCL as the winner of award of merit for operating for more than 1.8 million manhours without a single loss of time injury case during the period from 7 February to 12 March 1985. IPCL is the only organization in India to achieve this award of merit during the first quarter of calendar year 1985.

The International standards for industries to earn the highest award of honour in safety performance in a continuous spell of three million manhours without single loss of time injury case.

— The Financial Express, 20 May 1985



COMMITTEE MONTH

This month, we report the proceedings of 17 committees which held their meetings during the month of May 1985. Detailed notes regarding two committee meetings are given below. The Table of Meetings lists important items of business transacted by other committees.

STANDING WORKING COMMITTEE, CHEMICALS

The fortysecond meeting of the Standing Working Committee of the Chemical Division Council (SWCC) was held in New Delhi on 7 May 1985 under the chairmanship of Dr M. S. Vaidya, General Manager (Research & Development), Dharmasi Morarji Chemical Company Limited, Ambernath.

Reviewing the activities of the Division Council during 1 July 1984-31 March 1985, the Committee noted that 61 standards had been processed for printing and 66 drafts issued into wide circulation. Important standards processed for printing during this period related to paper for magnetic ink character recognition (MICR) cheque printing; refined, bleached, hydrogenated, winterized and deodorized soybean oil; criteria for edibility of oils and fats; and rock phosphate and manganese dioxide. The Committee noted that the specification for paper for magnetic ink character recognition (MICR) cheque printing had been formulated at the special request of the Reserve Bank of India with a view to introducing mechanized system of cheque handling in the country. The Committee also noted that, as on 31 December 1984, a total of 528 ISI certification marks licences had been granted against 122 standards in operation in the field of chemicals.

The Standing Working Committee reviewed the work done on environmental protection under this Council regarding the 20 industries identified by the Government of India as being 'highly-polluting in nature', such as refineries, paints, pesticides, plastics and rubber. The Committee noted with satisfaction that a number of standards had already been formulated in this field and called for completion of

work for the remaining industries. Suggestions were made for formulation of effluent standards for rayon grade pulp, electrochemical industries like potassium chlorate, food and food-processing industries, textile printing and plastics including polymers and resins in addition to the 20 industries identified by the Government of India. The Committee also recommended that test methods for water, waste water and air pollutants be updated expeditiously and made available in the form of handbooks. Besides, it was suggested that a workshop be organized in collaboration with the Directorate General of Technical Development (DGTD) and the Central Board for the Prevention and Control of Water Pollution to assess the implementation of various standards in this field and the problems being faced in this regard.

The Committee reconstituted four Sectional Committees concerning glassware (CDC 10), laboratoryware and related apparatus (CDC 33), solid wastes (CDC 54) and boilers (CDC 57). It also appointed new Chairmen for six as under: (a) Shri T. K. S. Mani (Addisons Paints and Chemicals Ltd, Madras) — CDC 8 Paints and Allied Products Sectional Committee; (b) Dr V. P. Gupta (Directorate General, Factory Advice Service and Labour Institutes, Bombay) — CDC 18 Chemical Hazards Sectional Committee; (c) Shri P. Kishore (Asiatic Oxygen and Acetylene Company Ltd, Calcutta) — CDC 38 Industrial Gases Sectional Committee; (d) Shri S. K. Keshava (Muzaffarnagar) — CDC 54 Paper and Pulp Based Packaging Materials Sectional Committee; (e) B. R. Dave (Chief Controller of Explosives, Nagpur) — CDC 51 Explosives and Pyrotechnics Sectional Committee; and (f) Dr B. B. Sunderasan (Vice-Chancellor, University of Madras, Madras) — CDC 53 Air Quality

Sectional Committee.

The Standing Working Committee also approved 28 new subjects for formulation of Indian Standards in the field of chemicals, leather and footwear.

CONSUMER PRODUCTS AND MEDICAL INSTRUMENTS DIVISION COUNCIL

Presiding over the eighteenth meeting of the Consumer Products and Medical Instruments Division Council (CMIDC) held in New Delhi on 24 May 1985, Dr S. Sriramachari, Additional Director General, Indian Council of Medical Research, said that the demand for electrical and electro-medical instruments was expected to go up substantially in the Seventh Plan. ISI should, therefore, bring these items within the scope of standardization. He suggested that components, such as blood pressure apparatus and biological stains and dyes should also be considered for the purpose.

Dr S. Sriramachari was unanimously elected Chairman of the Division Council for the next three-year term ending 31 December 1987. Brig A. R. Anand [Ministry of Defence (DGI)] and Dr S. S. Gothoskar (Drug Controller, Government of India) were elected Vice-Chairmen of the Division Council. They were also elected Vice-Chairmen of the Standing Working Committee, Consumer Products (SWCCP) and Standing Working Committee, Medical Instruments (SWCMI) respectively.

The Council reconstituted three Sectional Committees relating to sports goods (CPDC 4), utensils (CPDC 5), and travel requisites (CPDC 8). It also appointed new Chairmen for two as under: (a) Shri P. V. Gujarathi (Khadi and Village Industries Commission, Bombay) — CPDC 9 Matches



Dr S. Sriramachari (middle) presiding over the meeting of the Consumer Products and Medical Instruments Division Council. Others (from right) are: Brig A. R. Anand [Ministry of Defence (DGI)]; Dr A. S. Sethi, Director (Consumer Products and Medical Instruments); Dr B. N. Singh, Additional Director General, and Shri D. Ajitha Simha, Deputy Director General, ISI

Sectional Committee; and (b) Shri K. K. Taneja (Directorate General of Technical Development, New Delhi) — CPDC 32 Hair Cutting, Shaving, Shearing and Allied Equipment Sectional Committee.

The Council decided to amalgamate three existing Sectional Committees, namely, CPDC 5 Utensils Sectional Committee, CPDC 6 Cutlery Sectional Committee and CPDC 17 Domestic Hardware Sectional Committee into one and decided to appoint Gp Capt V. B. Batra [Chief Inspectorate of General Stores (CIGS), Kanpur]

as its Chairman.

The Council decided to set up two new Sectional Committees—Biological stains (CPDC 35) and Medical instruments in laboratories for research and developmental work (CPDC 36).

The Division Council noted with satisfaction that 66 standards had been approved for wide circulation and 56 sent for printing during 1 April 1984-31 March 1985. As on 31 March 1985, a total of 1 087 Indian Standards pertaining to subjects dealt with by the Sectional Committees under CMIDC had been published. Under the Certi-

fication Marks Scheme, a total number of 307 licences had been granted covering 45 Indian Standards prepared by Sectional Committees under the Division Council.

The Division Council approved 26 new subjects for formulation of Indian Standards including weight training equipment, moulded basketballs, scavenging system, lacing hooks, LPG room heaters, forced feed syringes, anaesthetic reservoir bags, formaldehyde gas sterilizers and motor-driven tricycles. Three subjects, namely, Bull's light condenser, Lampert's suction and irrigation tube, and St Clair Thomson's tracheal dilator, approved earlier, were dropped.

The Council approved the proposal for the preparation of handbooks on implants and accessories for orthopaedic surgery, sterilization of medical items, surgical instruments, dental instruments and equipment, anaesthetic and resuscitation equipment, ward and operation theatre equipment, prosthetics and orthotics, and rehabilitation equipment.

Dr (Mrs) S. K. Sandhu, Director, Health Services, Delhi Administration, informed the Council that concessions were being extended to manufacturers producing goods conforming to Indian Standard specifications.

TABLE OF MEETINGS

AGRICULTURAL AND FOOD PRODUCTS DEPARTMENT

AFDC 39 STIMULANT FOODS New Delhi
1985-05-14

Chairman Shri A. K. Roy
Manager (Quality Control)
Food Specialities Limited
Moga

Draft approved for wide circulation—Glossary of terms for cocoa, chocolate and its products.

New subjects — Cocoa mass and cocoa coating.

CHEMICAL DEPARTMENT

CDC 51 EXPLOSIVES AND PYROTECHNICS Bombay
1985-05-13/14

Chairman Shri R. G. Deolalikar
Additional Director General
Directorate General of
Ordnance Factories
Calcutta

Draft finalized for publication — Specification for ammonium nitrate for explosives industry (*first revision of IS : 4668*).

Drafts approved for wide circulation — Specifications for: (a) Crackers, (b) Ferrosilicon for pyrotechnic industry, (c) Flowerpots, and (d) Magnesium oxide for explosive and pyrotechnic industry.

Standard reviewed and reaffirmed — 'IS : 6609 (Part 3)-1973 Method of test for commercial blasting explosives and accessories: Part 3 Detonators, general and permitted'.

CIVIL ENGINEERING DEPARTMENT

BDC 49 GEOLOGICAL INVESTIGATION New Delhi
AND SUBSURFACE EXPLORATION 1985-05-09/10

Chairman Shri B. Ramachandra
Deputy Director General
Geological Survey of India
Madras

Drafts finalized for publication — Codes of practice for: (a) *in-situ* permeability tests: (1) Part 1 Tests in over-burden [*first revision of IS : 5529 (Part 1)*], and (2) Part 2 Tests in bedrock [*first revision of IS : 5529 (Part 2)*]; (b) Presentation

of drilling information and core description in foundation investigation (*first revision of IS : 4464*); and (c) Subsurface exploration for canals and cross drainage works. Recommendations for the preparation of geological and geo-technical maps for river valley projects: Part 1 Scales [*first revision of IS : 6065 (Part 1)*].

BDC 73 ROCK MECHANICS Roorkee
1985-05-22

Chairman Dr Bhawani Singh
Professor
University of Roorkee
Roorkee

Drafts finalized for publication — Guidelines for determination of core recovery and rock quality designation. Method for conducting pull-out test on anchor bars and rock bolt.

Drafts approved for wide circulation — Code of practice for determining allowable bearing pressure of rocks for shallow foundations. Glossary of terms and symbols relating to rock mechanics. Guidelines for qualitative description of discontinuities: Part 1 Orientation, Geo-mechanic classification for rock masses.

ELECTROTECHNICAL DEPARTMENT

ETDC 23 ELECTRIC LAMPS AND ACCESSORIES New Delhi
1985-05-08

Chairman Dr S. R. Das
Deputy Director
National Physical Laboratory
New Delhi

Draft finalized for publication — Specification for tungsten filament miscellaneous electric lamps (*first revision of IS : 6701*).

Standards reviewed and reaffirmed — 'IS : 2261-1975 Lamps for flashlights (*first revision*)', 'IS : 2418-1977 Tubular fluorescent lamps for general lighting service: (a) Part 1 Requirements and tests (*first revision*), (b) Part 2 Standard lamp data sheets (*first revision*), (c) Part 3 Dimensions of G-5 and G-13 bi-pin caps (*first revision*), and (d) Part 4 Go and no-go gauges for G-5 and G-13 bi-pin caps (*first revision*)', 'IS : 9206-1979 Dimensions of caps for tungsten filament general service electric lamps'.

ETDC 43 ELECTRICAL APPLIANCES New Delhi
1985-05-15

Chairman Shri A. N. Ghosh
Industrial Advisor
Development Commissioner
Small Scale Industries
New Delhi

Drafts finalized for publication — Specifications for: (a) Domestic electric cooking ovens (*first revision of IS : 5790*), (b) Domestic electric food mixers (liquidizers and grinders), (c) Electric instantaneous water heaters (*first revision of IS : 8978*), (d) Electric irons (*third revision of IS : 366*), (e) Electric water boilers (*first revision of IS : 3412*), (f) Neon testers (*first revision of IS : 5579*), (g) Solid embedded type electric heating elements (*first revision of IS : 4158*), (h) Stationary storage type electric water heaters (*third revision of IS : 2082*), and (j) Thermostats for use with electric water heaters (*first revision of IS : 3017*).

ISI BULLETIN — VOL 37, JULY 1985

Draft approved for wide circulation — Specification for electric steam cookers.

ETDC 47 CINEMATOGRAPHIC EQUIPMENT Bombay
1985-05-09

Chairman Shri B. S. Mistry
(In personal capacity) Consulting Engineer
National Centre for Performing Arts
Bombay

Drafts finalized for publication — Dimensions for: (a) Projectable reels for 8-mm type S motion-picture film for use with projection cassettes, and (b) Reels for 16-mm motion-picture projectors. Position and dimensions of image area produced by 16-mm motion-picture camera aperture and maximum projectable image area. Specifications for: (a) Camera usage of 16-mm motion-picture film; (b) 3150 Hz flutter test film for 35-mm motion-picture sound reproducers, photographic type (*first revision of IS : 7390*); and (c) 3150 Hz flutter test film (16 mm) (*first revision of IS : 5264*).

Drafts approved for wide circulation — Recorded characteristic for magnetic sound on full-coat 16-mm motion-picture film. Specifications for: (a) A-chain frequency response for reproduction of 35-mm and 70-mm magnetic stripped prints, and (b) B-chain electro-acoustic response of motion-picture sound reproduction system (*first revision of IS : 7397*).



Standards reviewed and reaffirmed — 'IS : 6085-1979 Dimensions for 35-mm motion-picture film (*first revision*)', 'IS : 7848-1975 Studio spot-lights for use in motion-picture studios', and 'IS : 9125-1979 Arc lamp carbons for use in cinemas'.

MARINE, CARGO MOVEMENT AND PACKAGING DEPARTMENT

MCPD 10 TRANSPORT TRACTORS AND TRAILERS New Delhi
1985-05-02

Chairman Shri R. Ramakrishnan
Ashok Leyland Limited
Madras

Drafts approved for wide circulation — Specifications and testing of fifth wheel kingpin for trailers: (a) Part 1 50-mm diameter [*first revision of IS : 6763 (Part 1)*], and (b) Part 2 90-mm diameter [*first revision of IS : 6763 (Part 2)*].

New subjects — 'Contact' coupling for trailer and semi-trailer vacuum or pressure braking systems; mechanical coupling for tractor and trailers: (a) Strength requirements; and (b) Testing of strength, mounting face on towing vehicles for trailers not exceeding 3 500 kg gross weight, palm type, coupling for trailer and semi-trailer pressure brake system,

standard automatic roller type coupling for: (a) Semi-trailers not exceeding 7½ tonnes laden weights; (b) Semi-trailers of 7 tonnes to 14½ tonnes laden weights; and 50-mm diameter ball coupling for trailers not exceeding 3 500 kg gross weight.

MECHANICAL ENGINEERING DEPARTMENT

EDC 27 BOLTS, NUTS AND FASTENER ACCESSORIES Calcutta 1985-05-21

Chairman Shri Dilip Paul
Guest, Keen, Williams Ltd
Howrah

Standards reviewed and reaffirmed—'IS : 207-1964 Gate and shutter hooks and eyes (revised)'; 'IS : 549-1974 Split pins (second revision)'; 'IS : 723-1972 Steel countersunk head wire nails (second revision)'; 'IS : 724-1964 Mild steel and brass cup, ruler and square hooks and screw eyes (revised)'; 'IS : 725-1961 Copper wire nails (revised)'; 'IS : 730-1978 Hook bolts for corrugated sheet roofing (second revision)'; 'IS : 1120-1974 Coach screws (first revision)'; 'IS : 3063-1972 Single coil rectangular section spring washers for bolts, nuts and screws (first revision)'; 'IS : 5372-1973 Taper washers for channels (ISMC) (first revision)'; 'IS : 6862-1981 Clevis pins (first revision)'; 'IS : 6863-1973 Clevis pins with head'; 'IS : 7519-1974 Hammer drive screws'; 'IS : 8351-1977 Spiral pins (heavy duty type)'; 'IS : 8379-1977 Spiral pins (medium duty type)'; and 'IS : 8869-1978 Washers for corrugated sheet roofing'.

EDC 82 HOROLOGY New Delhi 1985-05-06

Chairman Shri N. Ramasubha Reddy
Hindustan Machine Tools Ltd
Bangalore

Draft finalized for publication—Specifications for: (a) O-rings for wrist watch crowns and push buttons, and (b) Watch hands fixing dimensions.

Drafts approved for wide circulation—Gold alloy coverings of watch cases and their accessories: (a) Part 1 General requirements; and (b) Part 2 Determination of fineness, thickness and corrosion resistance. Methods of test for wrist watches: (a) Part 1 Anti-magnetic, (b) Part 2 Shock resistant, and (c) Part 5 Water resistant.

New subjects—Bushings for hands for clocks, and hands for clocks.

PETROLEUM, COAL AND RELATED PRODUCTS DEPARTMENT

PCDC 3 PETROLEUM PRODUCTS New Delhi 1985-05-15

Chairman Dr I. B. Gulati
Director
Indian Institute of Petroleum
Dehra Dun

Drafts finalized for publication—Specifications for: (a) Aviation turbine fuels, kerosine type (fifth revision of IS : 1571); (b) Diesel fuels (second revision of IS : 1460); (c) Fuel

oil used in marine engines; and (d) Low sulphur heavy stock (LSHS).

PCDC 15 ADHESIVES

New Delhi
1985-05-17

Chairman Shri G. R. Inamdar
Industrial Adviser (Chemical)
Directorate General of Technical
Development
New Delhi

Drafts finalized for publication—Specifications for: (a) Babul gum, and (b) Gum karaya (second revision of IS : 5025).



Draft approved for wide circulation—Specification for epoxy resin-based adhesives.

Standards reviewed and reaffirmed—'IS : 425-1953 Shellac adhesives for steam flange joints'; 'IS : 3447-1965 Shellac jointing or gasket compound'; 'IS : 7393-1974 Adhesive, bitumen emulsion'; 'IS : 7395-1974 Gum Ghatti'; 'IS : 2560-1979 Rubber-based adhesives for tubes, non-curing'; and 'IS : 2562-1979 Rubber-based adhesives for tyres and tubes, non-curing'.

STRUCTURAL AND METALS DEPARTMENT

SMDC 6 STRUCTURAL SECTIONS New Delhi 1985-05-03

Chairman Shri M. Dhar
Executive Director
KEC International Ltd
New Delhi

Drafts approved for wide circulation—Dimensions and dimensional tolerances for hot rolled steel plates for: (a) Ship's hull structures (first revision of IS : 5488), and (b) Automobiles use. Dimensions and tolerances for hot rolled track shoe sections: Part 2 Section. Specifications for: (a) Aluminium channels (first revision of IS : 3921), (b) Aluminium equal leg angles (first revision of IS : 3908), (c) Aluminium I-beam (first revision of IS : 5384), (d) Aluminium tee-sections (first revision of IS : 6445), (e) Aluminium unequal leg angles (first revision of IS : 3909), (f) Rolling and cutting tolerances for hot rolled steel products (fourth revision of IS : 1852), and (g) Steel sheet piling sections (first revision of IS : 2314).

New subject—Specification for aluminium chequered plates.

SMDC 22 STEEL TUBES, PIPE
AND FITTINGS

New Delhi
1985-05-01

New subject — Seamless steel tubes for making high pressure gas cylinders.

Chairman Shri S. C. Dhingra
Adviser (Technical)
Ministry of Industry
New Delhi

TEXTILE DEPARTMENT

TDC 27 TEXTILE MATERIALS FOR AEROSPACE PURPOSES New Delhi
1985-05-29

Drafts finalized for publication — High carbon chromium (bearing) steel tubes for the manufacture of bearing races. High test line pipe (*second revision of IS : 1979*). Hollow steel sections for structural use (*first revision of IS : 4923*). Seamless ferritic alloy steel pipes for high temperature service (*first revision of IS : 6630*). Specification for steel tubes for furniture purposes. Wrought carbon steel butt welded pipe fittings: (a) Part 1 General, (b) Part 2 Shapes and dimensions, and (c) Part 3 Tolerances.

Chairman Shri P. R. Chandrasekhar
Director (R&D)
Directorate General of Civil Aviation
New Delhi

Drafts finalized for publication — Glossary of terms relating to textile materials for aerospace purposes. Specifications for: (a) Linen (flax) sewing thread for aerospace purposes (*second revision of IS : 2196*); and (b) Nylon fabrics for coating with natural or synthetic elastomers.

Drafts approved for wide circulation — Specifications for: (a) Propeller shaft tubes for automobile industry, (b) Steel tubes for heat exchangers, (c) Steel tubes for structural purposes, (d) Steel used for water wells and (e) Thin-walled quick coupling pipes for low pressure applications.

Drafts approved for wide circulation — Specifications for: (a) Braided (plaited) linen (flax); lacing cord for aerospace purposes (*first revision of IS : 2197*); and (b) Continuous filament textile glass yarn for aerospace purposes.

MAJ-GEN HARKIRAT SINGH AWARD

The Association of Consulting Engineers (India) [ACE(I)] has instituted an award in the memory of the late Maj-Gen Harkirat Singh to foster the spirit of innovation and creative thinking, that is, development of new materials, products, processes, methods of construction and new concepts in design, marketing and business methods. The Award will be presented to an individual for his outstanding personal achievement in the field of engineering, or a group of individuals collectively developing a new concept. The Award is, however, restricted to Indian nationals residing in India, whether they are members of ACE (I) or not.

The Award is designed to recognize the services of Maj-Gen Harkirat Singh to the engineering profession, particularly to the Association of the Consulting Engineers (India) of which he has been President. The theme for the 1985 Award is housing.

Maj-Gen Harkirat Singh had been actively associated with ISI in various capacities from 1961 till his death in 1983. He was a member of its Civil Engineering Division Council (CEDC) and Standing Working Committee, Building (SWCB); ISI General Council; and the Executive Committee. As Chairman of Guiding Committee for the formulation of the National Building Code, Maj-Gen Harkirat Singh was actively involved first in its preparation and then its revision. In recognition of his contribution to the advancement of national standardization, Maj-Gen Harkirat Singh was awarded the K. L. Mendgill Prize in 1970.

Details regarding submission of entries for the 1985 Award can be had from : The Secretary, Association of Consulting Engineers (India), B-6/23 Shopping Centre, Safdarjung Enclave, New Delhi 110029.

CERTIFICATION MARKS

During April 1985, the Institution granted 28 new licences. Particulars of all these, as well as additional varieties of products included in the existing licences and the licences cancelled/lapsed are given in the tables which follow:

NEW LICENCES GRANTED

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1418545 1985-04-09	Kukreja Transformer Mfg Company, A-9, Wazirpur Industrial Area, Delhi 110052	IS : 1851-1975
CM/L-1418646 1985-04-11	BASF India Ltd, Plot No. 12, Trans-Thana Creak Area, Turbhe, Thane-Belapur Road, Thane 400613 (Office: May Baker House, Sudam Kalu Ahire Marg, P. B. No. 19108, Bombay 400025)	IS : 9656-1980
CM/L-1418747 1985-04-17	J. R. Domestic Appliances (P) Ltd, Plot No. 125/1 (A), Bela, Dist Bhandara, (Office: 23/24, Yeshwant Stadium, Dhantoli, Nagpur 440012)	IS : 8737 (Part 2)-1978
CM/L-1418848 1985-04-17	Kashimira Ceramic Product Pvt Ltd, Swami Vivekanand Road, Mira 401104, Dist Thane	IS : 651-1980
CM/L-1418949 1985-04-17	Orissa Cement Ltd (Cement and Cement Products Division), P. O. Rajgangpur 770017, Dist Sundargarh (Orissa)	IS : 1489-1976
CM/L-1419042 1985-04-17	Flovin Plastics Pvt Ltd, 1201-1202, GIDC Estate, Dholka 385810, Dist Ahmadabad (Office: 300 New Cloth Market, Ahmadabad 380002)	IS : 4985-1981
CM/L-1419143 1985-04-22	Jolly Plastics Industries Pvt Ltd, P.O. Box No. 77, Outside Railway Crossing, Junagadh Road, Dhoraji 360410 (Gujarat)	do
CM/L-1419244 1985-04-22	English Electric Company of India Ltd, Plot No. 46, SIPCOT Industrial Complex, Hosur 635126, Dist Dharmapuri	IS : 9224 (Part 1)-1979
CM/L-1419345 1985-04-22	Kumardhubi Metal Casting and Engineering Ltd, Kumardhubi, Dist Dhanbad	IS : 3195-1982
CM/L-1419446 1985-04-22	do	IS : 226-1975
CM/L-1419547 1985-04-22	do	IS : 1977-1975
CM/L-1419648 1985-04-22	do	IS : 276-1978
CM/L-1419749 1985-04-22	do	IS : 2707-1982
CM/L-1419850 1985-04-22	do	IS : 8500-1977
CM/L-1419951 1985-04-22	do	IS : 1030-1982
CM/L-1420027 1985-04-22	Modi Welding Electrodes Pvt Ltd, Village Bhimpura, Near Jagpura, Tehsil Ladpura, Dist Kota (Office: 'Modi House' Gumanpura, Kota)	IS : 814 (Part 2)-1974
CM/L-1420128 1985-04-22	Amritsar Chemical & Varnish Works, 40 East Mohan Nagar, Amritsar (Punjab)	IS : 427-1965
CM/L-1420229 1985-04-22	Shree Shree Agencies, 42 Large Scale Industrial Area, Kota (Rajasthan) (Office: 48 Nal Dhan Market, Kota)	IS : 2052-1979
CM/L-1420330 1985-04-22	Katipara Shilpa Udyog (Surgical) Pvt Ltd, Canal East Road, Calcutta 700067	IS : 5029-1979

INDIAN STANDARDS

The standards listed below have been classified departmentwise.

NEW AND REVISED INDIAN STANDARDS

AGRICULTURAL AND FOOD PRODUCTS DEPARTMENT

IS : 11041-1984 Air-screen seed cleaner. Gr 3

CHEMICAL DEPARTMENT

IS : 3677-1985 Unbonded rock and slag wool for thermal insulation (second revision). Gr 3

IS : 10872-1984 Code of safety for malathion. Gr 5

IS : 11068-1984 Criteria for edibility of oils and fats. Gr 3

IS : 11141-1984 Code of safety for acrylonitrile. Gr 6

IS : 11153-1984 Manganese dioxide for dry batteries. Gr 7

CONSUMER PRODUCTS AND MEDICAL INSTRUMENTS DEPARTMENT

IS : 5347 (Part 2)-1984 Requirements for orthopaedic implants: Part 2 Wrought stainless steel. Gr 2

IS : 5347 (Part 5)-1984 Requirements for orthopaedic implants: Part 5 Cobalt-chromium-molybdenum casting alloy. Gr 1

IS : 5347 (Part 8)-1984 Requirements for orthopaedic implants: Part 8 Forgeable and cold-formed-cobalt-chromium-nickel-molybdenum-iron alloy. Gr 2

IS : 5347 (Part 9)-1984 Requirements for orthopaedic implants: Part 9 Ceramic materials based on alumina. Gr 2

IS : 7110-1984 Pins, rush, intramedullary (first revision). Gr 2

IS : 8261 (Part 4)-1984 Pins and wires, skeletal, traction: Part 4 Material and mechanical requirements. Gr 2

IS : 8641-1984 Acrylic resin cement for orthopaedic implants (first revision). Gr 5

ELECTRONICS AND TELECOMMUNICATION DEPARTMENT

IS : 7305-1984 Fixed capacitors used in electronic equipment (first revision). Gr 11

IS : 7405 (Part 2)-1984 Printed wiring boards: Part 2 Single and double sided printed boards with plain holes. Gr 4

IS : 10422-1982 Requirements and test methods for safety of data processing equipment. Gr 14

IS : 11050 (Part 3)-1984 Rating of sound insulation in building and of building elements : Part 3 Airborne sound insulation of facade elements and facades. Gr 2

IS : 11148-1984 Expression of the properties of spectrum analyzers. Gr 6

ELECTROTECHNICAL DEPARTMENT

IS : 691-1984 Flexible trailing cables for use in coal mines (first revision). Gr 5

IS : 7358-1984 Thermo-couples (first revision). Gr 6

IS : 9921 (Part 5)-1985 Alternating current disconnectors (isolators) and earthing switches for voltages above 1 000V : Part 5 Information to be given with tenders, enquiries and orders. Gr 2

IS : 11071 (Part 3)-1984 Inset type aerodrome lighting fittings: Part 3 Approach lighting fittings. Gr 3

IS : 11174-1984 Aromatic polyimide paper covered rectangular and square copper wires with temperature index 200. Gr 3

MARINE, CARGO MOVEMENT AND PACKAGING DEPARTMENT

IS : 7617-1984 Code of practice for maintenance of forks for forklift trucks (first revision). Gr 1

IS : 8114-1984 Guidelines for machining dimensions of propeller hubs with keyway (first revision). Gr 2

MECHANICAL ENGINEERING DEPARTMENT

IS : 1995-1984 Overall internal heights for lathe toolposts (first revision). Gr 2

IS : 7978-1984 Portable pneumatic rivet cutters (first revision). Gr 2

IS : 9975 (Part 2)-1984 'O'-rings: Part 2 Material selection and quality acceptance criteria. Gr 3

IS : 11073-1984 Expansion bolts for mountaineering. Gr 1

IS : 11107-1984 Dimensions for modular units for machine tool construction — Columns. Gr 3

IS : 11118-1984 Guidelines for technical evaluation of general purpose parallel lathes with swing over bed up to 800 mm. Gr 4

IS : 11121-1984 Pyranograph, bimetallic. Gr 5

IS : 11143-1984 Ground high speed steel tool bits. Gr 2

IS : 11144-1984 Method for determination of deformation load and breaking load on alpine skis. Gr 2

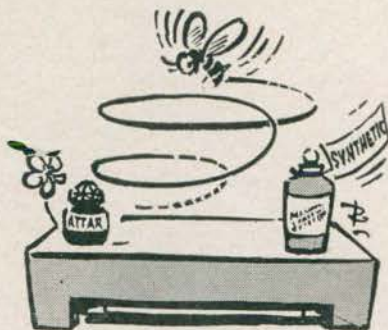
IS : 11146-1984 Recommendation for bore and rod area ratios for hydraulic cylinders. Gr 2

IS : 11158-1984 Proportions and dimensions of symbols for geometrical tolerancing used in technical drawings. Gr 5

IS : 11173 (Part 1)-1985 Recommendations for tool shanks 7/24 taper for numerically controlled machine tools with automatic tool changers (tool rotating type): Part 1 Tool shanks. Gr 3

PETROLEUM, COAL AND RELATED PRODUCTS DEPARTMENT

IS : 326 (Part 14)-1985 Methods of



sampling and test for natural and synthetic perfumery materials: Part 14 Determination of heavy metals (second revision). Gr 3

IS : 1587-1984 Aviation turbine fuels, high flash point type (third revision). Gr 5

IS : 6961-1984 3-Bromobenzanthrone (first revision). Gr 3

IS : 11159 (Part 1)-1985 General classification of lubricants, industrial oils and related products: Part 1 Class

L. Gr 1

IS : 11181-1985 Sulphotobias acid. Gr 3

• STRUCTURAL AND METALS DEPARTMENT

IS : 3005 (Part 4)-1984 Grey cast iron ingot moulds, stools and slag laddles: Part 4 Grey cast iron ingot moulds of mass up to 1 tonne (first revision). Gr 3

IS : 3571-1985 Dental gold solders (first revision). Gr 2

IS : 3610-1985 Dental gold foil (first revision). Gr 2

IS : 4705-1985 Dental mercury (first revision). Gr 2

IS : 4799-1985 Dental casting gold alloys, non-porcelain bonding (first revision). Gr 2

IS : 5532 (Part 1)-1984 Glossary of terms for cranes: Part 1 Types of cranes (first revision). Gr 7

IS : 5532 (Part 2)-1984 Glossary of terms for cranes: Part 2 Parameters

(first revision). Gr 6

IS : 5532 (Part 3)-1984 Glossary of terms for cranes: Part 3 General concepts (first revision). Gr 3

IS : 5532 (Part 4)-1984 Glossary of terms for cranes: Part 4 Component parts (first revision). Gr 4

IS : 6159-1985 Recommended practice for design and fabrication of material prior to galvanizing (first revision). Gr 3

IS : 7225-1985 Dental cobalt-chromium casting alloy (first revision). Gr 2

IS : 10927 (Part 1)-1984 Tables of Vickers hardness values for use in tests made on flat surfaces: Part 1 HV 5 to HV 100. Gr 9

IS : 10927 (Part 2)-1984 Tables of Vickers hardness values for use in tests made on flat surfaces: Part 2 HV 0.2 to less than HV 5. Gr 7

IS : 11169 (Part 1)-1984 Steels for cold heading/cold extrusion application: Part 1 Wrought carbon and low alloy steels. Gr 6

INTERNATIONAL STANDARDS

ISO STANDARDS

AGRICULTURAL FOOD PRODUCTS (TC 34)

ISO 972-1985 Chillies and capsicums, whole or ground (powdered) — Specification

ISO 6732-1985 Milk and milk products — Determination of iron content — Spectrometric method (reference method)

ISO 7922-1985 Leeks — Guide to cold storage and refrigerated transport

ISO 7937-1985 Microbiology — General guidance for enumeration of clostridium perfringens — Colony count technique

AIRCRAFT AND SPACE VEHICLES (TC 20)

ISO 3191-1985 Aerospace — Self-locking, fixed, single-lug anchor nuts, reduced series, with counterbore, strength classification 1 100 MPa and maximum operating temperature 235°C

ISO 8267-1985 Aircraft — Tow bar attachment fittings — Interface requirements

ALUMINIUM ORES AND MINERALS (TC 129)

ISO 6607-1985 Aluminium ores — Determination of total silicon content — Combined gravimetric and spectrophotometric method

ISO 6609-1985 Aluminium ores — Determination of iron content — Titrimetric method

ISO 6995-1985 Aluminium ores — Determination of titanium content — 4, 4' - Diantiprylmethane spectrophotometric method

ANAESTHETIC EQUIPMENT AND MEDICAL BREATHING MACHINES (TC 121)

ISO 5367-1985 Breathing tubes used with anaesthetic apparatus and ventilators

ISO 7228-1985 Tracheal tube connectors

BACKING PROCEDURES (TC 68)

ISO 8109-1985 Securities — Format of eurobonds

BUILDING CONSTRUCTION (TC 59)

ISO 1803/1-1985 Building construction — Tolerances — Vocabulary : Part 1 General terms

CHEMISTRY (TC 47)

ISO 7110-1985 Ammonium bicarbonate (ammonium hydrogen carbonate) for industrial use (including foodstuffs) — Determination of lead content — Flame atomic absorption method

ISO 8004-1985 Carbonaceous materials for the production of aluminium — Calcined coke and calcined carbon products — Determination of the density in xylene — Pycnometric method

COMPUTERS AND INFORMATION PROCESSING (TC 97)

ISO 1177-1985 Information processing — Character structure for start/stop and synchronous character oriented transmission

ISO 8064-1985 Information processing — Reels for 12.7 mm (0.5 in) wide magnetic tapes — Sizes 16, 18 and 22

COPPER AND COPPER ALLOYS (TC 26)

ISO 4740-1985 Copper and copper alloys — Determination of zinc content — Flame atomic absorption spectrometric method

CORK (TC 87)

ISO 4708-1985 Cork — Composition cork gasket material — Test methods

CRANES, LIFTING APPLIANCES AND RELATED EXCAVATOR EQUIPMENT (TC 96)

ISO 8087-1985 Mobile cranes — Drum and sheave sizes

CYCLES (TC 149)

ISO 6742/2-1985 Cycles — Lighting and retro-reflective devices — Photometric and physical requirements: Part 2 Retro-reflective devices

DENTISTRY (TC 106)

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□□

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THE COVER — Graphical representation of standard sizes of correspondence envelopes as evolved by the Post and Telegraphs Department alongwith envelopes of different sizes currently in use in India. The standard sizes of correspondence envelopes are based on those of envelopes in A Series as specified in 'IS : 3338-1980 Specification for correspondence envelopes' (see also page 284).

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Steam Tables in Power Industry

■ The application of thermodynamic and transport properties of water and steam in the power generation industry needs no emphasis. The exact knowledge of the physical properties of water and steam is essential for design, thermal calculation, performance analysis of boilers, steam turbines, plant process and other mechanical equipment connected with power generation. The importance of power generation on industrial development in the country could be judged from the fact that the annual value of production of boilers by a single reputed organization exceeds Rs 5 000 million.

To meet the requirements of power industry in India, ISI Steam Tables were published in 1966. Using the technical metric system of units, they were essentially a reproduction of the Vukalovich Steam Tables which were based on the Skeleton Tables available till 1956 and covered the range of pressures up to 500 kgf/cm² and temperature up to 800° C.

Subsequently, substantial experiments on thermodynamic and transport properties of water and steam were made and considerable data generated and published. These were considered at the international level and new Skeleton Tables evolved, thus rendering the ISI Steam Tables obsolete.

The revision of ISI Steam Tables gave due weightage to the views of experts of national and international reputation. These efforts took considerable time and have now resulted in the publication of new steam tables in SI units in the form of a Special Publication, namely, 'SP: 26-1983 ISI Steam Tables in SI Units'. The new Tables not only give the values in SI units but also cover the properties of fluid in a wider range and include reliable data based on the latest scientific tables evolved at the international level. The pressure range has been extended to 100 MPa while the temperature covered remains up to 800° C. Of the 13 computerized tables, 6 relate to thermodynamic properties while the rest deal with transport properties like dynamic viscosity, kinematic viscosity, thermal conductivity, thermal diffusivity, Prandtl number, surface tension, etc. The data has been made available at narrower intervals within the range of pressure and temperature.

Publication of these tables will meet long overdue requirements of the power industry. The Tables will not only facilitate introduction of SI units in the industry but also contribute to development in the field of power technology. The availability of Steam Tables could not have been more timely for meeting the challenge regarding more accurate thermal calculations for the design and manufacture of efficient boilers and other power generation equipment, particularly in the context of conservation of energy, thereby making available additional power for growth and development.

S. CHANDRASEKHARAN

NORMS AND VALUES

Safety Colours and Safety Signs

Safety colours and safety signs have a significant role to play in providing safety information without the use of words particularly where international trade and travel are concerned or where work force lacks a common language. Widely differing practices for safety colours and safety signs have been developed over the years to draw rapid attention to hazardous objects and situations and eliminate chances of accidents due to confusion. To unify these practices within the country, the Indian Standards Institution brought out a code of practice for safety colours and safety signs in 1980 (IS : 9457). The Code was based on the ISO draft standard which later came to be published as an International Standard (ISO 3864).

The Code prescribes and illustrates safety colours and safety signs specifically for the purpose

of preventing accidents and health hazards as well as meeting emergencies. Four safety colours have been standardized, namely, red, yellow, green and blue. Red means 'stop' or indicates prohibition. Its use can be seen in stop signs, emergency stops and prohibition signs. This colour is also used in fire prevention and to indicate fire-fighting equipment and its location. Yellow means 'caution', 'risk' or 'danger' and indicates fire, explosion, radiation and chemical hazards/dangers. It is also to be used for warnings in respect of steps, low passages and obstacles. Green indicates safe conditions — escape routes, emergency exits, emergency showers, and first-aid and rescue stations. Blue indicates mandatory action, such as obligation to wear personal protection equipment, but only when used in a circular shape. It may also be used for providing information, for instance, location of telephone facility.

Apart from colours, safety meanings have been assigned to three basic geometric forms. A circle indicates prohibition or mandatory action, a triangle is a warning and a rectangle (or a square) means information. IS : 9457 specifies all the technical details required for establishing a common practice in the design of graphic symbols and layout of signs including colour shades and contrast colours as well as their preferred sizes. Besides, the Standard contains a number of examples to illustrate the use of safety colours and safety signs.



A



B



C



D

Explanations:

- A = Fire and lighting matchstick prohibited (background in white; circular band and cross bar in red; symbol in black)
- B = Eye protector must be worn (background in blue; symbol in white)
- C = Caution, risk of explosion (background in yellow; triangular band in black; symbol in black)
- D = First aid (background in green; symbol in white)

Plastics—Simplifying Technical Data

The British Plastics Federation (BPF) has initiated a project at the National Physical Laboratory (NPL) in England to make plastics materials easier to use and facilitate the selection of appropriate polymers for given applications. The Federation has long been concerned at the mass of confusing technical data that the plastics industry makes available to design engineers and specifiers, especially when compared to the relative simplicity of handling the data which has been generated for traditional materials.

According to a write-up in the Indian Rubber and Plastics Age (Vol 20, No. 11, November 1984), different national standards bodies have different test methods for measuring material properties;

in fact, even in the highly international plastics raw material supply business, companies still reflect their national affiliations in the way they present technical data. As a result, the industry's customers have been faced with material property values derived from the whole range of British (BS), American (ASTM), German (DIN) and French (AFNOR) test methods, which has created enormous difficulties in evaluating comparative characteristics of not just the same material supplied by different companies, but also of different polymer types.

The first stage of the BPF/NPL project is concerned with standardization of test methods for property measurement, data presentation and units for single point technical data, identifying the preferred tests; determining methods where gaps exist; employing ISO procedures, when possible; and using SI units.

The long-range objective of the second phase is to provide schemes for standardized forms of data base for both materials selection and engineering design.

Inspection Kit that Reveals the Invisible

An inspection kit developed by a British firm enables engineers, mechanics, maintenance staff and quality control personnel throughout industry to examine specific parts of plant or machinery which are not normally visible owing to the awkwardness or remoteness of their location. Use of the kit can thus save a considerable amount of valuable time and labour which would otherwise have to be spent on stripping down the machine or other structure to reveal the item under investigation. The ability to make a visual inspection may, in certain cases, also allow the item to be serviced or repaired in situ, or even replaced, without the need for disassembling surrounding components.

Designed to cater for a wide range of applications — from internal inspection of pipes for obstructions or faulty joints to inspecting the interior of engines, pumps, valves and other machinery containing small cavities — the kit consists of a 150 mm-long, 40 mm-diameter plastics-covered aluminium handle on to which a wide variety of interchangeable illuminating and non-illuminating probes and other accessories can be screwed in a matter of seconds to suit particular needs. All items are nickel-plated and the whole kit, which includes some 20 different items, is supplied in a hard-plastics case.

Probes have diameters of 3 or 7 mm and are from 75 to 360 mm long. Illuminating versions incorporate a small light bulb at their tips to light up dark cavities and are powered by two standard 1.5 V batteries housed in the instrument's handle. The range includes two flexible illuminating units, one of the coil type, the other of the bendable, semi-rigid type. This allows either probe to be manoeuvred around corners or other

obstructions to illuminate the area on the other side. Three other designs of probes are fitted with a miniature light bulb at one end and a magnifying lens at the other (viewing) end, allowing small items or areas to be inspected remotely in both an enlarged and illuminated image at focal distances of 75, 150 or 250 mm.

Further flexibility is provided by a set of five mirrors with diameters of 18, 26 and 38 mm attached to 25, 35 and 110 mm-long stems in various configurations. The mirrors can be clipped on to any probe of the required length and used in much the same way as a dentist's inspection mirror to view the underside or rear of an object, with the added advantage of illumination from the probe's light bulb as and when required. Alternatively, when external light conditions are adequate, the mirror unit can be clipped on to a non-lighting probe. An important feature of the mirror unit's design is that the clip at the base of the mirror's stem allows the stem to pivot. This, in turn, allows the mirror to be angled to provide the best image. The most comprehensive array is a 150-mm fixed-focus probe which combines the three main facilities of illuminations, magnification and mirror image. Made up by clipping two units together, the probe features a light bulb and a pivoting remotely adjustable mirror at one end and a magnifying lens at the viewing end, allowing an object to be illuminated and viewed in a magnified state via the mirror. The viewer can change the mirror's angle as and when required by simply pressing a spring-loaded button conveniently located alongside the magnifying lens.

Other items include a magnifying lens attachment with a built-in light source for close inspection of intricate items, such as quality of the soldering on a printed circuit board. There is even a clip-on hook attachment which can be used with or without probe illumination to retrieve items that cannot be recovered by hand. Furthermore, should a nut, bolt or other metal object be accidentally dropped behind — or into — some intricate piece of machinery, it may be recovered with the help of powerful cylindrical magnet clipped on to a probe, with or without the benefit of illumination.

Made in Space

The latest in the list of standard reference materials have been manufactured in space! These are tiny polystyrene spheres, each only 10 micrometers (1/1000th of a centimetre) in diameter, according to a report by Reuters published in the Patriot (19 July 1985). The US Commerce Department's National Bureau of Standards (NBS) has stated that billions of tiny polystyrene spheres were produced aboard the space shuttle 'Challenger' and were being offered for sale in the United States as standard reference materials for use in industrial and scientific measurements.

CONSUMER NEWS

TIPS FOR TV SAFETY

Television has of late received great importance as a means of mass communication and education for the betterment of society. Today, everybody wants to keep a television set at home to take advantage of the opportunities of better entertainment and education. Introduction of colour television and expansion of TV coverage throughout the country with the establishment of more transmitters and relay stations has led to tremendous increase in the demand for television receivers resulting in a plethora of models now available in the market. In the absence of any norms for the quality and reliability of the receivers, the customer would be exposed to great inconvenience. However, the sole criteria for the selection of television receivers should be the quality and in-built safety, or else their use may lead to accidents. Adherence to standards is one of the means of ensuring the quality and reliability of TV sets.

To help the consumers overcome these problems and the manufacturers produce television sets of the requisite level of quality and reliability, the Indian Standards Institution has published standards for receivers for monochrome (IS : 4547-1978) and colour (IS : 10662-1983) television broadcast transmissions.

Besides making a reference to IS : 616-1981 Safety

requirements for mains-operated electronic and related apparatus for household and similar general use in respect of general safety requirements, the standards lay particular emphasis on the following:

- To avoid any possibility of an electric shock from the receiver through the antenna, the TV receiver shall have provisions to isolate the antenna input terminals from the chassis of the receiver by the use of a special network.
- To take care of the ionizing (X-ray) radiation, the maximum permissible limits of these radiations have been specified.
- The markings for safety, such as high voltage points with voltage values, shall be marked.
- To ensure the safety of the viewers under conditions of implosion, the picture tube shall be implosion-proof.
- The manufacturers shall supply an operating and instruction manual containing information relating to installation, operation, routine maintenance and safety precautions along with each TV receiver.
- To ensure that no accident takes place during cleaning, a precautionary note shall appear on the outer surface of the back cover of the receiver prominently to ensure proper disconnection of power supply before removing the back cover.

Even if the TV receiver has all the in-built safety requirements prescribed in the Standards, accidents may still



occur if the consumer is negligent. In this respect, the following tips will be found useful by the TV users:

- Read the operating instruction manual supplied along with the TV receiver thoroughly before operation.
- Do not place the TV receiver on an unstable trolley or table.
- Leave space between the wall and the rear of the receiver for proper ventilation to protect it from overheating.
- Check up whether the receiver has an in-built voltage stabilizer; if not, have an external one.
- Ensure that the outside antenna system is not located in the vicinity of an overhead power line as even accidental contact with it may prove fatal.
- Do not allow anything to rest on the power cord which itself should not be so located as to be abused, for example, by walking on it.
- Do not shift the receiver when it is 'ON' as even a slight jerk can cause an accident and/or damage to the receiver.
- Unplug the receiver from the mains before undertaking

its cleaning or when the receiver is left unattended/unused for a long time.

- The sitting arrangement for the viewers should be such that the centre of the TV screen is at the human-eye level.
- The lighting within the room should be of medium intensity and so arranged that the lights do not shine directly into the eyes or on the TV screen.
- The distance between the receiver and the viewers should be approximately 8 times the diagonal of the screen which for a screen size of 51 cm is approximately 4 metres.
- Disconnect the antenna from the receiver for added protection during lightning storm or when it is left unattended or unused for a long time. This would prevent damage to the TV receiver due to lightning.

PRODUCTS THAT SELL

A safe product is a product that the consumer is more likely to have an interest in purchasing; a well-designed product is likely to be a product that will sell better.

Indian Standards For Automotive Industry — Coordination Committee Set Up

The automotive industry in India has witnessed an unprecedented boom in recent times. As a result, some 1.1 million additional two-wheelers alone are expected to be on the roads by next year. Many new and existing units have started manufacturing activities or plan to increase their two-wheeler output. Passenger car units too are trying to bring out new models and increase their output by entering into foreign collaborations. With the advent of small passenger cars in the country, the Indian auto industry is also faced with the challenge of modernization, high technology in manufacturing practices, use of alternate materials, etc. A recent survey by The Automotive Component Manufacturers' Association has, however, revealed that more than 40 percent of the automotive parts sold in India are below acceptance level.

In view of the large number of foreign collaborations and introduction of foreign technology in the industry in a big way, a pressing need has been felt for standardization in this area. The process of indigenization within five years, as envisaged by the Government of India in the case of collaboration tie-ups, invests the efforts for augmenting standardization activity with added significance.

COORDINATION COMMITTEE

The question of standardization for automobiles received high priority at a joint meeting of ISI Sectional Committees engaged in the formulation of standards in the field of automotive vehicles at Pune recently. The concerned Sectional Committees are Internal Combustion Engines Sectional Committee (EDC 14); Automotive Vehicles Sectional Committee (EDC 38); Mopeds Sectional Committee (EDC 78); Tyres, Tubes and Rims Sectional Committee (EDC 83); Scooters, Motorcycles and Three-Wheeled Derivatives Sectional Committee (EDC 85); and Automotive Electrical Equipment Sectional Committee (ETDC 14).

The meeting emphasized the need for reorganizing the work on automotive standards under a single umbrella with a view to expediting the present work and covering new areas.

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Shri K. Ramachandran, Director, Automotive Research Association of India, Pune (third from left), presiding over first meeting of the Coordination Committee for Automotive Industry. To his left is Shri S. Chandrasekharan, Director (Mechanical Engineering), ISI.

The discussions also culminated in an agreement on the need for formation of a separate Division Council for automobiles. As a first step, it was recommended that a Coordination Committee (EDC/CC) be formed under the Mechanical Engineering Division Council for initiation and monitoring of the progress of standards in the automotive field as a whole.

The suggested scope of the Coordination Committee includes:

- a) Identification of specific items like safety and pollution for formulation of standards which, in view of their urgent need, cannot be assigned to the existing Sectional Committees or to those to be created; the Coordination Committee could also create additional working groups/panels, where necessary, for the formulation of standards;
- b) Review of standards published by various agencies in the country, such as Automotive Research Association of India (ARAI), Central Institute of Road Transport (CIRT) and Vehicles Research and Development Establishment (VRDE) with a view to adopting them as Indian Standards with appropriate modifications;
- c) Consideration of a time frame for work to be completed by the concerned Sectional Committees; and
- d) Periodic review of the work done in regard to identification of new areas for undertaking standardization.

The Coordination Committee comprises top-ranking experts drawn from leading automotive industries and associations, research institutions like ARAI, VRDE and CIRT, and various Government departments dealing with

transport, besides Chairmen of Sectional Committees dealing with automobiles.

IDENTIFICATION OF AUTOMOTIVE SYSTEMS

At its first meeting held in Bangalore on 30 July 1985 under the chairmanship of Shri K. Ramachandran, Director, Automotive Research Association of India, Pune, the Coordination Committee identified 14 systems of automobiles to be covered by standards. These comprise safety; power pack; SI and CI engines; transmission system; braking system; chassis, suspension system and steering system; body; wheels, rims and tyres; auto electronics; auto accessories; nomenclature, testing and evaluation; materials; hydro-pneumatics; instrumentation and control; and high-speed transport trailers. For each of these systems, separate panels have been formed with conveners having long experience and association with Indian automotive industry. The conveners will help identify the subjects to be taken up for standardization on a priority basis, discuss proposals submitted to the panels by the members and provide finalized versions of specifications to be adopted by ISI as national standards. Through this process, it is hoped, standards would be made available to the industry in the least possible time. It is also felt that foreign technologies would be assimilated easily and modernization and updating of know-how by Indian automotive industry achieved within a short time.

A large variety of envelopes in different shapes and sizes currently in use for correspondence come in the way of efficient facing, stamping and sorting operations required to be undertaken in post offices before the envelopes are actually despatched. To overcome these problems, the postal authorities have recently issued a gazette notification rationalizing the sizes of envelopes to be used for correspondence in accordance with the Indian Standard 'IS : 3338-1980 sizes of correspondence envelopes'.

The authors discuss in this paper the problems encountered by postal authorities on account of the large variety of sizes of postal envelopes and highlight the usefulness of standard sizes as provided for in a recent Government notification — Ed.

Rationalization of Sizes of Correspondence Envelopes

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■ The volume of mail being handled by postal sorting offices in India is increasing every year, approximately at the rate of 5 percent per annum. For instance, in 1982-83, the postal services handled nearly 10 850 million pieces of mail, excluding money orders. There was a growth of nearly 530 million pieces in 1983-84, the total reaching 11 380 million pieces. The growth in the traffic of registered mail was also 5.5 percent during the same period. As the volume of postal traffic is rapidly increasing, the postal administration is obliged to take steps to ensure that the mail is handled quickly. These measures relate chiefly to facing, stamping and sorting. There is no doubt that each of these operations, even if performed manually, is slowed down and made complicated by the fact that an ever larger number of items is being sent in unconventional shapes (for example, bottles, clovers, triangles), not to mention oblong letters, folders with several flaps and envelopes. A big chunk of this mail happens to be second class mail, comprising varying sizes of envelopes containing periodicals, publications, circulars, market reports of companies, etc.

A recent survey on envelopes being received for sorting in post offices showed that more than 60 types of envelopes were in circulation in all kinds of shapes and sizes. Correspondence envelopes passing through the post are generally produced in a variety of sizes by small scale industries

in the country. The Postal Department also produces and supplies stamp-embossed (90 × 140 mm) and registration (114 × 190 mm) envelopes. In addition, offices and homes turn out a variety of sizes of envelopes and use them for postal purposes. It is one thing for consumers to purchase envelopes of their choice and retain them with themselves, but it is entirely different to let all these varieties be handled by a single agency, namely, the Post Office.

PROBLEMS DUE TO VARIETY OF SIZES OF POSTAL ENVELOPES

The existence of different types of envelopes requires a supplementary separation during manual or mechanized stamping and facing so that the portion on which the address is written comes at the top. This slows down sorting, complicates bundling, makes the bundles insecure, causes damage to some items and delays work by making it necessary to resort to bundles that may get untied during transit. Such diversity, therefore, is an obstacle to proper and fast operation of the service.

Sorting

The sorting facility is designed to make 50 to 100 separations of articles within a certain range of sizes. Articles which do not fall within that range have to be sorted in mail bags on bag-stands. This has two disadvantages. First, the articles sorted in bags cannot be bundled; they fall haphazardly in the

bags and get damaged, so that the damaged articles have to be preserved by enclosing them in an extra cover at the point of destination where the mail bag is opened. Secondly, the separations that can be made on the bag-stands are limited by the constraints of space and reach of the sorter. These, therefore, have to be sorted again and rehandled at various points in transmission so as to make the requisite separations according to the geographical location, namely, the district, the town and the particular office of delivery. Both these factors are responsible for delaying the articles in transit. Each additional handling means increased cost as staff is sanctioned at every point in transmission according to the number of articles handled/sorted. To solve this problem, the sizes of correspondence envelopes should be standardized which, in turn, may facilitate standardization of the sorting equipment as well.

It is also observed that there is 33-40 percent loss in the speed of a sorter handling mail of varying sizes as compared to that when he sorts articles of the same size and mass. In the former case, he has to pick up one article at a time from the tray whereas in the latter he can hold 20 to 25 articles at a time. This is particularly true of big sized articles. Square shaped envelopes, for example, complicate stacking, facing and cancelling. Moreover, stamp cancellation machines are designed for the handling of items whose dimensions are within certain

limits. As a result, items that are too big or too small cannot be handled by such machines and have to be performed manually—a time-consuming process.

Production

Different sizes of envelopes not only hamper work in post offices, but also pose problems during production. If well-defined sizes are not known in the market, varieties multiply and the manufacturers of envelopes may face difficulty in meeting the demand economically. On the other hand, if a range of sizes of envelopes needed in the market is well defined and clearly known, productivity of the units manufacturing such envelopes would go up considerably as they would be able to continuously produce envelopes anticipating demand. Standardization of sizes of envelopes is, therefore, inescapable.

INDIAN STANDARD ON SIZES OF ENVELOPES

It is these considerations which led the Indian Standards Institution to formulate an Indian Standard on sizes of correspondence envelopes (IS : 3338) in 1965 which was revised in 1980. The Standard rationalizes the sizes of envelopes passing through the post so that they may be manufactured economically from the standardized raw stock sizes of paper. The fixing of sizes of correspondence envelopes through Indian Standards is also intended to make their sorting quicker during postal transit and to reduce wastage during manufacture.

The Indian Standard covers two types of envelopes, namely, 'banker shape' (with opening on the longer side of the envelopes) and 'pocket shape' (with opening on the shorter side of the envelopes). Twelve sizes of envelopes are specified ranging from 90 × 121 mm to 324 × 458 mm. Of these, except for small sized envelopes, that is, 90 × 121 mm and 90 × 152 mm, all other sizes of envelopes are the same as specified in the International Standard on correspondence envelopes (ISO 269-1976).

Basis for Standardization

The sizes of envelopes have been standardized at the international level based on scientific considerations, right from the raw stock size of paper. International paper sizes have been standardized as what is known as 'A Series', which provides a rational and practical arrangement of 11 sizes numbered from A0 to A10. The basic size A0 has a surface area of 1 square metre, the length to width ratio being

maintained as $1 : \sqrt{2}$. Hence the dimensions of A0 are 841 × 1189 mm. As a result of the length-width ratio being maintained as $1 : \sqrt{2}$, when A0 size paper is folded lengthwise, A1 size is obtained. Similarly, when A1 is folded lengthwise, A2 size is formed, and so on. The process continues down to A10—the size of postage stamp—measuring 26 × 37 mm. A special feature of A Series of paper is that its basic size A0 cuts into all subsizes without wastage. There are also intermediate series known as B and C Series of paper sizes. The details of A Series of paper sizes are given in the Indian Standard 'IS : 1064-1980 Specification for paper sizes (second revision)'.

The Indian Standard on sizes of correspondence envelopes indicates the sizes of standard paper which may be used for producing different sizes of envelopes and the number of blank cutouts that can be taken from a sheet required for making a particular size of envelopes. Stipulating these details in the Standard enables manufacture of envelopes in an economical manner. Another interesting feature relating to designing of the sizes of envelopes concerns the convenience offered by use of envelopes for letters in standard formats. For example, a letter in A4 size paper folded twice will conveniently go into an envelope of 110 × 220 mm. The Standard also indicates the number of folds to be made in different sizes of letters for inserting them into different sizes of envelopes.

Availability of Standard Paper Sizes

A doubt may arise as to the anticipated economy in the manufacture of envelopes when A Series of paper sizes are not easily available. Even though switching over to the production of paper mills to sizes in the A Series may result in considerable advantage including higher production, the total changeover has not so far been effected due to continued demand from the users of papers in non-standard sizes. A report of a study conducted by the Institute of Economic and Market Research, New Delhi, in 1976 carried out on behalf of the Development Council for Paper, Pulp and Allied Industry and published by the Federation of Paper Traders Association states that there are advantages in adopting Indian Standard specifications for manufacture of paper. The report further recommends that the adoption of Indian Standards by users should be accomplished first. This, according to the report, would enable the paper mills to supply to specifications provided by the users. It is, therefore, appropriate that the manufacturers

of envelopes, including Government departments producing correspondence envelopes, should demand from paper mills appropriate sizes of paper in accordance with the Indian Standard 'IS : 1064-1980 Specification for paper sizes (second revision)'.

GOVERNMENT NOTIFICATION TO STANDARDIZE POSTAL ENVELOPES

Till recently, there was no regulation by the Government in regard to the sizes of correspondence envelopes to be used for postal purposes. Such regulations exist in advanced countries and have resulted in enormous benefits including mechanization of the routine job of sorting, handling, etc.

The Union Ministry of Communications, after a careful study of the Indian Standard on sizes of correspondence envelopes in consultation with ISI, has issued a gazette notification under Section 21 of the *Indian Post Office Act, 1898* (6 of 1898) amending the *India Post Office Rules, 1933* and redesignating them as *Indian Post Office (2nd Amendment) Rules, 1984*. The following sub-rule was inserted after Sub-rule(3) of Rule 8:

'(4) When the length of the envelopes sent as letters falls within the range of 121 mm and 458 mm, they shall conform to the following sizes, namely:

	millimetres
i) Banker shape	90 × 121
ii) Banker shape	90 × 140
iii) Banker shape	90 × 152
iv) Banker shape	110 × 220
v) Banker shape	114 × 162
vi) Pocket shape	110 × 220
vii) Pocket shape	125 × 176
viii) Pocket shape	125 × 324
ix) Pocket shape	162 × 229
x) Pocket shape	176 × 250
xi) Pocket shape	229 × 324
xii) Pocket shape	250 × 353
xiii) Pocket shape	324 × 458

provided that the provisions of this sub-rule shall not apply to envelopes sent as letters to countries outside India insofar as they are in conflict with the Convention and Regulations of the Universal Postal Union to which India is a signatory.'

In issuing this notification, the intention of the Government was to simplify matters and choose a range of sizes that could be used for a very large percentage of letter traffic and was, more or less, in conformity with the sizes recommended by ISI in IS : 3338-1980 and by the International Organization for Standardization in ISO 269-1976. Twelve sizes of envelopes as given in IS : 3338 have been adopted and

one more variety, namely, banker shape (90 × 140 mm), which is currently being produced by the Postal Department is included. This size will be withdrawn after effecting necessary modifications in the machinery and other facilities currently available in the India Security Press. There is no doubt that this is an appropriate step taken by the Government which will bring overall economy to the country; better and quicker service to the users of postal service; economy to the manufacturers of

envelopes; and increase in the efficiency to large offices.

CONCLUSION

While it is felt that the new regulation cannot be made effective immediately as some preparation would be necessary before its execution, the aim of this paper is to inform and educate the paper manufacturers, various offices in the Government, industry

and trade as also members of the public about it and encourage and persuade them to adopt the new standards. The sizes of envelopes currently in use are dictated more by habit than by technical reasons. Those recommended and approved by the Government are on the basis of sound scientific studies, the adoption of which will prove a welcome step towards modernization of sorting and stacking operations and further improvement in the efficiency of postal services.

ISI HANDBOOK — New Edition Available

■ The seventeenth edition of the ISI Handbook is now available. A comprehensive reference tool for information on national standards and special ISI publications, the Handbook lists over 12 225 Indian Standards in numerical sequence along with their title, number of pages, format and price group. A comprehensive subject index is also included at the end to enable the readers to locate standards on subjects of given interest.

In addition, information is provided on translations of Indian Standards in Indian languages, special publications and reference aids, and Indian Standards withdrawn and superseded. The Handbook also gives names and addresses of national standards bodies which are members of the International Organization for Standardization (ISO).

Copies of the ISI Handbook, priced at Rs 185.00, can be had from ISI Headquarters at New Delhi and its Regional and Branch Offices at Bombay, Calcutta, Chandigarh, Madras, Ahmadabad, Bangalore, Bhopal, Bhubaneshwar, Hyderabad, Jaipur, Kanpur, Patna and Trivandrum as also the Inspection Office at Pune.

STANDARDS NEWS

MR OLLÉ STUREN, SECRETARY GENERAL, ISO VISITS ISI SOUTHERN REGIONAL OFFICE, MADRAS

Mr Ollé Sturen, Secretary General of the International Organization for Standardization (ISO), visited the Southern Regional Office of ISI (SRO) at Madras on 1 August 1985. He was accompanied by his wife, Mrs Nalle Sturen, and the ISO President and former Vice-President of ISI, Dr D. C. Kothari.

Explaining the working of ISO, Mr Sturen said that quick developments in the fields of modern technology and computer information processes would have a bearing on the working of ISO in the next decade. He added that ISO was primarily a machinery for negotiating and finding agreement on International Standards for a wide range of subjects and publishing them, and was not in itself much of a tool for standards implementation and certification. It functioned as a forum for experts belonging to different countries providing

them an opportunity to meet and exchange their experiences and formulate general guidelines. ISO now published around 600 standards each year as against 100-150 fifteen years ago. Soon it would have published a total of over 6000 International Standards.

Mr Sturen also pointed out that present working methods and procedures of ISO in the development of International Standards were much the same as those adopted nearly fifty years back by national standards bodies and as such it took a fairly longer time to publish them. To expedite its working, it had to atune itself to fast technology like electronics, so that it could start publishing standards at a much faster pace. In this regard, he said that it would be possible to replace international meetings between experts with screens using satellites with the concerned delegates stationed in different parts of the world. In spite of its being expensive, Mr Sturen hoped, this procedure would ultimately come into being by the end of the century. This system would,

however, have one disadvantage — that of reducing international contacts and decreasing the possibility of people belonging to different parts of the globe meeting at one place. He hoped that ISO would strike a balance by using electronics for a good deal of its work while at the same time maintaining it as an organization which fostered better understanding among the delegates from different countries.

Later, Mrs and Mr Sturen visited Mechanical Wing of the SRO Laboratory. Mr Sturen evinced keen interest in the testing of items, such as gas cylinders, safety matches, pressure cookers, sprayers and cotton vests. He was happy to note the efforts of the SRO Laboratory in testing a variety of products for assessing conformity to Indian Standards. He also showed keen interest in the testing of deepwell hand pumps. It was brought to his notice that in India, deepwell hand pumps would have to carry ISI Mark for their acceptance by UNICEF. Mrs and Mr Sturen were also taken round the exposition of ISI-certified products. Mr Sturen appreciated the diverse activities of ISI as well as efforts put in by the Institution in certifying the products, particularly those of consumer interest.

CONSUMERS' CONVENTION, ERNAKULAM

The Indian Standards Institution participated in the Consumers' Convention held at Ernakulam on 11 August 1985. Jointly sponsored by the Ernakulam District Consumers' Council; Centre for Legal Research; Consumer Protection and Non-formal Legal Education; Korala Consumers' Service Society; Ernakulam Women's Association; Bharatiya Vidya Bhan (Consumer Wing); Law Society of India; Public Interest Law Society; Citizens' Forum and Cochin Vigilance Forum, the Convention was inaugurated by Justice V. R. Krishna Iyer and presided over by Justice



Mr Ollé Sturen, Secretary General, ISO (second from right) addressing the officers of the ISI Southern Regional Office, Madras. Others in the picture are (from left): Shri C. R. Rama Rao, Deputy Director General, ISI; Dr D. C. Kothari, President, ISO; and Mrs Nalle Sturen.

T. Chandrasekhara Menon. Participants from the Directorate of Marketing and Inspection, Directorate of Health Services, Government of Kerala, Regional Analytical Laboratory, Government of Kerala, and Health Wing of Cochin Corporation attended the Convention.

The Convention had group discussions on topics, such as problems of taxation; adulteration, weights and measures; medicines to be banned; environmental pollution; and role of women in consumer movement. Shri A. Govindan, Head, Trivandrum Branch Office, ISI, led the group discussions on adulteration, weights and measures, and medicines to be banned with the assistance of Shri K. V. Shanmugham, a member of Organizing Committee of the Convention.

The following recommendations were made at the Convention:

a) There should be a vigilance squad for the recently-constituted Consumer Council to monitor the quality and cost of consumer products;

b) Pamphlets in local languages should be made available to the consumers to make them aware of their rights and hoardings put up near shopping centres highlighting the rights of the consumer;

c) More and more consumer products should be brought under the ISI Certification Marks Scheme, Agmark certification, etc, to ensure consumer protection;

d) Distribution of food products should be regulated under a licensing system to curb the undesirable practice of marketing substandard products;

e) Newspaper media should be requested to have special columns for the redress of consumer complaints. Similarly, All India Radio and Door-darshan should be approached to evolve suitable programmes for highlighting the problems of the consumer;

f) Medicines banned in the developed countries should be banned in India as well; a list of such medicines should be exhibited at all hospitals for the guidance of the consumers;

g) Advertisements likely to mislead the consumers should be strictly banned; and

h) Verification of weights, measures and weighing scales should be done more frequently by the authorities to ensure correctness of the equipment.

ISI also participated in the exhibition organized on the occasion, displaying ISI-marked consumer products as well as Indian Standards on common consumer items besides publications like the ISI Handbook, National Building Code and Handbook of Food Analysis.

CALIBRATION FACILITIES IN ELECTRONICS

The Department of Electronics (DOE), Government of India, has set up calibration facilities for measuring instruments at Electronics Regional Test Laboratories (ERTLs) and Electronics Test and Development Centres (ETDCs) operating under the Standardization, Testing and Quality Control (STQC) Programme of DOE. The primary electronics calibration facilities at the National Physical Laboratory (NPL), New Delhi, are also being augmented/funded under the STQC Programme. Besides, it is envisaged to extend the concept of traceability and measurement assurance at all levels by covering other electronics standards and calibration laboratories under private industries, public sector units and government organizations as a part of national measurement assurance programme.

The services rendered to customers by ERTLs and ETDCs are: (a) registration of customers' measuring instruments and maintaining a directory of customers, (b) periodic calibration programme for customers' instruments with calibration re-call service, (c) calibration as and when the customers' instruments have undergone breakdown repairs, (d) documentation of accuracy of the customers' instruments, and (e) technical consultancy.

Further information can be had from: The Director, STQC Division, Department of Electronics, Government of India, Lok Nayak Bhawan (3rd Floor), New Delhi 110003.

NRDC INDEPENDENCE DAY (1985) AWARDS

Six scientists actively associated with the work of the Indian Standards Institution were among the recipients of the National Research Development Corporation (NRDC) Awards for meritorious inventions announced on the Independence Day.

Shri Kuldeep Narain Dobhal of Indian Institute of Petroleum (IIP), Dehra Dun, is one of the team of three scientists from IIP to be jointly awarded Rs 25 000 for the development of film burner (an efficient low air pressure atomizing burner for residual fuels). The burner has been designed to have a high turn down ratio, operates with low excess air and is capable of operating with oil of varying viscosity. Considerable saving of fuel oil is claimed to be achieved by using this burner. Shri Dobhal is associated with ISI as a member of its Domestic and Commercial Gas Burning Appliances (Pressure Type) Sectional Committee.

Shri Athur Vijayan Lal of Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum, has been jointly awarded with two others a sum of Rs 25 000 for the development of 'Chitra variflo adult/paediatric oxygenator with integral cardiotomy reservoir.' It combines three devices used by heart surgeons, namely, blood oxygenator (adults), blood oxygenator (children) and cardiotomy reservoir. Shri Lal is associated with ISI as a member of its Live Animals Sectional Committee (AFDC 24) and Laboratory Animals Husbandry and Transport Subcommittee (AFDC 24:3).

Dr Sujit Kumar Bhattacharya of Jute Technological Research Institute, Calcutta, has been jointly awarded with another a sum of Rs 15 000 for the development of a process for upgradation of low quality barky jute by fungal culture. The fungal culture, when applied on barky jute, enables softening of the bark to give higher yield of jute. Dr Bhattacharya is associated with ISI as a member of its Biological Test Methods Subcommittee (TDC 5:10).

Shri S. Bhaskaran of Bharat Heavy Electricals Limited (BHEL), Hyderabad, is one of the team of scientists to be jointly awarded Rs 15 000 for the development of online analyzers which help continuous monitoring of silica and chloride content in boiler feed and are very useful for megawatt thermal power stations. Shri Bhaskaran is associated with ISI as a member of its Non-destructive Testing Sectional Committee (SMDC 25) and Magnetic Particle, Eddy Currents and Liquid Penetrant Method Standards Subcommittee (SMDC 25:4).

Shri S. Madhavan of Bharat Heavy Electricals Ltd (BHEL) Boiler Plant Higher Secondary School, Tiruchi, has been awarded Rs 1 000 for the development of a modified sewing machine needle that can be threaded by people who are blind or have impaired eyesight. Shri Madhavan is associated with ISI as a member of its Structural Safety Sectional Committee (BDC 37) and Fabrication, Erection and Inspection of Steel Structures in General Subcommittee (SMDC 7:6).

PRINTEK '86 EXHIBITION

The Federation of Indian Publishers is sponsoring an Exhibition on International Printing and Graphic Art Machinery (PRINTEK '86) in New Delhi during 7-17 February 1986.

PRINTEK '86 is designed to bring together the latest printing and graphic

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arts machinery and technology for cost-efficient production by world's leading manufacturers and suppliers in the field. The Exhibition would provide an unique opportunity to Indian industry leaders in this field to see the latest technology and development in this area, interact with their counterparts in other countries and negotiate trade deals and joint manufacturing ventures. Besides, Indian manufacturers, traders, importers and exporters would be able to display their own capabilities, products and services

in the printing field and explore possibilities of their export to neighbouring and other countries.

Further information can be had from: Shri S. N. Mehta, Chairman, Modern Multi Media Marketing Company (India) Pvt Limited, 16A Naraina II, New Delhi 110028.

THIRTYFIFTH IIF ANNUAL CONVENTION, 1986

The Institute of Indian Foundry-

men (IIF) is organizing its thirtyfifth Annual Convention in Calcutta during 31 January-2 February 1986. The theme of the Convention is 'Technology upgradation'. The papers to be presented at the Convention will report original work, case studies and research findings, and provide solutions to challenging problems relating to foundry technology.

Further information can be had from: The Honorary Secretary, The Institute of Indian Foundrymen, 4/2 Middleton Street, Calcutta 700071.

ISO HANDBOOKS ON PAINTS AND VARNISHES, FLUID POWER SYSTEMS, AND ACOUSTICS, VIBRATION AND SHOCK

The International Organization for Standardization (ISO) has just published two new handbooks, namely, 'ISO Standards Handbook 24: Paints and Varnishes' and 'ISO Standards Handbook 25: Fluid Power Systems'. Besides, the second edition of the ISO Standards Handbook 4: Acoustics, Vibration and Shock' is also available.

The ISO Handbook on Paints and Varnishes is a collection of over 120 International Standards developed by ISO. It includes a series of bilingual and trilingual glossaries, specifications and test methods for the broad group of materials used in the manufacture of paints and varnishes, that is, pigments, extenders, binders and solvents as well as a number of test methods of wide application relating to paints and varnishes in general. It will be a valuable guide to a whole range of professions, including building research, corrosion research and specialized activities related to individual industrial matters such as automobile manufacture and shipbuilding.

The ISO Handbook on Fluid Power Systems comprises a complete set of International Standards prepared by ISO on fluid power pumps, compressors, cylinders, motors, valves, pipes, filters, accumulators and hydraulic fluids which have been designed to ensure interchangeability, inter-connection and compatibility of components and materials from different quarters, and includes test methods and noise determinations agreed too for international communication. The Handbook will serve as a link between designers, engineers, purchasers and suppliers of fluid power components as also with the hundreds of different manufacturing industries using these components or whole assemblies.

The second edition of the Handbook on Acoustics, Vibration and Shock is a collection of ISO International Standards basic to the work of engineers, technicians, scientists, health and safety practitioners concerned with research in physical and environmental effects of sound, mechanical vibration and shock. First published in 1980, the second edition of the Handbook has been brought out to include a large number of new standards in all three fields appearing over the past four years. The volume is divided into two main sections. The first, 'Acoustics', includes basic documents for sound measurement and noise limits, building acoustics and some basic standards including those used in audiometry. The second section treats mechanical vibration and shock in four groups, namely, terminology and generalities, measurement and evaluation of mechanical vibration and shock, balancing machines and human exposure.

Published separately in English and French versions and priced at Rs 687.50, Rs 478.50 and Rs 841.50 respectively, orders for ISO Standards Handbooks 24, 25 and 4 can be placed with the Sales Service at ISI Headquarters in New Delhi along with advance payment.

STANDARDIZATION

ECHOES AND IMAGES

ISI Norm to Check Crust Leather Export

The Union Commerce Ministry has decided to reintroduce the ISI norms of 1979 for finished and semi-finished leather exports. This move is expected to put an effective check on exports of 'crust leather' while at the same time diverting nearly Rs 800-1000 million worth of semi-finished leather to finished leather tanneries. The diversion is expected to ease the present problem of raw material availability of the industry in general, to a great extent.

In recent years, substantial quantities of crust leather have been passed off as finished leather mainly due to the vague categorization norms. The ISI norms of 1979 are understood to be very stringent in this respect and were in force for a short period in that year. But the resultant diversion of semi-finished leather to finished leather tanneries at that time could not be handled by the latter because of their poor infrastructure and inadequate machinery. As a result, the norms were relaxed in 1980.

Since crust leather over the past few years has been exported as finished leather on a large scale, the Government has now decided to introduce the ISI norms of 1979 once again. The Government feels that the finished leather tanneries are now capable of handling the extra diversion.

— The Business Standard, 27 July 1985

Call for Purchasing Only Standard Goods

The Union Minister of State for Supply and Textiles said on 2 July 1985 that trade and industry had a duty to supply goods of proven quality.

Addressing the 12th National Annual Workshop on Marketing to the Government and its Enterprises in New Delhi, he said that the Government was the single largest purchaser, buying goods worth more than Rs 20 000 million annually.

'Government supplies must, therefore, be of proven high quality and meet not only the specified standards but also ethical trade practices as followed in some of the advanced countries', he observed.

He felt that marketing of goods to the Government should set a pattern for the country's entire trade and business community.

— The Indian Express, 3 July 1985

Stress on Safety in Chemical Units

Managements in the chemical industry, with its highest accident rate, have been told to conform to a safety framework evolved by the State labour ministers.

The system ensures not only compliance with the general standards of safety as incorporated in the different schedules laid down by the Government but also qualitative improvement in the working environment and protection against occupational diseases.

The safety administration in the factories is to be given clear authority and responsibility for the observance of safety activity in the units.

According to the guidelines, functions of the safety organization should be treated as an important management function with a clear line of responsibility and command. Persons entrusted with the safety functions are to be held accountable and given full power and responsibilities in the sphere of safety control.

Employers should encourage setting up of safety committees in which workers should be given representation. Safety committees will meet at periodic intervals and will have the powers and responsibilities to go into all aspects of safety at the work place.

The employers' organizations in the chemical industry may take the lead in preparing and establishing a safety control system on the basis of the model scheme for safety and health accident reduction action plan (SAHARA).

Trade unions are also required to pay adequate attention to safety and health matters which should also be the subjects of bipartite discussions resulting in subsisting agreement. The agreements will spell out the safety policy and further commitment to follow it.

Written rules and instructions setting out safe practices for each job assignment are held necessary. This material should be used as the basis for safety

instruction of new employees transferred to new jobs, and then reviewed with all employees from time to time.

Each plant should have sufficient, well-trained personnel to assure continuous commitment to safety. A qualified person should be assigned to direct the safety programme, handle safety education and assist the supervisory force in maintaining safe working conditions.

All new employees are to be thoroughly instructed in general safety policies, rules and procedures before being referred to their supervisor for job training. In turn, the supervisor will review with them thoroughly the safety measures of the particular job before they begin to work. Subsequently, the safety performance of new employees should be reviewed regularly. This will assure that they both understand and carry out the written safety rules.

— The Times of India, 4 June 1985

Equipment Norms For Steel Urged

Indian steel plants should adopt an equipment standardization policy for the Seventh Plan based on techno-economic feasibility and efficient process technology to achieve optimum capacity, according to the Planning Commission Working Group on Iron and Steel, reports UNI.

The Working Group has made recommendations after considering domestic raw material characteristics, economies of scale, and design and manufacturing capabilities.

The Group feels that standardization of equipment in the coal and coke preparation is quite feasible and should be attempted. Moreover, standardization of equipment for dry coke cooling plant can be achieved to a large extent if the design available in India is adopted for all future plants.

The Group has recommended that obsolete open hearth furnaces should be phased out and basic oxygen furnaces adopted for steel-making.

In the standardization of equipment, the Group feels that, though raw material characteristics play an important part, the availability of design and manufacturing drawings or indigenous manufacture are vital.

— The Business Standard, 29 July 1985

National Safety Plan for Hazardous Units

The Centre has drawn up a national plan for safety in chemical and other hazardous industries.

According to official sources, the plan envisages specific and coordinated action by the Centre, States and industrial establishments, their employers and unions to lay stress on safety and improve working environment in the industries.

The plan makes it obligatory for employers to take steps for total safety and introduce control system in hazardous units.

ISI BULLETIN — VOL 37, AUGUST 1985

Under the plan, workers' organizations are expected to ensure that the management lays down a clear policy regarding hazard control, safety and occupational health.

Meanwhile, the Centre has submitted for approval to the Planning Commission another scheme under which it will provide assistance on matching basis to the States for strengthening enforcement machinery and supply of additional equipment for environmental monitoring in hazardous industries.

— The Financial Express, 28 June 1985

Quality Marking Centre for Sports Goods

The Haryana Government has decided to set up a Quality Marking Centre for sports goods at Murthal.

According to official sources, as many as 99 sheds for the manufacture of sports goods are coming up in the complex. The proposed Centre would help the entrepreneurs in testing raw materials as well as finished goods and would follow Indian Standards.

At present, 10 Quality Marking Centres are working in the State which provide technical guidance and up-to-date testing facilities to small scale industrial units for evaluating their products according to the prescribed standards.

These Centres, set up at Sonapat, Faridabad, Bahadurgarh, Hissar, Jagadhri, Karnal, Panipat and Gurgaon, are providing facilities to small scale industrial units which have limited resources and cannot afford to have sophisticated high-priced testing equipment.

— The Economic Times, 4 July 1985

Pollution Control Institute at Hardwar

A Pollution Control Research Institute is fast coming up at the Bharat Heavy Electricals Limited (BHEL) campus at Hardwar. It is a joint venture of the Government of India and the UN Development Fund.

The Institute will evolve industrial pollution control technology with respect to air, water, solid waste and noise. It will have a number of laboratories and other facilities with separate groups to be entrusted with the work of planning and coordination, ecological protection and control, meteorology and mathematical modelling, environmental-cost economy and legislation besides a consultancy cell.

The UNDP is assisting the Institute in different ways which includes provision of services of international experts.

— The Statesman, 22 July 1985

COMMITTEE MONTH

BANGALORE ADVISORY COMMITTEE

The eighth meeting of the Bangalore Advisory Committee of ISI was held on 10 June 1985 under the Chairmanship of Shri T. R. Satish Chandran, Chief Secretary, Government of Karnataka.

Opening the meeting, Shri Satish Chandran regretted that the industry in the State had not taken full advantage of the ISI Certification Marks Scheme. Though the share of Karnataka in the industrial development of the country was about 7 percent, this was not reflected in the number of certified products manufactured in the State. Emphasizing the need for increased certification activity in Karnataka, Shri Satish Chandran said that ways and means should be found to overcome the obstacles coming in the way of implementation of orders issued by the Central and State Governments for promoting the implementation of standardization and certification activities. The testing laboratory nearing completion in Bangalore and to be operated by ISI would also contribute significantly to the development of these activities in the State.

Earlier, welcoming the members of the Committee, Dr B. N. Singh, Additional Director General, ISI, said that the pace of Certification activity in the State needed to be accelerated. In this connection, he stated that there were only 344 ISI licences in Karnataka which worked out to just 4 percent of the all-India figure of 8000. One of the means of speeding up certification activity in the State was that the incentives offered to small scale industries taking up the ISI mark should be enhanced which would, in turn, help in improving their overall efficiency and performance in regard to production of quality goods.

The Advisory Committee reviewed the activities of the Bangalore Branch Office and discussed ways and means

This month, we report the proceedings of 17 Committees which held their meeting during the month of June 1985. Detailed notes regarding three committee meetings are given below. The Table of Meetings lists important items of business transacted by other committees.

for accelerating the growth of certification marks activity and giving a push to membership drive and sale of standards. The following points emerged from the discussions at the meeting:

a) The State Government should direct the various purchase departments as well as those of the State undertakings to go in for only ISI-marked products, wherever possible;

b) The State Government should review the various orders issued by it for promoting standardization and certification activities and reaffirm its interest in these twin activities by making them more broad-based;

c) The associations of manufacturers such as Indian Association of Engineering Industry (IAEI) and Karnataka Small Scale Industries Association (KASSIA) should promote the concept of certification by requesting their members to increasingly go in for ISI certification and enroll themselves as subscribing members of ISI;

d) The State Government should direct various State Government undertakings to take up ISI certification for all their products; and

e) The Government should advise the various State Government undertakings and professional colleges and polytechnics to enroll themselves as subscribing members of ISI and upgrade the level of membership where they were already members of the Institution.

Clarifying some of the points raised by the participants, Dr Singh said that the ISI Certification Marks Scheme was based on the principle and mechanism which would ensure prevention of the manufacture of defective products. He also explained the various controls and surveillance mechanism employed in the operation of the Scheme which assured production of quality goods in accordance with the relevant Indian Standards on a continuous basis. As for insistence on Government agencies purchasing only ISI-marked products, Dr Singh said

that this would help step up certification activity considerably. He also recounted the various measures being taken by the Institution for promoting the ISI Certification Marks Scheme including publicity through different media like the press, radio and TV. Emphasizing the need for providing financial incentives for popularizing the certification activity, Dr Singh called upon the State Government to consider giving further incentives apart from those already offered.

The Committee noted that ISI laboratory building being put up by the Government of Karnataka was likely to be completed by the end of 1985. Procurement and installation of testing equipment required for the Laboratory had made substantial headway under the guidance of an *ad hoc* Technical Committee set up for the purpose.

PETROLEUM, COAL AND RELATED PRODUCTS DIVISION COUNCIL

The seventh meeting of Petroleum, Coal and Related Products Division Council (PCDC) was held in New Delhi on 27 June 1985 under the chairmanship of Dr D. Banerjee (Escon Consultant Pvt Limited, Calcutta). Opening the meeting, Dr Banerjee drew the attention of the members to subjects of importance under the Division Council, specially proposed adoption of Indian Standards on food contact plastics under the *Prevention of Food Adulteration Rules 1955* and the proposal for compulsory ISI certification marking of automotive, heavy duty and hydraulic brake fluid conforming to IS : 8654-1977. Dr Banerjee observed that formulation of Indian Standards on subjects relating to recycling of plastics and safe adhesive for food contact plastics was equally important from the point of view of energy conservation, pollution control and public health. Another notable achievement of the Division

Council concerned lowering of flash point of diesel fuel from its present limit of 38° to 32°C in the Indian Standards for diesel fuels (IS : 1460-1974). This would result in increased availability of high speed diesel (HSD) by approximately 0.5 million tonnes.

Commending the proposal regarding preparation of 'Handbook on Methods of Test for Plastics', Dr Banerjee said that apart from consolidation and rationalization of test methods, the Handbook would help achieve alignment with the ISO methods of test for plastics.

Reviewing the progress of work under the Division Council during 1 February 1984-31 March 1985, Dr Banerjee said that during this period 61 preliminary drafts had been formulated, 54 draft standards issued into wide circulation and 84 standards sent for printing, bringing the total number of published standards within the purview of the Division Council to 869. Of these, 604 Indian standards had been adopted by various purchasing agencies of the Central and State Governments. In the field of certification marking, 263 licences had been granted against 50 Indian Standards pertaining to the Division Council as on 31 March 1985.

The Council considered the report of the *ad hoc* group set up during its sixth meeting to recast the scope of the reconstituted Bitumen and Coal Carbonization Sectional Committee (PCDC 8), as a result of transfer of the Bitumen and Tar Products Sectional Committee (BCDC 2) from Civil Engineering Division Council and decided that the work of the original PCDC 8 (Coal Carbonization Sectional Committee) and BCDC 2 be dealt with under two distinct groups. Consequently, the title of PCDC 8 was modified as 'Aromatic Hydrocarbons and Related Products Sectional Committee' and a new Sectional Committee, namely, Bitumen Tar and their Products Sectional Committee (PCDC 6) was set up with Shri Y. C. Gokhale, (Central Road Research Institute, New Delhi) as its Chairman.

The Council re-elected Dr Banerjee as its Chairman for the next three-year term ending 31 December 1987. Besides, it appointed new Chairmen for eight Sectional Committees as under: (a) Shri Sudhir Singhal (Indian Institute of Petroleum, Dehra Dun) — PCDC 1 Methods of Test for Petroleum, Petroleum Products and Lubricants Sectional Committee; (b) Shri A. B. Krishnan (Madras Refineries Limited, Madras) — PCDC 2 Petroleum Measurements Sectional Committee; (c) Dr R. Haque [Central Fuel Research Institute



Shri D. N. Shroff (extreme left) presiding over the meeting of the Textile Division Council. Other (from right) are: Shri T. Ramachandra Rao, Industrial Adviser, Office of the Textile Commissioner, Bombay; Shri D. Ajitha Simha, Deputy Director General; and Shri R. I. Midha, Director (Textile), ISI

(CFRI, Dhanbad) — PCDC 7 Solid, Mineral Fuels Sectional Committee; (d) Dr P. V. Krishna (Adviser, Chemicals and Fertilizers, Ministry of Chemicals and Fertilizers, New Delhi) — PCDC 8 Aromatic Hydrocarbons and Related Products Sectional Committee; (f) Dr H. A. Monteiro (Hindustan Ciba-Geigy Limited, Bombay) — PCDC 15 Adhesives Sectional Committee; (g) Shri S. L. Gandhi (Defence Research and Development Organization, Ministry of Defence, New Delhi) — PCDC 16 Treated Fabrics Sectional Committee; and (h) Dr B. K. Dhar (Ministry of Agriculture and Irrigation, New Delhi) — PCDC 20 Fertilizers Sectional Committee.

TEXTILE DIVISION COUNCIL

The twentysixth meeting of the Textile Division Council (TDC) was held in Bombay on 26 June 1985 under the chairmanship of Shri D. N. Shroff (Silk & Art Silk Mills' Research Association, Bombay).

Opening the meeting, Shri Shroff said that during 1 January 1983-31 March 1985, a total of 125 standards had been processed for printing, bringing the total number of published standards under the purview of the Division Council to 947. Besides, 129 drafts had been issued into wide circulation and another 129 preliminary drafts prepared during this period, Shri Shroff pointed out that in the field of certification marking, 556 licences were in operation against 50 Indian Standards covering various textile items and emphasized the need for bringing in more and more products under the ISI Certification Marks Scheme, specially those which were of direct interest to the consumer.

The Council discussed at length the question of making Indian Standards for textiles performance oriented instead of construction-oriented as at present. He called upon the various technical committees working under the

Council to consider the issue involved in details and initiate formulation and revision of standards to make them performance-oriented, especially items of direct interest to the consumers. However, keeping in view the special needs of organized purchasing agencies like the Ministry of Defence and the Railways, the Division Council decided that, wherever necessary, constructional requirements, in addition to performance requirements, could be given for use and adoption by organized purchasing agencies.

The Council suggested that a seminar on 'Impact of Standardization in Textile Industry' should be organized at an early date at the Silk and Art Silk Mills' Research Association, Bombay, to discuss the various issues involved in the light of the New Textile Policy announced by the Government of India, so that the future course of action regarding standardization in this important industry could be chalked out to meet the needs of the industry and trade in the country.

The Council noted with satisfaction India's participation in standardization activities at the international level. It also approved the proposal of ISI taking up the Secretariat responsibilities of the proposed technical committee for yarns to be set up by the International Organisation for Standardization (ISO).

The Council appointed new Chairmen for six Sectional Committees as under: (a) Dr P. R. Roy (Arvind Mills, Ahmadabad) — TDC 2 Cotton and Cotton Products Sectional Committee; (b) Dr B. V. Ramani (Defence Materials and Stores Research and Development Establishment, Kanpur) — TDC 8 National Flag of India Sectional Committee; (c) Shri R. M. Telang (Garware Wall Ropes Limited, Bombay) — TDC 14 Cordage Sectional Committee; (d) Shri R. C. Pani (The Lagan Jute Machinery Company Limited, Calcutta) — TDC 17 Jute Mill Accessories and Jute Machinery Spare

Parts Sectional Committee; (e) Shri Indu Sekhar Rao (Office of the Textile Commissioner, Bombay)—TDC 46 Knitting Machinery Sectional Committee; and (f) Shri A. Chellaraj (Madura Coats Limited, Madurai)—

TDC 49 Industrial Textiles Sectional Committee.

The Council approved 47 new subjects for the formulation of Indian Standards including polyester cotton blended *saris*, requirements of colour

fastness of nylon and rayon fabrics, cargo handling nets, acrylic yarn for hosiery, rollers for jute drawing frame, nylon spondle tapes, hand knitting machines, polyester filter cloth and nylon belting ducks.

TABLE OF MEETINGS

AGRICULTURAL AND FOOD PRODUCTS DEPARTMENT

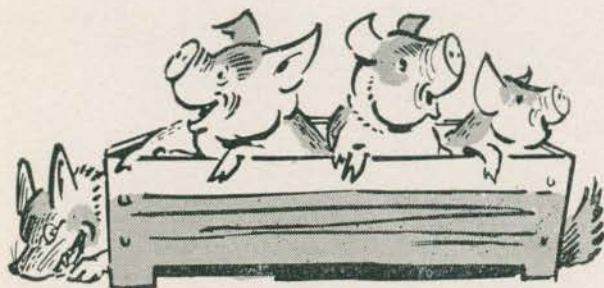
AFDC 17 ANIMAL STRUCTURES AND EQUIPMENT New Delhi 1985-06-06/07

Chairman Prof A. P. Bhatnagar
Director
College of Agricultural Engineering
Punjab Agricultural University
Ludhiana

Drafts finalized for publication — Codes of practice for (a) Poultry housing, and (b) Sheep and goat housing.

Drafts approved for wide circulation — Recommendations for: (a) Cattle housing for a rural milk producer, (b) Cattle housing for an average farmer, and (c) *Gaushala* and other organized milk producer.

Standards reviewed and reaffirmed — 'IS : 2734-1964 Code of practice for equine housing', 'IS : 3916-1966 Code of practice for pig housing', 'IS : 5283-1969 Portable poultry



waterers', 'IS : 5284-1969 Recommendations for community milking shed', 'IS : 6027-1970 Recommendations for farm cattle housing of large dairy farms', 'IS : 6228-1972 Poultry egg fertility tester', 'IS : 6544-1972 Wing band for poultry', 'IS : 6545-1972 Leg band for poultry', 'IS : 6692-1972 Method of milk recording of cattle', 'IS : 6696-1972 Egg washing machine', 'IS : 7516-1974 Trap nests for poultry', 'IS : 7517-1974 Pedigree hatching boxes for poultry', and 'IS : 7518-1975 Laying battery cages for poultry'.

AFDC 48 AGRICULTURALLY USEFUL MICROORGANISMS New Delhi 1985-06-05

Chairman Shri N. S. Subba Rao
Head, Division of Microbiology
Indian Agriculture Research Institute
New Delhi

Draft finalized for publication — Specification for rhizobium inoculants (*first revision* of IS : 8268).

CHEMICAL DEPARTMENT

CDC 27 CERAMICWARE Calcutta 1985-06-04

Chairman Dr B. N. Samaddar
Principal
College of Ceramic Technology
Calcutta

Drafts finalized for publication — Methods of test for vitreous enamelware: Part 2 Testing enamelled cast iron. Specifications for: (a) Pyrophyllite for ceramic industry, (b) Quartz for ceramic industry, and (c) Stoneware dinnerware.

Draft approved for wide circulation — Methods of test for and permissible limits of toxic materials released from enamelware in contact with food.

Standards reviewed and reaffirmed — 'IS : 2717-1979 Glossary of terms relating to vitreous enamelware and ceramic-metal systems (*first revision*)', 'IS : 2838-1964 Stoneware containers for general purposes', 'IS : 2839-1964 Industrial stoneware', 'IS : 2840-1965 China clay for ceramic industry', 'IS : 4589-1979 Plastic clays for ceramic industry (*first revision*)', 'IS : 7087-1979 Ceramic tower packings (*first revision*)', 'IS : 7775-1975 Ceramic grinding media and lining', 'IS : 8017-1976 Vitreous enamelled reflectors for use with tungsten filament lamps', 'IS : 8687 (Part 1)-1977 Sieve analysis', 'IS : 8687 (Part 2)-1977 Fusion flow test', 'IS : 8709-1977 Method of test for colour retention of vitreous enamel coatings'.

New subject — Frit used for glass lining reaction vessels.

CIVIL ENGINEERING DEPARTMENT

BDC 3 SANITARY APPLIANCES AND WATER FITTINGS Pune 1985-06-13

Chairman Shri K. D. Mulekar
Municipal Corporation of Greater Bombay
Bombay

Drafts finalized for publication — Specification for cast iron manhole covers and frames: Part 8 Specific requirements for HD square type. Specifications for: (a) Enamelled steel bath tubs, (b) Gel-coated glass fibre reinforced polyester resin bath tubs, and (c) GRP squatting pans. Specifications for glazed fire-clay sanitary appliances: (a) Part 2 Specific requirements of kitchen and laboratory sinks [*third revision* of IS : 771 (Part 2)]; (b) Part 3 Specific requirements of urinals, Section 2 Stall urinals [*third revision* of IS : 771 (Part 3/Sec 2)]. Specification for vitreous sanitary appliances (vitreous china): Part 8 Specification requirements of siphonic wash down water closets.

Drafts approved for wide circulation — Specifications for: (a) Glazed earthenware tiles (*second revision of IS : 777*), and (b) White unplasticized PVC pipes for suction and delivery with agriculture pumpsets.

New subjects — Foot-controlled flushing arrangement for water closets; GRP pipes for oil exploration; HDPE cable ducting; HDPE gravity sewer pipes; HDPE pipes for slurry transportation in mines and in chemical industry; HDPE sewer pipes inside buildings; PVC cable ducting; PVC gravity sewer pipes; PVC pipes for chemical industry; PVC pipes for tube wells: (a) Part 1 casing, (b) Part 2 Screen pipe; PVC pipes for use in agricultural pumpsets; PVC reinforced helical pipes; and PVC sewer pipes inside buildings.

BDC 63 COSTS ANALYSIS AND COST ESTIMATES New Delhi 1985-06-10

Chairman Shri S. N. Agnihotri
710, Sector 11-B
Chandigarh

Draft finalized for publication — Guidelines for estimating output norms of items of work in construction of river valley project: Part 1 Earthwork excavation.

Drafts approved for wide circulation — Guidelines for working out the unit rate of the construction equipment for river valley projects. Proforma for analysis of unit rate of construction of embankment.

New subjects — Guidelines for estimating output norms of items of works on: (a) Fabrication erection; (b) Tunnel excavation with tunnel boring machines.

ELECTROTECHNICAL DEPARTMENT

ETDC 33 WINDING WIRES New Delhi 1985-06-21

Chairman Shri P. Ghosh
Indian Cable Company Ltd
Jamshedpur

Drafts finalized for publication — Specifications for: (a) Polyester tape wrapped, varnish bonded glass-fibre covered rectangular copper conductors; (b) Tape wrapped round copper wires with a temperature index 220.

Draft approved for wide circulation — Specification for enamelled round winding wires: Part 12 Self-bonding wires, heat or self-bonding enamelled round copper wire with temperature index 155.

New subjects — Mica paper tape wrapped conductors, rectangular and square.

ETDC 63 SOLID ELECTRICAL INSULATING MATERIALS New Delhi 1985-06-19

Chairman Shri A. S. Lakshmanan
Senapath Whiteley Ltd
Bangalore

Drafts finalized for publication — Electrotechnical vocabulary: Part... Solid insulating materials. Specifications for: (a) Plastic films for electrical purposes: Part 1 Definitions and general requirements, (b) Thermal evaluation and classification of electrical insulation (*first revision of IS : 1271*), and (c) Varnish fabrics for electrical purposes : Part 1

Definitions and general requirements.

Drafts approved for wide circulation — Methods of test for: (a) Coefficients of friction of plastic film and sheeting for use as electrical insulating, and (b) Electrical resistance and resistivity of insulating materials at elevated temperatures. Methods of test for the determination of the flammability of solid electrical insulating materials when exposed to igniting source: (a) Part 1 Horizontal specimen method, and (b) Part 2 Vertical specimen method. Plastic films for electrical purposes: Part 2 Methods of test. Specifications for insulating varnishes containing solvents: Part 3 Individual materials: (a) Section 8 Baking varnishes with temperature index 200, and (2) Section 9 Baking varnishes with temperature index 130 for magnetic core sheet. Specifications for: (a) Plastic films for electrical purposes: Part 3 Individual materials, Section 1 Polypropylene film for capacitor; (b) Pressure sensitive adhesive insulating tapes for electrical purposes: Part 3 Requirements for individual materials, Section 1 Plasticized polyvinyl chloride, tapes with non-thermosetting adhesive [*first revision of IS : 7809 (Part 3/ Sec 1)*]; and (c) Non-impregnated densified laminated wood for electrical purposes: Part 1 Definitions and general requirements.

MARINE, CARGO MOVEMENT AND PACKAGING DEPARTMENT

MCPD 2 INLAND AND HARBOUR CRAFT Calcutta 1985-06-11/12

Chairman Shri T. C. Dutta
Chairman
Calcutta Port Trust
Calcutta

Drafts finalized for publication — Covers for deck opening for pumps. General requirements of power operated windlasses and anchor capstans for inland vessels. Specifications for: (a) Instant coupling for oil and fuel reception, and (b) Swing derricks.

Drafts approved for wide circulation — Classification of dredgers. Glossary of terms and definitions for dredgers. Specifications for coupling for disposal of sewage water for inland vessels: (a) Part 1 Flange couplings, (b) Part 2 Quick release couplings, (c) Part 3 Adapters (flange end piece), and (d) Part 4 Adapters (flange bush). Specification for steel launches: Part 1 Passenger launches. Requirements for stability for inland and harbour vessels.

MCPD 13 GLASS CONTAINERS Calcutta 1985-06-10

Chairman Shri C. K. Somany
Director
Hindustan National Glass & Industries Ltd
Calcutta

Draft finalized for publication — Specification for glass honey jars.

Drafts approved for wide circulation — Aerated water, glass bottles, crown cork type (*second revision of IS : 1107*). Glass containers for preserved fruits industry and domestic fruits preserves: Part 1 Glass bottles for free flowing liquids (*second revision of IS : 1494*). Glass jars for packaging of pickles. Methods of thermal shock tests for glass containers.



Standards reviewed and reaffirmed— 'IS : 1662-1974 Glass liquor bottles (second revision)', and 'IS : 6945-1973 Code of practice for packaging glass and glassware'.

MECHANICAL ENGINEERING DEPARTMENT

EDC 62 COMPRESSORS New Delhi
1985-06-05

Chairman Brig B. R. Gulati
Director
Directorate of Production and
Inspection Engineering Equipment
New Delhi

Drafts finalized for publication— Code of practice for: (a) Compressors safety, and (b) Testing of positive displacement type air compressors and exhausters (first revision of IS : 5456). Measurement of airborne noise emitted by compressor units intended for outdoor use. Specification for mobile air compressors for construction purposes (first revision of IS : 6430). Technical supply conditions for: (a) Dynamic compressors, and (b) Reciprocating air compressor for power up to 25 kW for General purpose and industrial applications. Techniques of pulsation for suppression for reciprocating compressors.

Drafts approved for wide circulation— Code for selection and testing of rotary screw compressor. Lube control and seal oil system for dynamic compressors. Rated pressures of air compressors (first revision of IS : 9242). Specification for compressed air dryers.

Standard reviewed and reaffirmed— 'IS : 7938-1976 Specification for receivers for compressed air installation'.

EDC 63 LUBRICATING EQUIPMENT Calcutta
1985-06-28

Chairman Shri A. K. Dubey
(for the Alloy Steel Plant
meeting) Durgapur

Drafts finalized for publication— Specifications for: (a) Liquid flow indicators, and (b) Regulating type sight feed valves.

Draft approved for wide circulation— Code for lubrication symbols.

Standards reviewed and reaffirmed— 'IS : 4561 (Part 5)-1968 Oil Cans: Part 5 Lever type oil cans', 'IS : 8417-1977 Glossary of lubrication terms', and 'IS : 8593 (Part 1)-1977 Recommendations for centralized lubrication as applied to plant and machinery: Part 1 Oil lubrication'.

EDC 80 PLAIN BEARINGS Pune
1985-06-06

Chairman Shri J. S. Mudhar
Hindustan Machine Tools Ltd
Pinjore

Drafts finalized for publication— Specifications for: (a) Thick-walled bushes plain and flange type full round without any joint or slit type, (b) Thick-walled half bearing.

Draft approved for wide circulation— Thrust washers for thin-walled half bearings and wrapped bushes (first revision of IS : 9764)

New subjects— Self-lubricated composite bearings, and journal bearings for the use in steel plant equipments.

TEXTILE DEPARTMENT

TDC 10 SILK, MAN-MADE FIBRES AND PRODUCTS Bombay
1985-06-26

Chairman Shri D. N. Shroff
President
The Silk & Art Silk Mills'
Research Association
Bombay

Drafts approved for wide circulation— Performance specifications for: (a) Men's and boys' woven shirting made of synthetic fibres (superseeding, IS : 2225-1962 and IS : 2273-1963), and (b) Woven nylon fabric for umbrellas, water-proofed.

TDC 50 COIR AND COIR PRODUCTS Cochin
1985-06-05/06

Chairman Shri Revi Karuna Karan
The Travancore Coirs Mats and
Matting Manufacturers'
Association
Alleppey

Drafts finalized for publication— Specifications for: (a) Corridor mats (first revision of IS : 2958), (b) Door mats, creel, bit and fire (third revision of IS : 1858), (c) Door mats-rod (third revision of IS : 1693), (d) Gymnasia mats (first revision of IS : 2956), (e) Loop mats (first revision of IS : 4797), (f) Mesh mats, (g) Retted coir fibre (second revision of IS : 898), (h) Rope mats (lover's knot mats), and (j) Sinnet mats (first revision of IS : 2957).

Drafts approved for wide circulation— Specifications for mechanically extracted coir fibre: (a) Part 1 Bristle coir fibre [first revision of IS : 9308 (Part 1)], (b) Part 2 Mattress coir fibre [first revision of IS : 9308 (Part 2)], and (c) Part 3 Decorticated coir fibre [first revision of IS : 9308 (Part 3)]. Specification for rubberized coir sheets for cushioning.

New subjects— Anjengo yarn, baypore yarn, hand extracted coir fibre from soaked green husks, mangadank yarn, parur yarn, quilandy yarn, and un-retted mechanically extracted coir fibre from green husks.

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	ARTICLE/PROCESS COVERED BY THE LICENCE AND NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1425441 1985-05-28	Jaguar Industries, 30 Main Chowk, Samaipur Badli, Delhi 110042	Cast copper alloy fancy bib taps, stop valves and angle stop valves; 15 mm size — IS : 8931-1978
CM/L-1425542 1985-05-28	do	Cast copper alloy pillar taps for water services, 15 mm size — IS : 8934-1978
CM/L-1425643 1985-06-03	Prashanth Cylinders Private Limited, No. 35B, Veerasandra Industrial Area, Post Hebbagoudi, 19th km, Hosur Road, Taluk Anekal 562107, Dist Bangalore	Reconditioning of old LPG cylinders — IS : 3196-1982
CM/L-1425744 1985-06-03	Swastik Sanitary Wares Ltd, 16 GIDC Industrial Estate, Kadi, Dist Mehsana (Gujarat)	Vitreous sanitary appliances (vitreous china), long pattern squatting pan 590 mm and wash basin of size 450 × 300 mm and 550 × 440 mm — IS : 2556 (Parts 3 and 4)-1981
CM/L-1425845 1985-06-03	Shri Ram & Sons, 7531/1 Tel Mill Marg, Ram Nagar, New Delhi 110055	Propeller type, ac, single-phase ventilating capacity type fans; 300 and 450 mm sizes having class E insulation without speed regulator — IS : 2312-1967
CM/L-1425946 1985-06-03	Ideal Engineers Hyderabad Private Ltd, B-14 Co-operative Industrial Estate, P. O. Balanagar, Hyderabad 500037	LPG cylinder of 2.4 and 4.0 litre water capacity — IS : 7142-1974
CM/L-1426039 1985-06-03	Jay Nit Engineering Co, G-10-D, Laxmi Woollen Mill Compound, Shakti Mill Lane, Off Dr E. Mosses Road, Mahalaxmi, Bombay 400011	Portable chemical fire extinguisher, foam type — IS : 933-1976
CM/L-1426140 1985-06-04	do	Soda acid type fire extinguisher — IS : 934-1976
CM/L-1426241 1985-06-03	do	Carbon dioxide type fire extinguisher, 2 kg capacity — IS : 2878-1976
CM/L-1426342 1985-06-03	Vidarbha Gas Vessels Pvt Ltd, 7-43 MIDC, Higna Road, Nagpur 440016 (Office: 306 Jaikalpana Building, Ramdas Peth, Nagpur 440070)	Reconditioning of old LPG cylinders — IS : 319-1982
CM/L-1426443 1985-06-03	Jay Bharat Industries, Dhebarbhai Road, Rajkot 360002	Single cylinder, water cooled, four stroke diesel engines — IS : 10001-1981
CM/L-1426544 1985-06-04	Ajit Engineering Works, 17 Bhaktinagar Station Plot, Rajkot 360002	Single cylinder, water cooled, four stroke diesel engines (with overload) — IS : 10001-1981
CM/L-1426645 1985-06-04	Regal Engineering Enterprises, 39 P.T.C. Industrial Estate, Lohanagar, Rajkot 360002	Single cylinder, water cooled, four stroke diesel engines (with overload) — IS : 10001-1981
CM/L-1426746 1985-06-04	Pradhan Laminators Limited, F-56, 58 Panki Industrial Area, Site II, Kanpur 208022(UP)	Laminated jute bags for packing fertilizers, manufactured from 380 g/m ² ; 68 × 39 tarpaulin fabric — IS : 7406 (Part 2)-1980
CM/L-1426847 1985-06-04	Shaw Wallace & Co Ltd, Rural Industrial Estate, Chaudagra, Bindki Road, Dist Fatehpur (UP) (Office: Clinic Building, 24/56 Birhana Road, Kanpur 208001)	Household laundry detergent bars, Grades 1 and 2 — IS : 8180-1982
CM/L-1426948 1985-06-04	Pest Control India Pvt Ltd, A/6-10-11 MIDC Area, Mira 401104, Dist Thane (Office: Yusuf Building, M. G. Road, P. B. No. 1510, Bombay 400023)	DDVP, EC — IS : 5277-1978
CM/L-1427041 1985-06-04	Deccan Enterprises (P) Limited, B-58, 59 & 60 Assisted Private Industrial Estate, Balanagar, Hyderabad 500037 (Office: 5-2-175/1, Rashtrapati Road, Secunderabad 500003)	Rubber sealing rings for gas mains, water mains and sewers, Types 1A, 1B and 1C — IS : 5382-1969
CM/L-1427142 1985-06-03	Goldmedal Knitting Mills, 59 Kamaraj Road, Tirupur 638604	Plain knitted cotton vests — IS : 4964-1980
CM/L-1427243 1985-06-04	Southern Insecticides & Fertilizers, 1A/2 Industrial Estate, Ambattur, Madras 600098 (Office: Sofin House, P. B. No. 490, 3rd floor, Parsn-Commercial Complex, Gemini Studio Campus, Madras 600006)	Methyl parathion, DP 2% — IS : 8960-1978
CM/L-1427344 1985-06-04	Pandit Hosiery Mills E, K.C.P. Building, P. N. Road, Tirupur 638602	Plain knitted cotton vests — IS : 4964-1980
CM/L-1427445 1985-06-04	Star Knitting Company 1/203/4, Palaniappa Gounder Street, Sengunthapuram, P.O. Karur 639002	Plain knitted cotton vests — IS : 4964-1980
CM/L-1427546 1985-06-04	IDL Chemicals Ltd, Kukatpally, Sanathanagar (IE), P. B. No. 1, Hyderabad 500018	Intrinsically safe megger — IS : 5780-1980
CM/L-1427647 1985-06-04	Alokudyog Vanaspati & Plywood Limited, P.O. Kalipur, Budge-Budge, Dist 24 Parganas (WB)	Single shutter, block board, flush door shutters, decorative and non-decorative type — IS : 2202 (Part 1)-1963

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CM/L-1427748 1985-06-04	Shri Wire Rope Mfg Co, Hanuman Silk Mills Compound, Near Hanuman Theatre, Opp. Kanjumar Railway Station, Bombay 400078	Round strand galvanized steel wire ropes, round type, tensile designation 1570 N/mm ² with fibre core and sizes up to 28 mm dia — IS : 2581-1977
CM/L-1427849 1985-06-08	Isomeric International, Kalayani Industrial Estate, Plot No. 12, P. O. Kalyani, Dist Nadia (WB) (Office: Chittrakoot, Flat No. 2, 8th Floor, 230A, Acharya Jagdish Chandra Bose Road, Calcutta 700020)	Reconditioning of old LPG cylinders — IS : 3196-1982
CM/L-1427950 1985-06-13	Urja Cables & Metals (P) Limited, 63 & 66, Sector A, Industrial Area, Mandideep, Dist Raisen (MP)	PVC insulated (heavy duty) armoured electric cables with aluminium conductors for working voltages up to and including 1100 volts excluding cables for use under 10 W temperature conditions — IS : 1554 (Part 1)-1976 Endosulfan, EC 35 percent — IS : 4323-1980
CM/L-1428043 1985-06-13	Tamilnadu Agro Industries Corporation Ltd, 18,112 Sidco Estate (NP), Ambattur, Madras 600098	
CM/L-1428144 1985-06-13	B. S. Y. Engg Works (Regd), G. T. Road, Phagwara 144401	Cast iron manhole covers and frame heavy duty (HD), circular type — IS : 1726 (Part 2)-1974
CM/L-1428245 1985-06-13	Amartara Industries Saki Vihar Road, Powai, Bombay 400072	Adhesive insulating tapes with PVC substrate for electrical purposes — IS : 2448 (Part 2)-1968
CM/L-1428346 1985-06-13	Electra Industries, 108-A, Parvati Industrial Estate, Sun Mill Compound, Lower Parel (West), Bombay 400013	Ceiling roses — IS : 371-1979
CM/L-1428447 1985-06-13	Precision Plastic Industries, 18/D Nand Jyot Industrial Estate, Andherj-Kurla Road, Bombay 400072	Rigid non-metallic conduits for electrical installations — IS : 2509-1973
CM/L-1428548 1985-06-13	Standard Drum & Barrel Mfg Co, Corridor Road, Village Govanpada, Chembur, Bombay 400074	Bitumen drums — IS : 3575-1977
CM/L-1428649 1985-06-13	Bharat Engineering Works, 15 Nav Nandanvan Industrial Estate, L. B. S. Marg, Muland (West), Bombay 400080	Carbon dioxide type fire extinguisher — IS : 2878-1976
CM/L-1428750 1985-06-15	Dinesh Enterprises, New Shed No. 1, Industrial Area, Richhai, Jabalpur (MP)	PVC insulated and sheathed cables with aluminium conductors for working voltages up to and including 1100 volts and also cables suitable for use under low temperature conditions and outdoor — IS : 694-1977
CM/L-1428851 1985-06-22	Surana Fabricators (India), 2 Kalani Nagar, Aerodrome Road, Indore 452002 (Office: 11/2 Ranipura, Indore 452007)	General and safety requirements for power threshers spike tooth type of feeding system chute — IS : 9020-1979
CM/L-1428952 1985-06-22	Padgilwar Industries, 201 Small Factory Area, Wardhman Nagar, Nagpur 440008	General and safety requirements for power threshers — IS : 9020-1979
CM/L-1429045 1985-06-22	Scientific Insecticides Company, 136/2A & B, Pudukkattai Road, Village Gundur, Tiruchchirappalli 620007	BHC 10 percent DP gamma isomer, 1.3 percent — IS : 561-1978
CM/L-1429146 1985-06-22	Venus & Company, 9 North Matha Church Street, Royapuram, Madras 600013 (Office: 15 Madurai Vasal Street, Sevenwalls, Madras 600001)	Coaltar food colour preparations and mixtures, solid form — IS : 5346-1975
CM/L-1429247 1985-06-22	Jhansi Concrete Products, Plot No. A-23, UPSIDC Industrial Area, Bijoli, Jhansi	Reinforced cement concrete pipes — IS : 458-1971
CM/L-1429348 1985-06-22	Verma Sons, 109/290 Rama Krishna Nagar, Vivekanand Park, Kanpur 208012	Refills for portable fire extinguisher — IS : 5490 (Part 2)-1979
CM/L-1429449 1985-06-22	Capital Castings, Village Crillpatti, P.O. Crowana, Dist Bhatinda (Office: Capital Sales Corporation, Arya Samaj Chowk, Bhatinda)	Sand cast iron pipes — IS : 1729-1979
CM/L-1429550 1985-06-22	DPF Electricals, 12 Puliakulam Road, Coimbatore 641037	Three-phase squirrel cage induction motor for centrifugal pumps for agricultural application up to and including 3.7 kW rating with class A insulation — IS : 7538-1975
CM/L-1429651 1985-06-22	DPF Engineering Products Pvt Ltd, 3/1 Pappanaicken, Palayam, Coimbatore 641037	Three-phase squirrel cage induction motor for centrifugal pumps for agricultural applications up to and including 3.7 kW rating with class A insulation — IS : 7538-1975
CM/L-1429752 1985-06-22	Concord Arai Pvt Ltd, Latice Bridge, Mahabalipuram Road, Village Mettukuppan, Madras 600096	Non-metal helmet for firemen and civil defence personnel — IS : 2745-1983
CM/L-1429853 1985-06-22	B. S. Y. Engg, Works (Regd), G. T. Road, Phagwara 144401	Cast iron manhole covers and frames, light duty (LD), square type, double seal — IS : 1726 (Part 7/Sec 2)-1974

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CM/L-1429954 1985-06-22	S. M. Karajgar Engg Works, 1243/2 Shivaji Udyamnagar, Kolhapur 416001 (Office: 1243/36-A Madhavrao Karajgar Road, Shivaji Udyamnagar, Kolhapur 416001)	Single cylinder, water cooled, four stroke, diesel engines — IS : 10001-1981
CM/L-1430030 1985-06-22	Bemco Industries, 8/33 Kirti Nagar Industrial Area, New Delhi 110015	Rigid non-metallic conduits for electrical installations — IS : 2509-1973
CM/L-1430131 1985-06-22	Aeropolis Industries, Plot No. A-7, Aurangabad Cooperative Industrial Estate, Station Road, Aurangabad (Maharashtra)	PVC insulated electric cables for working voltages up to and including 1100 volts — IS : 694-1977
CM/L-1430232 1985-06-22	Navamani Manufacturing Company, 32 Nava India Road, Peelamedu, Coimbatore 641004	Three-phase squirrel cage induction motor for centrifugal pumps for agricultural application — IS : 7538-1975
CM/L-1430333 1985-06-22	Atika Rubber Mills Pvt Ltd, Atika Udyognagar, B/d Sonic Industries, Dhebur Road, Rajkot (Gujarat)	Friction surface synthetic transmission rubber belting — IS : 1370-1976
CM/L-1430434 1985-06-22	Urja Cables & Metals Pvt Ltd, 63 & 66, Sector A, Industrial Area, Mandideep, Dist Raisen (MP)	PVC insulated and sheathed cables with aluminium or copper conductors for working voltages up to and including 1100 volts and also cables suitable for outdoor use and low temperature conditions — IS : 694-1977
CM/L-1430535 1985-06-22	Nagpur Fabriforge Pvt Ltd, L-2 MIDC, Hinga Road, Nagpur 440016 (Office: Sadullah House, Chhaoni, Nagpur 440013)	Reconditioning of old LPG cylinders — IS : 3196-1982
CM/L-1430636 1985-06-22	Coromandal Indag Products (India) (P) Ltd, 28 Illuppathoppu, Ist Street, Kaladipet, Madras 600019 (Office: 62 Spurtank Road, Chetput, Madras 600031)	Phenthoate, 50 percent EC — IS : 8291-1976
CM/L-1430737 1985-06-22	Saraswati Enterprises, 10-A, New Industrial Area, Rawa Bhata, Raipur 493221 (Office: 3 Shailendra Nagar, Raipur 492001)	Unplasticized PVC pipes for potable water supplies — IS : 4985-1981
CM/L-1430838 1985-06-24	Switchgears (India) (C), A-104/2, Wazirpur Industrial Area, Delhi 110052	Switches for domestic and similar purposes — IS : 3854-1966
CM/L-1430939 1985-06-22	Gahalaut & Chaudhary Steel Pvt Ltd, M-3, Phase IV, Adityapur Industrial Area, Gamharia, Jamshedpur 831001 (Office: Contractors Area, Jamshedpur 831001)	Structural steel (standard quality) — IS : 226-1975

ADDITIONAL VARIETIES OF PRODUCTS INCLUDED IN THE EXISTING LICENCES

Sl. No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-0214423	B. R. Marman and Mohatta (P) Ltd, Ludhiana	IS : 1729-1979	New variety of 50 mm nominal size, C I soil pipe included in the licence with effect from 1985-05-25
2	CM/L-0917154	Flymer Havell's Pvt Ltd, Delhi	IS : 2208-1962	New variety of HRC cartridge fuse links, 630 A, 415 V, with duty category 3, ac, included in the licence with effect from 1985-05-16
3	CM/L-1210622	Faridabad Auto Industries Pvt Ltd, Faridabad	IS : 4760-1979	New variety of domestic cooking ranges including grillers for use with liquefied petroleum gases, top surface ranges, CRC sheet body having burner ratings total gas consumption — 1 187 g/h, two small boiling burners 1474 kcal/h (each) two big burners — 2 064 kcal/h (each), grill burner — 2 251 kcal/h and oven burner — 3 618 kcal/h included in the licence with effect from 1985-06-08

SL No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
4	CM/L-1232430	Durable Appliances Pvt Ltd, Faridabad	IS : 4246-1984	New variety of domestic gas stoves for use with liquefied petroleum gases, double and single burner stainless steel sheet body, nickel/chrome plated and painted CRC sheet body in conventional design, double burner, total gas consumption 265 g/h, big burner rating 1 688 kcal/h, small burner rating 1 206 kcal/h, single burner total gas consumption 155 g/h, and burner rating 1688 kcal/h included in the licence with effect from 1985-06-05.
5	CM/L-1324536	Pankaj Engineering Works, Faridabad	IS : 4246-1984	New variety of domestic gas stoves for use with liquefied petroleum gases, single burner stainless steel sheet and nickel/chromium plated CRC sheet body, gas consumption 185 g/h, burner rating 2 010 kcal/h included in the licence with effect from 1985-05-25
6	CM/L-1354646	Moon Light Engineering Pvt Ltd, Faridabad	IS : 4246-1984	New variety of domestic gas stoves for use with liquefied petroleum gases, double burner, stainless steel sheet body, total gas consumption 271 g/h, ratings big burner 1 742 kcal/h and small burner 1 206 kcal/h included in the licence with effect from 1985-05-25
7	CM/L-1409342	Padmini Industries, Delhi	IS : 4246-1984	New variety of domestic gas stoves for use with liquefied petroleum gases double burner, stainless steel sheet body and cast iron burners total gas consumption 332 g/h, rating of big burner 2064 kcal/h and small burner 1554 kcal/h included in the licence with effect from 1985-06-08

LICENCE CANCELLED

SL No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-0208024	IMCC Pvt Ltd, Bombay	IS : 562-1978	Cancelled with effect from 1985-02-01 as the firm is not interested in holding the licence
2	CM/L-0208226	do	IS : 565-1975	do
3	CM/L-0208327	do	IS : 632-1978	do
4	CM/L-0287551	do	IS : 2861-1964	do
5	CM/L-0370639	Bangalore Wire Rod Mill, Bangalore	IS : 226-1975	do
6	CM/L-0441232	IMCC Pvt Ltd, Bombay	IS : 2682-1966	do
7	CM/L-0494657	Finolex Pipes Pvt Ltd, Bombay	IS : 4985-1981	Cancelled with effect from 1985-03-01 as the firm is not interested in holding the licence
8	CM/L-0584254	Industrial Minerals & Chemicals Co, Bombay	IS : 562-1978	Cancelled with effect from 1985-02-01 as the firm is not interested in holding the licence
9	CM/L-0584355	do	IS : 565-1975	do
10	CM/L-0584961	IMCC Pvt Ltd, Bombay	IS : 2682-1966	do
11	CM/L-0697570	Dhingra Paints (India), Faridabad	IS : 2339-1963	Cancelled with effect from 1984-11-30 as the firm is not interested in holding the licence

Sl. No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
12	CM/L-0713744	Sunray Chemical Industries, Agra	IS : 633-1975	Cancelled with effect from 1985-04-30 as the firm is not interested in holding the licence
13	CM/L-1043225	Swastik Pesticides & Chemicals, Muzaffarnagar	IS : 1307-1982	Cancelled with effect from 1985-02-15 as the firm is not interested in holding the licence
14	CM/L-1243132	Saab Knitters, Ludhiana	IS : 4582-1968	Cancelled with effect from 1984-02-27 as the firm is not interested in holding the licence

LICENCES LAPSED

Sl. No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-0034825	Malav Vanaspati & Chemical Co Ltd, Indore	IS : 916-1975	Renewal was deferred after 1984-09-30; the licence now stands lapsed after that date
2	CM/L-0125323	Mukund Iron & Steel Works Ltd, Kalwe	IS : 1977-1975	Renewal was deferred after 1984-05-31; the licence now stands lapsed after that date
3	CM/L-0198754	Industrial Mineral & Chemical Co Pvt Ltd, Bombay	IS : 1308-1974	Renewal was deferred after 1984-10-31; the licence now stands lapsed after that date
4	CM/L-0208428	do	IS : 1307-1973	do
5	CM/L-0225438	Ruby Industries, Kanpur	IS : 1989 (Part 1)-1978	do
6	CM/L-0277144	Industrial Mineral & Chemical Co Pvt Ltd, Bombay	IS : 3905-1966	do
7	CM/L-0284545	Bharat Carpets Ltd, Faridabad	IS : 5884-1970	Renewal was deferred after 1984-06-30; the licence now stands lapsed after that date
8	CM/L-0304525	British India Rollings Mills, Howrah	IS : 1977-1975	Renewal was deferred after 1984-04-30; the licence now stands lapsed after that date
9	CM/L-0362337	Bhoruka Steel Limited, Bangalore	IS : 6915-1978	Lapsed after 1984-12-31
10	CM/L-0368955	Shri Ishar Alloy Steels (P) Ltd, Indore	IS : 6914-1973	Lapsed after 1985-01-31
11	CM/L-0369048	do	IS : 6915-1978	do
12	CM/L-0383345	Rallis India Limited, Howrah	IS : 632-1978	Renewal was deferred after 1985-01-31; the licence now stands lapsed after that date
13	CM/L-0386250	Venkateswara Pesticides & Allied Chemicals (P) Ltd, Mahabubnagar	IS : 561-1978	Renewal was deferred after 1984-05-31; the licence now stands lapsed after that date
14	CM/L-0388355	Crop Health Products Pvt Ltd, Ghaziabad	IS : 2567-1978	Lapsed after 1985-05-15
15	CM/L-0402727	Mukund Iron & Steel Works Limited, Kalwe	IS : 6914-1978	Renewal was deferred after 1984-05-31; the licence now stands lapsed after that date
16	CM/L-0441333	Industrial Mineral & Chemical Co Pvt Ltd, Bombay	IS : 6439-1978	Renewal was deferred after 1984-10-31; the licence now stands lapsed after that date
17	CM/L-0473851	American Spring & Pressing Ltd, Bombay	IS : 3897-1978	Renewal was deferred after 1983-12-31; the licence now stands lapsed after that date
18	CM/L-0474247	do	IS : 3634-1982	do
19	CM/L-0474348	do	IS : 1970 (Part 2) 1982	do
20	CM/L-0474449	do	IS : 2870-1977	do
21	CM/L-0498766	Taneja Saw Mills, Yamuna Nagar	IS : 10 (Part 3)-1974	Lapsed after 1985-01-31
22	CM/L-0502125	Bangalore Pesticides Ltd, Bangalore	IS : 2567-1978	Lapsed after 1985-05-31
23	CM/L-513837	Mukund Iron & Steel Works Ltd, Kalwe	IS : 8052-1976	Renewal was deferred after 1984-05-31; the licence now stands lapsed after that date

S. No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
24	CM/L-0539754	Bharat Pesticides Industries Pvt Ltd, Ahmadabad	IS : 633-1975	Renewal was deferred after 1985-03-15; the licence now stands lapsed after that date
25	CM/L-0547349	Ketecha Brothers, Jamnagar	IS : 916-1975	Renewal was deferred after 1984-09-15; the licence now stands lapsed after that date
26	CM/L-0582351	Sharda Industries & Engg Works (P) Ltd, Nagpur	IS : 1977-1975	Renewal was deferred after 1984-04-15; the licence now stands lapsed after that date
27	CM/L-0584658	Industrial Mineral & Chemical Co Pvt Ltd, Bombay	IS : 1307-1973	Renewal was deferred after 1984-10-31; the licence now stands lapsed after that date
28	CM/L-0585357	do	IS : 5281-1979	do
29	CM/L-0585458	IMCC Pvt Ltd, Bombay	IS : 6439-1978	Lapsed after 1984-10-31
30	CM/L-0591857	Eleccimet Enterprises, Jaipur	IS : 916-1975	Renewal was deferred after 1985-02-28; the licence now stands lapsed after that date
31	CM/L-0610330	Anjaneya Industries, South Kalamassery, Dist Ernakulam	IS : 398 (Part 1)-1976	Renewal was deferred after 1983-05-15; the licence now stands lapsed after that date
32	CM/L-0621840	Standards Engg Co, Pendesara	IS : 4246-1984	Renewal was deferred after 1979-06-30; the licence now stands lapsed after that date
33	CM/L-0664050	Auto Ignition (P) Ltd, Faridabad	IS : 2325-1963	Renewal was deferred after 1985-01-15; the licence now stands lapsed after that date
34	CM/L-0673253	Raipur Metal Products Pvt Ltd, Raipur	IS : 1660 (Parts 1 & 2)-1977	Renewal was deferred after 1984-01-31; the licence now stands lapsed after that date
35	CM/L-0698774	Consolidate Pneumatic Tools Company, Bombay	IS : 2148-1968	Lapsed after 1985-04-30
36	CM/L-0711538	Voltas Limited, Thane	IS : 2148-1968	Lapsed after 1985-04-15
37	CM/L-0722947	Aluminium Udyog, Raipur	IS : 737-1974	Renewal was deferred after 1984-09-30; the licence now stands lapsed after that date
38	CM/L-0759263	Jay Industries, Mandi Gobindgarh	IS : 226-1975	Renewal was deferred after 1984-06-15; the licence now stands lapsed after that date
39	CM/L-0768971	M. P. Udyog Ltd, Kanpur	IS : 1977-1975	Lapsed after 1985-04-15
40	CM/L-0803947	Metal Craft, Jammu Cantt	IS : 3906 (Part 1)-1982	Renewal was deferred after 1983-10-15; the licence now stands lapsed after that date
41	CM/L-0806852	Laxmi Industries, Kolhapur	IS : 325-1978	Renewal was deferred after 1984-10-31; the licence now stands lapsed after that date
42	CM/L-0819154	Steel Tubes of India Ltd, Dewas	IS : 1161-1968	Renewal was deferred after 1983-12-16; the licence now stands lapsed after that date
43	CM/L-0874364	Dibang Valley Timber Trade Pvt Ltd, Calcutta	IS : 10 (Part 2)-1976	Renewal was deferred after 1984-06-30; the licence now stands lapsed after that date
44	CM/L-0875770	Haryana Chemicals & Pesticides, Bahadurgarh	IS : 3903-1975	Renewal was deferred after 1984-08-31; the licence now stands lapsed after that date
45	CM/L-0890463	National Screw & Wire Products Ltd, West Bengal	IS : 398 (Part 2)-1976	Renewal was deferred after 1983-08-15; the licence now stands lapsed after that date
46	CM/L-0900137	Modern Chemicals, Shimoga	IS : 562-1978	Renewal was deferred after 1983-09-30; the licence now stands lapsed after that date
47	CM/L-0913752	American Spring & Pressing Ltd, Bombay	IS : 7593-1975	Renewal was deferred after 1983-12-31; the licence now stands lapsed after that date
48	CM/L-0917659	Bir Engg Works, Mandhar	IS : 909-1975	Renewal was deferred after 1983-12-15; the licence now stands lapsed after that date

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49	CM/L-0929262	Magna Hardtop Ltd, Dist Medak	IS : 2507-1975	Renewal was deferred after 1985-01-15; the licence now stands lapsed after that date
50	CM/L-0937968	Alcomp Industries, Virudhunagar	IS : 204 (Part 2)-1978	Renewal was deferred after 1984-02-15; the licence now stands lapsed after that date
51	CM/L-0939568	Toshiba Anand Batteries Ltd, Kalanassery	IS : 9128-1979	Renewal was deferred after 1984-02-16; the licence now stands lapsed after that date
52	CM/L-0945361	Bharat Pulverising Mills Pvt Ltd, Bombay	IS : 565-1975	Renewal was deferred after 1984-02-29; the licence now stands lapsed after that date
53	CM/L-0951154	Keen Pesticides Pvt Ltd, Ankleshwar	IS : 8960-1978	Renewal was deferred after 1985-03-15; the licence now stands lapsed after that date
54	CM/L-0967270	Govind Cable Industries, Delhi	IS : 694-1977	Lapsed after 1985-05-15
55	CM/L-0983167	Hind Steels, Belgaum	IS : 6750-1972	Renewal was deferred after 1984-07-31; the licence now stands lapsed after that date
56	CM/L-1001108	Sureka Steels Ltd, Calcutta	IS : 1786-1979	Renewal was deferred after 1984-10-16; the licence now stands lapsed after that date
57	CM/L-1001209	do	IS : 226-1975	do
58	CM/L-1005419	Doorvani Cables Pvt Ltd, Bangalore	IS : 2465-1969	Renewal was deferred after 1984-11-15; the licence now stands lapsed after that date
59	CM/L-1016626	Sathe Biscuits & Chocolate Co Pvt Ltd, Pune	IS : 6762-1979	Renewal was deferred after 1985-03-31; the licence now stands lapsed after that date
60	CM/L-1018630	Niki Wire Works, Ranchi	IS : 280-1978	Lapsed after 1983-12-15
61	CM/L-1037533	Oswal Electrical Conductors, Jaipur	IS : 398 (Part 2)-1976	Renewal was deferred after 1985-02-28; the licence now stands lapsed after that date
62	CM/L-1037634	do	IS : 398 (Part 1)-1976	do
63	CM/L-1038030	Mahasati Rolling Mills, Calcutta	IS : 1786-1979	Renewal was deferred after 1984-02-28; the licence now stands lapsed after that date
64	CM/L-1043629	Electrical Appliances, Bhagalpur	IS : 398 (Part 1)-1976	Renewal was deferred after 1983-03-15; the licence now stands lapsed after that date
65	CM/L-1048740	Topcon Condenser Company, Ludhiana	IS : 2834-1964	Renewal was deferred after 1984-03-15; the licence now stands lapsed after that date
66	CM/L-1050323	National Screw & Wire Products Ltd, West Bengal	IS : 398 (Part 1)-1976	Renewal was deferred after 1983-03-16; the licence now stands lapsed after that date
67	CM/L-1059644	Assam Bengal Vencer Industries Pvt Ltd, Calcutta	IS : 10 (Part 3)-1974	Renewal was deferred after 1984-03-31; the licence now stands lapsed after that date
68	CM/L-1068443	Punjab Agricultural Machinery Works, Moga	IS : 9020-1979	Renewal was deferred after 1984-04-15; the licence now stands lapsed after that date
69	CM/L-1071331	Northern Minerals Pvt Ltd, Gurgaon	IS : 2568-1978	Renewal was deferred after 1984-05-31; the licence now stands lapsed after that date
70	CM/L-1076947	Larsvin Engineers (P) Ltd, Hyderabad	IS : 3196-1982	Renewal was deferred after 1984-05-15; the licence now stands lapsed after that date
71	CM/L-1087043	Non-Moller Industrial Corporation, Madras	IS : 4246-1984	Renewal was deferred after 1984-06-15; the licence now stands lapsed after that date
72	CM/L-1091943	Anjaneya Industries, South Kalamassery, Dist Ernakulam	IS : 398 (Part 2)-1976	Renewal was deferred after 1983-06-30; the licence now stands lapsed after that date

Sl. No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
73	CM/L-1096246	Premier Tools & Accessories, Ratlam	IS : 778-1971	Renewal was deferred after 1983-07-15; the licence now stands lapsed after that date
74	CM/L-1105423	Jindal Pipes Ltd, Ghaziabad	IS : 4985-1981	Renewal was deferred after 1984-07-31; the licence now stands lapsed after that date
75	CM/L-1126734	Shri Shankar Industries, Bhopal	IS : 9020-1979	Renewal was deferred after 1983-10-15; the licence now stands lapsed after that date
76	CM/L-1127837	Deora Pu Cabncon Mfg Co Ltd, Indore	IS : 398 (Part 2)-1976	Lapsed after 1984-11-15
77	CM/L-1130927	Tungabhadra Steel Products Ltd, Tungabhadra Dam	IS : 1726 (Part 4)-1974	Renewal was deferred after 1984-11-15; the licence now stands lapsed after that date
78	CM/L-1145637	Electro Link Industries, Rewa (MP)	IS : 398 (Part 1)-1976	Renewal was deferred after 1983-12-31; the licence now stands lapsed after that date
79	CM/L-1149342	Friends Own Foundry & Workshop, Ludhiana	IS : 9020-1979	Renewal was deferred after 1984-01-15; the licence now stands lapsed after that date
80	CM/L-1156036	Surendra Industrial Corporation, Delhi	IS : 35-1975	Renewal was deferred after 1985-01-31; the licence now stands lapsed after that date
81	CM/L-1161737	Shashi Steels Private Ltd, Calcutta	IS : 226-1975	Renewal was deferred after 1984-02-28; the licence now stands lapsed after that date
82	CM/L-1162637	National Rolling & Steel Ropes Ltd, 24 Parganas	IS : 279-1981	Renewal was deferred after 1985-02-28; the licence now stands lapsed after that date
83	CM/L-1164641	Western Electronics, Jodhpur	IS : 4031-1968	Renewal was deferred after 1984-02-28; the licence now stands lapsed after that date
84	CM/L-1165138	do	IS : 516-1978	do
85	CM/L-1201924	Kamalam Pesticides, Kulipirai	IS : 516-1978	Renewal was deferred after 1984-06-30; the licence now stands lapsed after that date
86	CM/L-1227134	Bilva Pressure Vessels (P) Ltd, Hyderabad	IS : 3196-1982	Renewal was deferred after 1984-08-15; the licence now stands lapsed after that date
87	CM/L-1228540	Gautam Rolling Mills, Hyderabad	IS : 226-1975	Renewal was deferred after 1984-08-31; the licence now stands lapsed after that date
88	CM/L-1243233	Romer & Co (India), Lucknow	IS : 1333-1978	Renewal was deferred after 1984-10-31; the licence now stands lapsed after that date
89	CM/L-1246138	Electrical Switchgears (P) Ltd, Jalandhar	IS : 4246-1984	do
90	CM/L-1269453	Bharat Pulverising Mills Pvt Ltd, Bombay	IS : 8498-1977	Renewal was deferred after 1985-01-31; the licence now stands lapsed after that date
91	CM/L-1277351	Choudhari Metal Industries (P) Ltd, Faridabad	IS : 2465-1969	Renewal was deferred after 1985-02-15; the licence now stands lapsed after that date
92	CM/L-1277553	Sterile Cables Ltd, Thane	IS : 398 (Part 2)-1976	Lapsed after 1985-02-28
93	CM/L-1277654	Eastern Steel & Alloy Co Ltd, Calcutta	IS : 6914-1978	Renewal was deferred after 1985-02-28; the licence now stands lapsed after that date
94	CM/L-1277755	do	IS : 6915-1978	do
95	CM/L-1278151	S. S. R. Glass Industries, Noida	IS : 1223 (Part 1)-1982	Renewal was deferred after 1985-02-15; the licence now stands lapsed after that date
96	CM/L-1279860	Parkash Re-rolling Mills, Patna	IS : 226-1975	Lapsed after 1985-02-28
97	CM/L-1280037	Crowley & Ray (Founders & Engineers) Pvt Ltd, Calcutta	IS : 1538 (Part 19)-1976	do
98	CM/L-1300118	LVR Feeds & Minerals Pvt Ltd, Madras	IS : 2052-1979	Lapsed after 1985-03-31

INDIAN STANDARDS

The standards listed have been classified departmentwise.

NEW AND REVISED INDIAN STANDARDS

AGRICULTURAL AND FOOD PRODUCTS DEPARTMENT

IS : 7233-1985 2, 4-D ethyl ester (first revision). Gr 3

IS : 11190-1985 Continuous centrifugal liners for B and C massecuites of sugar industry. Gr 1

IS : 11201-1985 Cane crushing rollers for sugar industry. Gr 2

CHEMICAL DEPARTMENT

IS : 3025 (Part 7)-1984 Methods of sampling and test (physical and chemical) for water and waste water: Part 7 Taste threshold (first revision). Gr 1

IS : 3025 (Part 8)-1984 Methods of sampling and test (physical and chemical) for water and waste water: Part 8 Taste rating (first revision). Gr 1

IS : 3025 (Part 9)-1984 Methods of sampling and test (physical and chemical) for water and waste water: Part 9 Temperature (first revision). Gr 1

IS : 3025 (Part 10)-1984 Methods of sampling and test (physical and chemical) for water and waste water: Part 10 Turbidity (first revision). Gr 1

IS : 3025 (Part 17)-1984 Methods of sampling and test (physical and chemical) for water and waste water: Part 17 Non-filterable residue (total suspended solids) (first revision). Gr 1

IS : 3025 (Part 18)-1984 Methods of sampling and test (physical and chemical) for water and waste water: Part 18 Volatile and fixed residue (total, filterable and non-filterable) (first revision). Gr 1

IS : 3025 (Part 19)-1984 Methods of sampling and test (physical and chemical) for water and waste water: Part 19 Settleable matter (first revision). Gr 1

IS : 3025 (Part 20)-1984 Methods of sampling and test (physical and chemical) for water and waste water:

Part 20 Dispersion characteristics (flow patterns) (first revision). Gr 1

CIVIL ENGINEERING DEPARTMENT

IS : 11106-1984 Carpenter's mallets. Gr 2



IS : 11134-1984 Code of practice for setting out of buildings. Gr 6

IS : 11150-1984 Code of practice for construction of concrete barrages. Gr 6

IS : 11155-1984 Code of practice for construction of spillways and similar overflow structures. Gr 7

CONSUMER PRODUCTS AND MEDICAL INSTRUMENTS DEPARTMENT

IS : 3876-1985 Knife, plaster, dental (first revision). Gr 2

IS : 4313-1985 Pliers, plate, dental (first revision). Gr 3

IS : 4315-1985 Pliers, bar bending, dental, Waldsach's type (first revision). Gr 2

IS : 5576-1985 Carriers, amalgam, dental, No. 1 and 2 (first revision). Gr 2

IS : 11164-1985 Dimensions of front lens barrels up to 100 mm important to the connections of auxiliaries, photographic. Gr 1

ELECTRONICS AND TELECOMMUNICATION DEPARTMENT

IS : 8271 (Part 4/Sec 4)-1984 Quartz crystal units used for frequency control and selection: Part 4 Series AB for oscillators, Section 4 Quartz crystal type AB-04. Gr 1

IS : 9638 (Part 2)-1984 Fixed polyester film dielectric capacitors for direct current: Part 2 Type FCPE 1. Gr 3

IS : 9638 (Part 4)-1984 Fixed polyester film dielectric capacitors for direct current: Part 4 Type FCPE 3. Gr 4

IS : 10825 (Part 3)-1984 Ceramic capacitors, type 1: Part 3 FCCT 2. Gr 5

IS : 11050 (Part 2)-1984 Rating of sound insulation in buildings and of building elements: Part 2 Impact sound insulation. Gr 4

ELECTROTECHNICAL DEPARTMENT

IS : 4685 (Part 2)-1984 Varnish bonded glass-fibre covered copper conductors: Part 2 Rectangular conductors (first revision). Gr 3

IS : 9921 (Part 4)-1985 Alternating current disconnectors (isolators) and earthing switches for voltages above 1 000 V: Part 4 Type tests and routine tests. Gr 8

IS : 10322 (Part 4)-1984 Luminares: Part 4 Methods of tests. Gr 9

IS : 10810 (Part 4)-1984 Methods of test for cables: Part 4 Persulphate test of conductor. Gr 2

IS : 10810 (Part 5)-1984 Methods of test for cables: Part 5 Conductor resistance test. Gr 2

IS : 10810 (Part 6)-1984 Methods of test for cables: Part 6 Thickness of thermoplastic and thermosetting insulations and sheath. Gr 2

IS : 10810 (Part 7)-1984 Methods of test for cables: Part 7 Tensile strength and elongation at break of thermoplastic and elastomeric insulation and

sheet, Gr 2

IS : 10810 (Part 8)-1984 Methods of test for cables: Part 8 Breaking strength and elongation at break for impregnated paper insulation. Gr 2

IS : 10810 (Part 9)-1984 Methods of test for cables: Part 9 Tear resistance for paper insulation. Gr 2

IS : 10810 (Part 10)-1984 Methods of test for cables: Part 10 Loss of mass test. Gr 2

IS : 10810 (Part 11)-1984 Methods of test for cables: Part 11 Thermal ageing in air. Gr 1

IS : 10810 (Part 12)-1984 Methods of test for cables: Part 12 Shrinkage test. Gr 1

IS : 10810 (Part 13)-1984 Methods of test for cables: Part 13 Ozone resistance test. Gr 2

IS : 10810 (Part 14)-1984 Methods of test for cables: Part 14 Heat shock test. Gr 1

IS : 10810 (Part 15)-1984 Methods of test for cables: Part 15 Hot deformation test. Gr 2

IS : 10810 (Part 18)-1984 Methods of test for cables: Part 18 Colour fastness to day light. Gr 2

IS : 10810 (Part 19)-1984 Methods of test for cables: Part 19 Bleeding and blooming test. Gr 1

IS : 10810 (Part 20)-1984 Methods of test for cables: Part 20 Cold bend test. Gr 1

IS : 10810 (Part 21)-1984 Methods of test for cables: Part 21 Cold impact test. Gr 1

IS : 10810 (Part 22)-1984 Methods of test for cables: Part 22 VICAT softening point. Gr 2

IS : 10810 (Part 23)-1984 Methods of test for cables: Part 23 Melt-flow index. Gr 2

IS : 10810 (Part 24)-1984 Methods of test for cables: Part 24 Water soluble impurities test of insulating paper. Gr 1

IS : 11184-1984 Enamelled and varnish bonded glass fibre covered round copper wires. Gr 3

MARINE, CARGO MOVEMENT AND PACKAGING DEPARTMENT

IS : 11165-1985 Aircraft seat rails and pins. Gr 1

IS : 11167-1985 General requirements of lower deck container [pallet loader of aircraft. Gr 4

MECHANICAL ENGINEERING DEPARTMENT

IS : 1133-1985 Bicycle bottom bracket fixed ball cup (pH type) (second revision). Gr 1

IS : 1134-1985 Bicycle bottom bracket lock ring (pH type) (second revision). Gr 2

IS : 3025 (Part 15)-1984 Methods of sampling and test (physical and chemical) for water and waste water: Part 15 Total residue (total solids — dissolved and suspended) (first revision). Gr 1

IS : 8198 (Part 2)-1984 Code of practice for steel cylinders for compressed gases: Part 2 Hydrogen gas (first revision). Gr 6

IS : 9975 (Part 4)-1984 'O'-rings: Part 4 Terminology and definition of terms. Gr 2

IS : 11122 (Part 2)-1984 Letterpress printing plates and equipment: Part 2 Flat metal duplicate plates. Gr 1

IS : 11133-1984 Recommendations for symbols for lubrications appearing on machine tools. Gr 5

IS : 11140-1984 Footrest assembly for mopeds. Gr 1

IS : 11170-1985 Performance requirements for constant speed compression ignition (diesel) engines for agricultural purposes (up to 20 kW). Gr 2

IS : 11172 (Part 2)-1985 Recommendations for tools shanks for numerically controlled machine tools (tool stationary type): Part 2 Prismatic shank. Gr 2

IS : 11175-1985 Dimensions of metal lithographic plates. Gr 1

IS : 11183-1984 Portable pneumatic rammers. Gr 2

IS : 11189-1985 Methods of tube-weld development. Gr 5

STRUCTURAL AND METALS DEPARTMENT

IS : 3578-1985 Dental gold alloy wire (first revision). Gr 3

IS : 4704-1985 Silver-tin dental amalgam alloy (first revision). Gr 2

IS : 5954-1985 Dental white gold alloys (first revision). Gr 2

IS : 7899-1984 Alloy steel castings suitable for pressure service (first revision). Gr 3

TEXTILE DEPARTMENT

IS : 3193-1984 Cotton yarn for reinforcement and braiding for electric cables (first revision). Gr 2

IS : 4900 (Parts 1 to 3)-1984 Jute carpet backing fabric (first revision). Gr 6

IS : 5996-1984 Cotton belting ducks (second revision). Gr 2

IS : 11192-1985 Methods for sampling of wool tops. Gr 2

IS : 11193-1984 Jute canvas postal bags. Gr 2

IS : 11194-1985 Jockey pulleys used in ring spinning and doubling frames. Gr 1

IS : 11197-1985 Monoaxially oriented polypropylene tapes. Gr 2

IS : 11198-1985 Polypropylene (PP) woven sacks for packing fertilizers. Gr 2

IS : 11199-1985 HDPE monofilament twine door nets. Gr 2

OBITUARY

Mr William T. Cavanaugh, President of the American Society for Testing and Materials (ASTM), died on 18 April 1985. He was only 63.

Mr Cavanaugh had been Chief Executive Officer of ASTM since 1970. In 1981, he was elected Chairman of

the National Institute of Building Sciences (NIBS) and continued to serve on its Board of Directors until his death. He was also a member of the Council of Engineering and Scientific Society Executives and the American Society of Association Executives.

Mr Cavanaugh was awarded Leo B. Moore Medal by the Standards Engineers Society in 1976 for making significant contributions in the field of standardization.

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BHANDARI BUILDERS PVT LTD, BHANDARI HOUSE, 91 NEHRU PLACE, NEW DELHI 110019—Leading civil engineering contractors, executing major works like dams, power houses, canals, industrial structures, bridges and structural steel fabrication.

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distribution control and process management, instrumentation and hydraulics.

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cess bright bars in MS, carbon, alloy steels and free cutting steels, equipped with chemical and metallurgical laboratory for ferrous and non-ferrous metals.

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ISSAC ENGINEERS, ISSAC HOUSE, P.O. KOOTHARAPALLY, KARUKACHAL, KOTTAYAM — Manufacturers of fil cool air conditioners, air filter, exhaust fan, extract fan, etc.

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MARINO CORPORATION OF INDIA, 30A ORPHANGANJ ROAD, KIDDERPORE, CALCUTTA 700023 — Manufacturers of lifting tackles, steel wire rope, sling and chain and chain slings, life saving appliances, etc.

SHRI HITEN J. SHAH, LECTURER, APPLIED MECHANICS DEPTT, FACULTY OF TECHNOLOGY AND ENGINEERING, M.S. UNIVERSITY OF BARODA, POST BOX NO. 51, KALABHAVAN, VADODARA 390001 — Lecturer and also consulting structural engineer, author of the book 'Reinforced Concrete' being published by Charotar Publishing House, Anand.

SOUTHERN ANALYTICAL LABORATORY, 142/6 DR MUTHULAKSHMI ROAD (OPP THIAGARAJA THEATRE), THIRUVANMIYUR, MADRAS 600041 — Undertake analysis of metals, alloys (ferrous and non-ferrous), ores and minerals, boiler water analysis, and testing of electroplating solutions (nickel, copper, cadmium, zinc, etc).

REGIONAL OFFICES

BOMBAY	400093 Manakalaya, E9 MIDC, Marol, Andheri (East) (Phone: 6 32 92 95)
CALCUTTA	700054 1/14 C. I. T. Scheme VII M, V. I. P. Road, Maniktola (Phone: 36 24 99)
CHANDIGARH	160036 SCO 445-446, Sector 35-C (Phones: 2 18 43 & 3 16 41)
MADRAS	600113 C. I. T. Campus (Phones: 41 24 42, 41 25 19 & 41 29 16)

BRANCH OFFICES

AHMADABAD	380001 Pushpak (3rd Floor), Nurmohamed Shaikh Marg, Khanpur (Phones: 2 63 48 & 2 63 49)
BANGALORE	560002 'P' Block, Unity Building, Narasimharaja Square (Phone: 22 48 05)
BHOPAL	462003 Gangotri Complex (5th Floor), Bhadbhada Road, T. T. Nagar (Phone: 6 67 16)
BHUBANESHWAR	751014 22E Kaipans Area (Phone: 5 36 27)
HYDERABAD	500001 5-8-56C L. N. Gupta Marg (Nampally Station Road) (Phone: 22 10 83)
JAIPUR	302005 R14 Yudhister Marg, C Scheme (Phones: 6 34 71 & 6 98 32)
KANPUR	208005 117/418 B Sarvodaya Nagar (Phones: 21 68 76 & 21 82 92)
PATNA	800013 Patliputra Industrial Estate (Phone: 6 23 05)
TRIVANDRUM	695001 Hantex Bldg (2nd Floor), Railway Station Road (Phone: 52 27)

**ISI
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OFFICES**

ISI BULLETIN

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INDIAN STANDARDS INSTITUTION

Founded 1947

PRESIDENT

K. P. SINGH DEO

Union Minister for Food and
Civil Supplies

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THE COVER — *Mehndi lagi mere haath*—goes the ditty. But the density of henna colour and hence its cosmetic value depends on the quality of the henna powder used. Two Indian Standards on the subject provide the necessary guidelines for ensuring the quality of henna (see also page 315).

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The One Best Way*

Essentially, a standard is a criterion of management, quality, performance or practice, established by custom, consent or authority, and used as a basis for comparison over a period of time...

Etymologically, 'standard' is derived from the Latin *extendere* (to stretch out). Perhaps it originally referred to a flag used as an emblem around which to rally, but it might also have referred to an authorized measure (length, weight, volume) possibly for taxes or coinage. Evidently it became identified with a model or ideal, or even a gauge. Consequently, it gave rise to the idea of 'control'—from the Old French *controller* (a copy of an account used for verification), from the Latin *contra* (opposite) and *rotulus* (roll)—a means of comparison or verification. Hence, cost control became a comparison between actual *versus* standard (budgeted) costs. Quality control implies a comparison between the manufactured product and the standard set by the specifications. Sales control becomes a comparison between actual sales and quotas...

In fact, management is identified with its ability to govern, direct, regulate or simply control or adhere to a standard.

It is doubtful if the field of standards could find a better or more fitting description of its basic concept and activity than the description the Gilbreths (Frank and Lillian) used to identify their unending search: The Quest for the One Best Way. This not only implies an ideal concept and continuing procedure, which even today are understood as the bases of standards, but a philosophy of never-ending search, a necessary re-examination and repeated restatement for the best.

Clearly, no standard is a *fait accompli* but a dynamic concept that changes with times and conditions. And who is to say that this phrase, 'The Quest for the One Best Way', may be the one great contribution to productivity and quality by using voluntary codes and standards.

*Excerpted from the keynote address 'Standard—Grassroots of Quality & Productivity' by Mr William J. Woolacott at the 34th Annual Conference of the Standards Engineering Society (SES) as published in *Standards Engineering* (Vol 37, No. 5).



OUR NEW PRESIDENT

■ We extend a hearty welcome to Shri K. P. Singh Deo, who took over as President of ISI consequent upon his appointment as Union Minister of State for Food and Civil Supplies on 25 September 1985. Earlier, he had been Union Minister of State for Defence and for the Departments of Personnel and Administrative Reforms and Culture. He was Chief Coordinator of the 7th Meeting of the Non-Aligned Movement (NAM) and Chairman of the Special Coordination Committee for the 9th Commonwealth Heads of Government Meet (CHOGM) held in New Delhi.

A well-known sports enthusiast, Shri Singh Deo was Chief de Mission of the Indian Team for Los Angeles Olympics (1984) and Chairman of the Reception Committee for 86th International Olympic Committee Session held in New Delhi. Besides, he was Deputy Chairman of the Special Organizing Committee of the IX Asian Games held in India in 1982. He has also been President of the Indian Rowing Federation as well that of the Asian Rowing Federation.

Shri Singh Deo has been President of Delhi Branch of the Wild Life Preservation Society of India and a Member of the International Union for Conservation of Nature and Natural Resources.

As a member of the territorial army he took active part in the Indo-Pak War in 1971.

Shri Singh has contributed a number of articles on politics, sports and wild life.

NORMS AND VALUES

CEE Integrated into IEC

The International Commission for Conformity Certification of Electrical Equipment (CEE) has been integrated into the International Electrotechnical Commission (IEC) resulting in the introduction of 'IEC System for Conformity Testing to Standards for Safety of Electrical Equipment (IECEE)'. This arrangement would enable IEC to take full advantage of CEE expertise in the field of certification and reflect it in IECEE.

In its sixty years of history CEE has strived towards harmonization of international safety requirements for electrotechnical products. By coordinating and promoting reciprocal acceptance of the results of national conformity testing to international safety standards among its 28 member organizations, CEE has opened the way for electrotechnical industry to export its products world-wide.

The users of electrotechnical equipment are increasingly benefiting from a wide selection of products from many sources throughout the world and complying with their national safety standards. The different products for which certificates of conformity have been issued include motor-operated household appliances, heating and cooking appliances, switches, luminaires, lampholders and such equipment as industrial plugs and socket outlets, safety isolating transformers and conduits of PVC.

The importance of 'conformity testing to standards' is illustrated by the fact that in the last few years the rate of certificates issued has been 500 per year. The result is that more than 7 000 conformity certificates have been issued to some 600 manufacturers of electrotechnical products all over the world.



Standard Time

Greenwich Mean Time is taken today as Standard Time the world over as a matter of course. But adoption of Greenwich as the world's base for the measurement of time (and longitude) wasn't all that easy. It had to contend with a number of other claimants for the honour — the Azores, summit of Tenerife, middle of the Bering Strait and monumental buildings

like the Great Pyramids and the Temple of Jerusalem. According to Standards (Vol 30, No. 10; October 1984), it was at a conference held in Washington, DC attended by delegates from 25 countries in October 1884 that Greenwich was chosen as the site of prime meridian among the various options discussed for the purpose. Prime meridian is the meridian from whose inter-
action



with the equator longitude is counted, 0° longitude being the place for zero hour — the time for the beginning of the day for the whole world.

What swung the feeling of the Conference in favour of Greenwich was the fact that it was already being used as the initial meridian by 72 percent of the world's floating commerce while the remaining 28 percent was divided among ten different meridians. Another consideration was that the meridian here passed through an astronomical observatory of the first order.

By 1905, most countries of the world had switched over to Greenwich Mean Time as standard time. This effectively dispensed with civil, astronomical and nautical reckonings which began their 24-hour clocks at different time of the day.



for conducting tests to determine the performance efficiency of agricultural machinery as also presentation of the data collected. Besides, uniformity in calculating the cost of hire charges for various types of agricultural machinery has been brought about through the Indian Standard 'IS : 9164-1979 Guide for estimating cost of farm machinery operation.'

It was observed that, in the absence of standard guidelines, manufacturers of agricultural machinery were presenting operator manuals in different ways. The Indian Standard 'IS : 8132-1983 Guidelines for presentation of operator manuals and technical publications for agricultural tractors and machinery (first revision)' will facilitate uniformity in their presentation. It was also noted that power rating for tractors was being declared by different manufacturers in various ways, such as engine power, power take off (PTO) and drawbar. To introduce uniformity in power rating, ISI has published standard guidelines for the declaration of power of agricultural tractors (IS : 10273-1983), stipulating PTO power as the standard power rating.

Safety

Increasing use of agricultural machinery in the country, particularly tractors, power threshers, chaff-cutters and sugarcane crushers has also brought about an increase in the number of accidents during their usage. The situation had become so alarming that the Government decided to enact legislation to reduce and eliminate to the extent possible such accidents. As a result, the *Dangerous Machines Act* was passed in 1983. Indian Standards, such as guide for safety and comfort of operators of agricultural tractors (IS : 9934-1981); code of practice for installation, operation and preventive maintenance of power threshers (IS : 9019-1979); general and safety requirements for power threshers (IS : 9020-1979); technical requirements for safe feeding systems for power threshers (IS : 9129-1979); manually-operated chaff cutters (IS : 7898-1981); and sugarcane crushers (IS : 1973-1981) are all helping to eliminate the risk of accidents. Standards on power threshers have been made mandatory for adoption by the manufacturers through the *Dangerous Machinery Act*.

Cost Reduction

In a study conducted by the Ministry of Agriculture on the advice of the Planning Commission, regarding the economic benefits of standardization arising from the implementation of the Indian Standard on agricultural tillage

discs [IS : 4366 (Part 1)-1972] it was observed that by raising the production of discs from 20 000 to 30 000 per annum and by implementing the Standard, an overall price reduction of 32.2 percent could be achieved. Similar benefit could also be obtained from the implementation of other standards, particularly those on interchangeable components.

Simplification and Rationalization

Rationalization of number, types, grades and sizes of a product or equipment results in variety reduction which, in turn, helps simplify and streamline the manufacturing process. Efforts have been made to achieve this objective through a number of Indian Standards. Concave type agricultural tillage discs [IS : 4366 (Part 1)-1972] and hydraulic spray nozzles for pest control equipment (IS : 7417-1982) are cases in point. As regards concave discs, two radii of curvature, namely, 600 and 670 mm were stipulated in 1967 version of IS : 4366 to provide concavity. In the revision, which was published in 1972, the concavity was linked to a single radius (600 mm), thus reducing the number of jigs and fixtures to be maintained by the manufacturers. Similarly, in the case of nozzles, two thread sizes, namely, 1/4 and 3/8 were stipulated in the 1975 version of IS : 7417, but in the first revision of the Standard published in 1982, only one size (1/4) has been retained.

Elimination of Waste

By rationalizing the material required for soil working components like discs [IS : 4366 (Parts 1 and 2)-1972], plough shares (IS : 6327-1971 and IS : 6459-1972), shovels (IS : 6023-1970 and IS : 9218-1979) and sweep (IS : 6451-1972), the scrap of the raw material available from one component manufacturer can be utilized by others, thus eliminating waste. This is important in view of high carbon steel being a scarce commodity in the country.

Avoiding Disputes

Different tariff and excise rates are prevalent in the country for agricultural and non-agricultural equipment, the rates for agricultural equipment being lower than those for others. This difference may sometimes give rise to disputes between concerned parties on whether a particular product is an agricultural equipment or not. Indian Standards, to some extent, help in solving such problems. To quote an example, a manufacturer exported reversible shovels to a neighbouring country by train. Freight charges for

agricultural equipment are lower than those for other type of equipment. However the term 'shovel' was covered under the non-agricultural schedule of railways. So high rates were charged from the manufacturer. The Indian Standard for reversible shovels (IS : 6023-1971) came to manufacturer's rescue, and he got the refund of the excess amount paid.

Consumer Protection

Farmers are the chief consumers of agricultural machinery. Preparation of Indian Standards for agricultural machinery items and covering most of them under ISI certification has helped provide quality equipment to the farmers, thus giving them their money's worth.

IMPLEMENTATION OF STANDARDS

The benefit of standards and standardization should reach the farmers if a tangible effect has to be felt in the country. This calls for giving due consideration to implementation of standards and taking active interest in the process of standardization by all those engaged in agricultural production and rural development.

For promoting implementation at the manufacturer's level, two alternatives are available. First, the manufacturers may be encouraged to assure the conformity of their products to the relevant Indian Standards. This can be brought about by organized purchasers and Central and State Governments procuring only that equipment which is manufactured in conformity with Indian Standards. Secondly, manufacturers may provide third-party guarantee to the consumer in respect of conformity of their products to Indian Standards by adopting the ISI Certification Marks Scheme. This is a voluntary scheme of certification in which a manufacturer wishing to avail this facility is granted a licence for the use of ISI Mark after necessary inspection and completion of formalities. In certain cases, certification on a compulsory basis is resorted to through invocation of statutory Government orders.

For better understanding of Indian Standards and their adoption, the following suggestions are made to purchasers while calling tenders:

a) The latest version of the relevant Indian Standard, along with any amendment issued at the time, should be procured and studied thoroughly. Authenticity of the latest version

(Continued on page 341)

STANDARDS NEWS

WORKSHOP ON STANDARDS FOR STATISTICAL QUALITY CONTROL, MADRAS

The fifth Workshop on Standards for Statistical Quality Control (SQC) was organized by Indian Standards Institution in Madras during 23-25 September 1985. In all, 53 participants representing 41 organizations attended the Workshop.

Inaugurating the Workshop, Dr B. N. Singh, Additional Director General, ISI, said that the modern techniques of quality control were extremely helpful in enhancing production, reducing cost, improving quality, promoting exports and bettering human relations. Proper benefits could be derived if an integrated approach to standardization and quality control was developed and implemented. Quoting an example from diesel engine industry, he said that by applying these simple techniques, it had been possible to reduce 15-22 percent in specific fuel consumption (SFC), thereby achieving a net savings of Rs 990 million per year in this country. Dr Singh added that ISI had been trying to develop these techniques in many ways, namely, preparation of basic standards on quality control, certification of the quality of products through ISI Certification Marks Scheme, organization of training programmes and workshops in statistical quality control and company standardization, and provision of SQC consultancy service. For the preparation of basic standards on quality control, a committee was set up in 1963 under the chairmanship of Prof. P. K. Bose, Chairman, Quality Control and Industrial Statistics Sectional Committee (EC). This committee had so far prepared some 30 standards. While formulating these standards, Dr Singh said, the statistical theory and advanced techniques had been suitably blended with practical considerations.



Dr B. N. Singh, Additional Director General, ISI, inaugurating the Regional Workshop on Standards for Statistical Quality Control, Madras

These standards had been written in a simple form without bringing in the derivations of complicated formulae to ensure that quality control and statistical techniques could be readily applied in industry.

Referring to another important activity of the Institution, that is, ISI Certification Marks Scheme, Dr Singh said that the Institution had been trying to improve the quality of Indian goods through it. Under the Scheme, a manufacturer was considered to be fit for the grant of a licence if he had an in-built system of quality control covering various stages of production. For this purpose, ISI rendered all possible assistance to industry in improving its quality control mechanism rather than enforcing strict day-to-day supervision. The supervisory control of ISI consisted of periodic surprise inspections and testing of market samples. For the operation of a licence, every licensee had to

follow a well-defined scheme of testing and inspection (STI) in his day-to-day work which was based on the principles of statistical quality control. Through this scheme, many benefits were derived by the manufacturers as well as consumers. A manufacturer received guidance for the implementation of quality control techniques whereas a consumer got protection against poor quality products. Dr Singh said that so far 1 186 products had been covered under the ISI Certification Marks Scheme; of these, 92 products were covered under the compulsory certification system.

Referring to the contribution of ISI at international level, Dr Singh said that ISI was helping the developing countries in promoting standardization and quality control activities. A meeting of the heads of national standards bodies of non-aligned countries had been organized recently in New Delhi wherein it was decided to take urgent

steps for developing and implementing these techniques in non-aligned countries. He added that India had been elected for the fourth consecutive term on the Council of the International Organization for Standardization (ISO).

Dr Singh stated that Indian industries could not compete in the world market unless quality was improved and costs reduced. He emphasized the role of the top management in cultivating the quality culture and said that the managements unfortunately did not take adequate interest in quality control activity because they felt that India was basically a seller's market. He appealed to the managements to have a separate quality control department and encourage their employees to learn quality control techniques. ISI was helping the industries in training their personnel in quality control techniques through workshops and SQC training programmes. However, the success of these programmes could be evaluated only in terms of spurt in quality control activity in various industries for which the participants had to play a definite constructive role.

In his keynote address, Prof P. K. Bose said that an important reason for inadequate quality of products manufactured by Indian industry was lack of development of human resources. This had resulted in rising incidence of labour trouble and consequent mounting of production losses. The crucial gap in the Indian industrial system—that of human resources development—should be filled up and all efforts in this direction encouraged in both private and public sector industries; technical excellence alone could not deliver the goods. Prof Bose emphasized the urgent need for improving the quality of products of Indian engineering industry, ensure their reliability and reduce unit cost to make them competitive in the export market. To improve the quality, a modern data bank should be set up as many of the controls at present were based on obsolete data. He added that 'quality management' in industry today meant implementation of the concept of total quality control comprising design, manufacture, assembly, performance, durability and so on, and included economic aspects like price, quality, maintenance costs and durability of industrial products. It had graduated from the pre-War nomenclature of 'inspection' to 'quality assurance' to 'zero defect' and now to 'quality management'. Prof Bose also guided the deliberations of the Workshop

and advised the participants on the various quality control problems they were encountering in their day-to-day work.

In his welcome address, Shri C. Chellappan, Director of Industries and Commerce, Government of Tamil Nadu, stressed the need for ensuring quality control right from the raw material to finished product stage. He said that quality had to be built into a product during the process of manufacture instead of rectifying the defects at the finished stage. The Indian Standards Institution was helping the industries in this regard and had set up laboratories to ensure that the quality of products met the relevant specifications. The Government of Tamil Nadu had also set up a number of laboratories apart from three regional laboratories at Madras, Madurai and Coimbatore. He added that the Tamil Nadu Government had started giving subsidy of Rs 2 000 to each small scale unit having ISI Certification Mark on its products.

Shri C. R. Rama Rao, Deputy Director General (Southern Region), ISI, hoped that the Workshop would motivate the quality control practitioners in improving the quality of their products. He added that, apart from benefiting the participants, it would provide the much-needed feedback to ISI from QC practitioners in the field in regard to available standards on the subject.

Proposing the vote of thanks, Shri G. W. Datey, Director (Statistics), ISI, gave a brief introduction to the genesis of the Workshop and said that the overwhelming response to the first four Workshops held at Calcutta, Bombay, Bangalore and Indore had spurred the organization of the present Workshop.

The inaugural function was followed by six technical sessions. Shri S. M. Sundara Raju and Shri C. R. Prasad (Indian Statistical Institute, Madras); Dr B. V. A. Rao (Indian Institute of Technology, Madras); and Shri G. W. Datey, Director (Statistics), and Shri P. K. Gambhir, Deputy Director (Statistics), ISI, addressed the participants on different aspects of quality control.

SEMINAR ON QUALITY CONTROL FOR AUTOMOBILE COMPONENTS, HYDERABAD

A Seminar on Quality Control for Automobile Components organized at Hyderabad on 24 September 1985 was co-sponsored by Hyderabad Branch Office of ISI. Brig D. S. Andotra presided over the Seminar.

Inaugurating the Seminar, Shri

Abraham, Commissioner of Industries, Government of Andhra Pradesh, said that considerable increase had been witnessed in the production of automobiles in recent times, particularly that of two-wheelers. This had resulted in a good deal of scope for the promotion of small scale industries for manufacturing automobile components. With this growth in automobile industry, the number of small scale units would be doubled. In fact, the growth rate of automobile industry last year was phenomenal due to liberalization of licences for industrial units by the Government.

In his keynote address, Shri Y. K. Bhat, Director, Hyderabad Branch Office, ISI, said that the Indian Standards Institution had prepared more than 400 standards on automobile components and other inputs of automobile industry. Regretting that only 50 ISI licences were operating in the automobile industry in the country, he called upon the manufacturers of automobile components to take to ISI Certification Marks Scheme in increasing numbers and requested the organized sector to give preference to ISI-certified products.

The inaugural function was followed by two technical sessions in which seven papers were presented. Shri T. Chandrasekaran, Deputy Director, Hyderabad Branch Office, ISI, presented a paper on 'Quality control through certification'. He explained the procedure for the grant of ISI licences, scheme of testing and inspection and operation of the ISI Certification Marks Scheme, in particular those of automobile components like hydraulic shock absorbers, inlet and exhaust valves for internal combustion engines, cylinder liners and diesel engines.

STATE-LEVEL SEMINAR ON ANCILLARY INDUSTRIES IN ORISSA

A State-level Seminar on Ancillary Industries in Orissa was held in Sambalpur on 10 September 1985 to discuss growth of ancillary sector in the State, specially in Sambalpur District. Shri R. K. Bhartari, Head, Bhubaneswar Branch Office, ISI, attended the Seminar on behalf of the Institution. Speaking on the occasion, Shri Bhartari said that it was necessary to identify the mother industries and their requirements before the development of an ancillary industry was taken up so that these units could be specialized in the manufacturing process of items required by mother industries. In this way, ancillary units would also not face marketing problems

which was the general cause of failure of such units in the State. He stated that for ancillary units to play a suitable role in the industrial development of Orissa, they had to earn the confidence of the mother industries in respect of quality of their products. This could be achieved only by exercising proper quality control right from raw material to the finished product with regular testing. For this purpose, it was essential to arrange industrywise short training courses. The facilities available with ISI for conducting such courses were brought to the notice of the delegates.

Shri Bhartari also took the opportunity to inform the delegates that although ISI had a Branch Office in Orissa since 1977, the momentum for the procurement of ISI Mark by industries in the State was yet to pick up. The number of ISI Certification Marks licences granted so far in Orissa was below 100 and the rate of applications received for the grant of licences was also not very encouraging. This also brought out the need for organizing seminars and conferences to inculcate quality-consciousness in the industrial sector.

The delegate from Small Industries Service Institute (SISI) stated that, in order to establish ancillary relationship between small scale units and large scale enterprises, an agency known as the Orissa Sub-Contract Exchange (OSCX) had been set up in SISI, Cuttack. The OSCX was a centralized storehouse of scientifically documented information about small scale units of the area, such as capacity for various processes, products, facilities and spare capacities. The gathering was also informed that, on the basis of the guidelines provided by the Bureau of Public Enterprises (BPE) regarding development of ancillary units, the Rourkela Steel Plant had a proposal to finalize the rate contract for a large number of items out of which a major portion would be exclusively for small scale units. This step was expected to remove the difficulties faced by local ancillary units and give them an assurance of their development in future.

ISI PROGRAMME ON COMPUTERS

A two-day Orientation Programme on the Role of Computer in Standards Management Information System was organized during 17-18 September 1985 at New Delhi by the Computer Centre of ISI. First of its kind, the Programme was conducted for senior officers of ISI comprising Deputy

Directors General, Directors and Heads of Departments to apprise them of the identified activities of computerization by the Computer Centre so that they could make use of the computer effectively as and when their functional areas were taken up.

Inaugurating the Programme, Dr B. N. Singh, Additional Director General, ISI, said that the fast growing activities of the Institution, including compulsory certification in newer areas like cement and *vanaspati*, called for modernization of its operations to keep pace with the developments in science and technology, industry and trade. He felt that computer could play a vital role in modernization of the activities of ISI and accelerating the progress and growth of the Institution.

The Programme consisted of four sessions devoted to different topics like computer architecture, computer applications and their development, and role of computers in Standards Managements Information System. Visits were also organized to familiarize the senior officers with the operational activities of ISI Computer Centre as also practical working of the computer at the Computer Centre, Union Ministry of Planning, New Delhi.

TENTH FIP CONGRESS, NEW DELHI

The Institution of Engineers (India) is organizing Tenth Congress of the Federation Internationale de la Precontrainte, FIP (International Federation of Prestressed Concrete) in New Delhi during 16-21 March 1986 in cooperation with FIP. The theme of the Congress is 'Structural concrete in developing countries'. The developing countries of Asia and Africa as well as developed countries will have an opportunity to compare their work in the field of structural concrete. The Congress will specifically provide to developing countries a forum for disseminating their experience in regard to prestressed and reinforced concrete and its adaptation to make it an appropriate technology for their environment. Engineers, architects, researchers and manufacturers from more than 75 countries are expected to participate in the Congress.

Further information can be had from: Shri C. R. Alimchandani, Chairman, Organizing Committee, FIP 86, 1004-5&7 Raheja Chambers, 213 Nariman Point, Bombay 400021; or Shri B. T. Nagrani, Member Secretary, Organizing Committee FIP 86, Institution of Engineers (India), 8 Gokhale Road, Calcutta 700020.

INTERNATIONAL CONFERENCE ON PRECISION ELECTROMAGNETIC MEASUREMENTS (CPEM), 1986

The National Bureau of Standards (USA), IEEE Instrumentation and Measurement Society and Union Radio Scientifique Internationale are sponsoring an International Conference on Precision Electromagnetic Measurements (CPEM) in Gaithersburg (USA) during 23-27 June 1986. The subjects to be covered by the Conference include theory, design, performance, simulation and application of electromagnetic standards, measurements, techniques, instruments or systems.

Further information can be had from: The National Bureau of Standards, B146, METROLOGY, Gaithersburg, MD 20899 (USA).

STANDARDS WITHDRAWN

- a) IS : 1111-1964 *Specification for spiegeleisen (revised)*—The material covered by the Standard is no more produced or used in the country;
- b) IS : 1421-1964 *Specification for cellulose nitrate coated fabrics (revised)*—The manufacture of the item covered by the Standard has been discontinued in the country;
- c) IS : 2102-1969 *Allowable deviations for dimensions without specified tolerances (first revision)*—The requirements are covered in 'IS : 2102 (Part 1)-1980 General tolerances for dimensions and form and position: Part 1 General tolerances for linear and angular dimensions (second revision)';
- d) IS : 3202-1965 *Code of practice for climate proofing of electrical equipment*—Broad assumptions under which guidelines have been included in this standard are no more valid and fresh data is being collected to prepare a new standard to replace it;
- e) IS : 3230-1970 *Recommendations for tapping drill sizes and IS : 5617-1970 Recommendations for tapping drill sizes for fastening pipe threads*—These standards have been superseded by 'IS : 10952-1984 Recommendations for drills for use prior to tapping screw threads';
- f) IS : 6091-1971 *Machine jig reamers*—The Standard has been superseded by 'IS : 11002-1984 Specification for machine jig reamers Morse taper shank'; and
- g) IS : 7032 (Part 9)-1975 *Physical methods of test for white, tossa and daisee uncut Indian jute: Part 9 Brightness (colour)*—This standard has been withdrawn as brightness and colour are two different characteristics of raw jute, mesta and bimli, and it is not possible to determine the colour by measuring brightness.



Check Sought on Poor Stainless Steel Goods

Several members in the Rajya Sabha complained on 20 August 1985 of substandard stainless steel products being sold in the market and urged the Government to take stringent measures to check the malpractice.

Replying to a date of supplementaries on the subject during the question hour, the Minister of Steel, Mines and Coal, said that the Government had not so far evolved any exclusive mechanism to control the quality of stainless steel products as it was difficult to ensure quality control on the products of a large number of small-scale manufacturers of stainless steel utensils.

However, he stressed, it was for the consumers to ensure that they bought only those stainless steel products which carried the ISI Mark. He called for a country-wide consumer movement to boycott substandard consumer goods.

Asking a supplementary, Shri Indradeep Sinha said that the Government should ensure that only certified stainless steel was used to manufacture various products so as to check adulteration. The Minister assured the member that he would consider the suggestion.

— The Hindustan Times, 21 August 1985

Drug Units Told to Use Metric System

The drug industry is reportedly under pressure from the Directorate of Weights and Measures to adopt the metric system while preparing drug packs.

In the case of tablets, for example, many units traditionally produce strips of 12 tablets each. The Directorate wants them to produce strips of 10 tablets each in accordance with the provisions of the Standards of Weights and Measures Act, 1976 and Rules framed thereunder.

It is reported that some units have been threatened with legal action for their failure to adopt the metric system.

— The Financial Express, 28 July 1985

Industrial Safety Steps Urged

The Chairman of the National Safety Council (NSC), Shri C. B. Garware, appealed to the industrial managements on 12 June 1985 to make a detailed study of industrial accidents and prepare a comprehensive plan of action to prevent them.

Inaugurating a Seminar on Safety in Engineering Industry organized in Bombay jointly by NSC and the Association of Indian Engineering Industries (AIEI), he said that there were 62 fatal industrial accidents including 26 in engineering industry in Maharashtra over a period of nine months last year.

The NSC was prepared to give all help to engineering companies to prepare safety surveys and work out plans for prevention of accidents, he said, and added that there was considerable scope for 'built-in' safety measures in engineering tools and machines as an increasing number of them were being manufactured in the country.

— The National Herald, 13 June 1985



AIEI Steps to Check Air Pollution in Calcutta

The Association of Indian Engineering Industry (Eastern Region) has decided to set up auto emission clinics in and around Calcutta to control air pollution.

Three giant automobile manufacturers — TELCO, Ashok Leyland and Hindustan Motors — and the fuel injector manufacturer, MICO Bosch, have offered to participate in the clinics.

This is for the first time that the industry in the region is acting entirely on its own to help control air pollution in the city.

The four participating companies will loan out equipment and depute expert personnel to the clinics. They will provide technical assistance to auto owners to check emissions and extend remedial measures. The services will be rendered free of cost.

— The Business Standard, 31 August 1985 323

Vehicles Pollution Crosses Safe Limits

Air pollution caused by toxic substances emitted by the large number of vehicles in Delhi has crossed the prescribed safe limits.

A study on motor vehicle pollution conducted by a team of experts of the Mechanical Engineering Department of Indian Institute of Technology has concluded that air at major traffic junctions of the capital is polluted.

On the basis of caution sounded by experts, the Directorate of Transport, Delhi Administration, feels that suitable amendments to the Motor Vehicles Act are necessary to check this menace. It has been suggested that the Administration should notify the standards laid down by the Indian Standards Institution regarding such pollutants as is being done in Maharashtra.

It is hoped that if the Administration notifies the specifications with regard to emission of carbon monoxide the pollution level would be reduced greatly, if not to absolutely safe limits.

Another suggestion relates to suitable punitive measures against vehicles violating the requisite smoke emission levels prescribed by ISI.

The Department, it is learnt, has already taken up with the Central Pollution Control Board and the Department of Environment the issue of enforcing the emission standards and of monitoring smoke emitted by DTC buses at their depots.

Authorizing selected petrol pumps to check smoke emission levels of privately-owned vehicles is also being contemplated.

— The Times of India, 29 July 1985

Government to Prescribe Density Standards for Smoke Emission by Vehicles

The Tamil Nadu Government will soon prescribe density standards for smoke emission by motor vehicles. The relevant motor vehicles rules will be amended to force automobiles to follow the standards, the State Health Minister, Dr H. V. Hande, said in Madras on 24 August 1985.

Participating in a meeting to inaugurate the promotional campaign for ENVIROTECH 86, an international exhibition and conference on pollution monitoring and control and industrial safety to be held in Bombay from 22 to 28 January, 1986 the Minister said that the Tamil Nadu Pollution Control Board was participating in a global water quality monitoring project. Organized by international agencies, such as WHO and UNESCO, the Board had chosen the Cauvery river for quality study.

The Board was planning to set up a monitoring station at Manali, where the air was polluted by industrial units.

— The Hindu, 25 August 1985

Stress on Compulsory Energy Audit

The Petroleum Minister, Shri Nawal Kishore Sharma, has called for compulsory energy audit in industries consuming sizeable amounts of energy as a measure of conserving petroleum products, reports PTI.

Inaugurating a National Seminar on Petroleum Conservation in India, he said that if the industries were not able to achieve the norms set in this regard, some penalties should be imposed.

The Minister said that the requirement of petroleum products might go up to nearly 100 million tonnes in 2004 AD. The question was how to increase the conservation potential and balance the ever-growing demand for petroleum products. He suggested sectoral plans for energy use in various industries and formulation of consumption norms for them.

He said that efforts should be made to replace energy-inefficient equipment and eliminate wasteful processes. If necessary, soft loans should be extended for this purpose.

As in developed countries, India should have compulsory energy audit for industries consuming sizeable amounts of energy, say, 1,000 tonnes of oil equivalent or more per year.

— The Business Standard, 29 August 1985

Move to Ensure Safety of Factory Workers

The Government is considering amending the Factories Act to make it more stringent and to ensure safety of workers in hazardous industries, the Union Labour Minister, Shri T. Anjiah, told the Lok Sabha on 5 August 1985.

The Government had advised State Governments to amend their factory rules and connected schedules, incorporating the provisions of the model rules and model schedules, which contained control measures in relation to dangerous manufacturing processes which had already been circulated to them for adoption.

In reply to the main question, Shri Anjiah said that State Governments and administrations of Union Territories were advised to set up task forces or committees to survey various manufacturing units in their areas and identify hazardous units. A list so prepared would be sent to the Director General of Factory Advice Service and the Labour Institute under the Ministry of Labour for the preparation of a common list. With this as the basic data, a programme of studies and surveys would be undertaken for streamlining safety standards in all such industrial units.

— The Hindustan Times, 6 August 1985

COMMITTEE MONTH

ELECTROTECHNICAL DIVISION COUNCIL

The twentyseventh meeting of the Electrotechnical Division Council (ETDC) was held in New Delhi on 10 July 1985 under the chairmanship of Shri S. G. Ramachandra.

The Council expressed satisfaction at the publication of the National Electrical Code which provides information in a consolidated form on various aspects of design execution and maintenance of electrical installations. Shri M. L. Dongre, Chairman, National Electrical Code Sectional Committee (ETDC 56), introduced the contents of the Code and informed the Council that the code presupposed a level of engineering competence in the user equivalent to that of a professional engineer responsible for the design of electrical installation systems. He also informed the Council that the Sectional Committee was conscious of the need for constant review and updating of the Code and hoped that a revised and updated version would be available in about five years' time. At the end of his observations, Shri Dongre presented a copy of the National Electrical Code to Shri Ramachandra, Chairman of the Council.

The Council identified a number of steps for publicizing and popularizing the Code, including introductory workshops for engineers, discussions on the Code at seminars and conferences arranged by organizations other than ISI and publicity about the contents of the Code through technical journals.

The Council noted the activities of the Standing Group for Conservation of Electrical Energy and its Sub-group on Standards and felt that, it being an issue of national importance, conservation of electrical energy should be given utmost consideration in the standardization activities of ISI. It, therefore, decided that the following actions should be initiated:

a) Review of existing standards in the field of electrotechnology with a

view to updating them and removing any lacunae that may lead to unproductive use of electrical energy;

b) Inclusion of provisions relating to declaration of actual energy consumption on common consumer items in the Indian Standards as against the present concept of giving an upper limit on consumption (as far as possible, provision should be made for marking actual energy consumption on the rating to help the consumer in selecting more efficient equipment);

c) Preparation of guidelines on techniques for energy conservation as directly applicable documents for the existing/new installations; and

d) Preparation of a comprehensive handbook to cover interdisciplinary aspects between electrical and other branches of engineering.

The Council accepted the recommendations of the Standing Working Committee, Electrotechnical (SWCET) and decided to set up two new Sectional Committees, namely, Solar Photovoltaic Energy Systems Sectional Committee (ETDC 68) and Electric Traction Equipment Sectional Committee (ETDC 69). It also approved the proposal for the preparation of an 'Illumination Engineering Handbook'. Besides, it appointed new Chairmen for two Sectional Committees as follows: (a) Shri P. S. Sawhney (Delhi Electric

Supply Undertaking, New Delhi) — ETDC 16 Transformers Sectional Committee, and (b) Shri Y. P. Vatsa (General Electric Company of India Limited, Calcutta) — ETDC 61 Industrial Electroheating Equipment Sectional Committee.

Reviewing the progress of work during 1 April 1984 - 30 April 1985, the Council noted with satisfaction that 71 preliminary drafts had been formulated, 81 draft standards issued into wide circulation and 63 standards sent for printing. In addition, the National Electrical Code was sent to the press during the period under review. The total number of Indian Standards prepared by the Sectional Committees under the Division Council was 980 as on 30 April 1985. Under the ISI Certification Marks Scheme, 1355 licences covering 111 electrotechnical standards were in operation as on 31 March 1985.

The Division Council approved 24 new subjects for formulation of Indian Standards including brush holders for slip rings, diesel generator sets, single-phase alternators, multi-operator type arc welding transformers, thermal links, HV motor starters (DOL), electro-pneumatic pressure convertors, single-phase motors for centrifugal pumps for agricultural application and phase convertors.



Shri S. G. Ramachandra (second from left) presiding over the twentyseventh meeting of the Electrotechnical Division Council

STANDING WORKING COMMITTEE, ELECTRO-TECHNICAL

The twentieth meeting of the Standing Working Committee, Electro-technical (SWCET) was held in New Delhi on 10 July 1985 under the chairmanship of Shri S. G. Ramachandra.

One of the major items to be considered by SWCET was review of the work done by High Voltage Techniques Sectional Committee (ETDC 19) in the field of low voltage insulation coordination, to identify whether there were any problems in the implementation of the guide on insulation coordination within low voltage systems including clearances and creepage distances for equipment which was under preparation, and to decide the methodology that should be followed for the adoption of the guide by the indigenous industry.

Enumerating the details of the work accomplished by ETDC 19 on the subject of insulation coordination within low voltage systems. Prof B. I. Gururaj, Chairman of the Committee pointed out that the need for studying problems of over voltages for low voltage equipment came into being owing to the use of electronic components in industrial and household equipment. He added that unless all issues involved in insulation coordination in low voltage systems were adequately considered and systematically dealt with, it was likely to result in over-insulated designs thus making the exercise expensive and not necessarily reliable.

Shri S. G. Ramachandra appreciated the work accomplished by ETDC 19 and desired that a determined attempt be made by all product groups to understand the subject of

low voltage insulation in view of its implications on safety, certification and reliability of electrical equipment. Besides members of SWCET, opinions of Chairmen of various equipment Sectional Committees present during the meeting, were also considered. After detailed consideration of the issues involved, SWCET agreed to the following action plan:

a) Revised version of the document on insulation coordination within low voltage systems including clearances and creepage distances for equipment taking into account the views expressed during the meeting should be prepared by the concerned panel and circulated to all relevant Product Sectional Committees for their views. After consideration of the document by the concerned product committees, the comments should be sent to the panel for its consideration and finalization of the document with the status of a Guide;

b) Adequate publicity on the new rules should be organized by the Secretariat through articles in the *ISI Bulletin* and other technical journals;

c) Seminars and workshops should be organized to propagate the concept of low voltage insulation coordination;

d) The subject of low voltage insulation coordination should be proposed to the Central Board of Irrigation and Power for initiating studies and for discussions during one of its symposia;

e) In collaboration with the Central Electricity Authority and through State Electricity Boards, a work plan should be initiated for systematic collection of data on low voltage system disturbances in the country; and

f) Industry Associations should be requested to study this issue from the

angle of specific product areas.

The Committee learnt with satisfaction that the response from the three organizations, namely, Indian Electrical Manufacturers Association (IEMA), Electrical Research & Development Association (ERDA) and Central Power Research Institute (CPRI) identified at the last meeting for seeking support towards accelerating standardization activities of ISI had been very encouraging. All the three organizations, which were represented at this meeting on an invitation from ISI, had agreed to give fullest support in their respective areas of specialization to ISI activities in the electrotechnical field.

SWCET noted that IEMA could play a positive role in the preparation of initial document (to begin with in areas for which already IEMA standardization panels existed) so that the industry's views would be available to ISI in a consolidated manner, thereby avoiding lengthy discussions during technical committee meetings. It was felt that this would reduce to a large extent, the time taken to prepare a national standard. The Committee agreed that IEMA could also assist towards scrutiny of the IEC draft proposals. The expertise available with ERDA would be fruitfully utilized in the areas of testing of materials and evaluation of provisions of the standards, besides initiation of investigations. Assistance of CPRI could be taken in testing and evaluation work in the areas of systems.

The Committee recommended to ETDC setting up two new Sectional Committees, namely, Solar Photovoltaic Energy Systems Sectional Committee (ETDC 68); and Electric Traction Equipment Sectional Committee (ETDC 69) and preparation of Illumination Engineering Handbook.

TABLE OF MEETINGS

AGRICULTURAL AND FOOD PRODUCTS DEPARTMENT

AFDC 42 AGRICULTURAL PRODUCE PROCESSING EQUIPMENT New Delhi 1985-07-15

Chairman Dr Nawab Ali
(for the meeting) Central Institute of Agricultural Engineering (ICAR), Bhopal

Draft finalized for publication — Test code for groundnut de-corticator.

Standard reviewed and re-affirmed — 'IS : 3939-1979 Maize sheller, manually-operated (first revision)'.
New subject — Test code for indented cylinder grader.

AFDC 45 SOIL AMENDMENTS AND RECLAMATION OF PROBLEMS SOILS New Delhi 1985-07-29

Chairman Dr J. S. P. Yadav
Chairman
Agricultural Scientist
Recruitment Board,
New Delhi

Drafts finalized for publication — Agricultural liming materials on soil amendments: (a) Part 1 Hydrated lime and burnt lime, and (b) Part 2 Limestone and dolomite.

Draft approved for wide circulation — Terminology related to soil reclamation.

CHEMICAL DEPARTMENT

CDC 35 SOAPS AND OTHER SURFACE ACTIVE AGENTS

Bombay
1985-07-09

Chairman Dr B. P. Godrej
Managing Director
Godrej Soaps Pvt Ltd, Bombay

Draft finalized for publication — Specification for transparent toilet soap.

Drafts approved for wide circulation — Methods of test for safety evaluation of synthetic detergents. Specification for linear alkyl benzene.

CDC 43 ELECTROPLATING CHEMICALS

Karaikudi
1985-07-17

Chairman Dr K. I. Vasu
Director
Central Electro-chemical
Research Institute, Karaikudi

Draft finalized for publication — Specification for phenol sulphonic acid for electroplating.

Draft approved for wide circulation — Specification for hydrofluosilicic acid for electroplating.

Standards reviewed and reaffirmed — 'IS : 9341-1979 Sulphamic acid for electroplating', and 'IS : 9342-1979 Sodium hypophosphite for electroplating'.

New subjects — Cobalt nitrate, cobalt sulphate, copper pyrophosphate, cresol sulphonic acid, nickel acetate, pyrophosphoric acid, sodium gluconate, zinc pyrophosphate, and 1-1-1 trichlorethane.

CIVIL ENGINEERING DEPARTMENT

BDC 20 WOOD PRODUCTS

Bangalore
1985-07-19

Chairman Dr P. M. Ganapathy
Director
Indian Plywood Industries
Research Institute, Bangalore

Drafts finalized for publication — Specifications for wood particle boards: (a) Low density (*first revision of IS : 3129*), and (b) Medium density (*first revision of IS : 3087*).

Drafts approved for wide circulation — Code of practice for: (a) Preparation and application of putty for repairing plywood and other wood based panels; (b) Preservation of plywood, veneers, wood chips or part plywood and other panel products; and (c) Testing of timber for plywood manufacture. Dimensions relating to wood based panel products. Specification for medium density fibre board.

New subjects — Fibreglass faced wood based panel, medium density fibre board, metal faced wood based panels, and sramit building panel board.

BDC 28 CONSTRUCTION PLANT AND MACHINERY

New Delhi
1985-07-18

Chairman Shri M. Narayanswamy
(for the Additional Chief Engineer
meeting) Secunderabad

Drafts finalized for publication — General requirements for: (a) Batch type concrete mixers (*second revision of IS : 1791*); (b) Concrete vibrators, screed board type (*first revision of IS : 2506*); and (c) Single vibratory roller, towed type. Glossary of terms relating to concrete mixers. Method of tests for performance of concrete vibrators, immersion type.

Drafts approved for wide circulation — Code of practice for use of screed board concrete vibrators. General requirements for: (a) Cold asphalt macadam mixing plant (*first revision of IS : 5435*), and (b) Pan mixers for concrete.

BDC 38 CRITERIA FOR DESIGN OF STRUCTURES

Madras
1985-07-09

Chairman Dr P. Davaratnam
(for the Head
meeting) Civil Engineering Department
Indian Institute of Technology
Kanpur

Drafts finalized for publication — Criteria for: (a) Laying and staging of overhead RCC water tanks, (b) Structural design of reinforced concrete natural drought cooling towers, and (c) Design of reinforced concrete bins for the storage of granular and powdery materials: Part 1 General requirements and assessment of bins loads [*first revision of IS : 4995 (Part 1)*].

Drafts approved for wide circulation — Criteria for design of: (a) Reinforced concrete shell structures and folded plates (*first revision of IS : 2210*), and (b) RCC hinges.

BDC 40 PUBLIC HEALTH ENGINEERING EQUIPMENT

Madras
1985-07-30

Chairman Dr B. B. Sundaresan
Vice-Chancellor
University of Madras
Madras

Drafts finalized for publication — Guidelines for rapid mixing devices (*first revision of IS : 7090*). Requirements for: (a) High pressure jetting machine and accessories, and (b) Slow sand filters: Part 1 General guidelines. Specification for attachment tools for power-driven rodding machine for sewers.

Drafts approved for wide circulation — Code of practice for safety precautions to be taken when entering sewerage system. Requirements for chlorination equipment: Part 5 Bleaching powder solution dozing equipment. Specification for sewer cleaning metal rods.

CONSUMER PRODUCTS AND MEDICAL INSTRUMENTS DEPARTMENT

CPDC 12 MEDICAL GLASS INSTRUMENTS AND APPLIANCES

New Delhi
1985-07-04

Chairman Col S. Chakravorty
(for the Ministry of Defence (DGAFMS)
meeting) New Delhi

Drafts finalized for publication — Hypodermic syringes interchangeable type for general purposes. Specifications for special purpose syringes: (a) Part 1 Insuline hypodermic syringes (*second revision of IS : 3237*), (b) Part 2 Tuberculine syringes (*second revision of IS : 3237*), and (c) Part 3 BCG

syringes (*second revision of IS : 3234*). Thin-walled glass capillary pipettes.

Drafts approved for wide circulation — Conical fitting with a 6 percent (luer) taper for syringes, needles and other medical equipment: (a) Part 1 General requirements (*second revision of IS : 3234*); and (b) Part 3 Lock fitting (luer lock) (*second revision of IS : 3234*). Guide for the use of evacuated tubes for blood specimen collection. Specifications for special purpose syringes: (a) Part 4 Venous syringe, (b) Part 5 Post-operation care, (c) Part 7 Irrigation syringes, (d) Part 7 Force feed syringes, and (e) Part 8 Angiography syringe. Specification for sterile hypodermic syringes with needle attached for single use.

Standards reviewed and reaffirmed — 'IS : 3740-1966 Tubes, glass, for pathological work'; 'IS : 4067-1967 Tube, swab (weat type) for throat'; 'IS : 4069-1967 Urinometer'; 'IS : 4364-1967 Pipettes, serological'; 'IS : 4444-1967 Bottles, bacteriological'; 'IS : 4445-1967 Filter and filter chamber for blood transfusion'; 'IS : 4703-1968 Urine, glass, conical'; 'IS : 4754-1968 Staining troughs and jar'; 'IS : 5155-1969 Pipettes Ostwald-Folin type'; 'IS : 6606-1972 Albuminometer (Esbach's) with stopper, stand and case'; and 'IS : 8501-1977 Anaerobic jar'.

CPDC 28 THORACIC AND CARDIOVASCULAR SURGERY INSTRUMENTS New Delhi 1985-07-26

Chairman Dr P. S. Narayanan
G. B. Pant Hospital
New Delhi

Drafts finalized for publication — Specifications for: (a) Anastomosis forceps, Pott's pattern (*first revision of IS : 7345*); and (b) Valve retractors.

Drafts approved for wide circulation — Specifications for: (a) Forceps, coarctation, Pott's pattern, straight and angular (*first revision of IS : 7367*); (b) Forceps, patent ductus Pott's pattern, straight and angular (*first revision of IS : 7367*); (c) Knife, sternum Lebsche's pattern (*first revision of IS : 7399*); (d) Raspatories, rib, Semb's (*first revision of IS : 7346*); (e) Retractor, scapula, Tudor Edward's pattern (*first revision of IS : 7434*); (f) Scissors, dissecting, Metzenbaum's pattern (*first revision of IS : 7972*); (g) Shear, rib, Price Thoma's pattern (*first revision of IS : 7382*); (h) Spreader, rib, Tuffier's pattern (*first revision of IS : 7355*); and (j) Tourniquet, cardiovascular, Rumel-Belmont's pattern (*first revision of IS : 7971*).

ELECTRONICS AND TELECOMMUNICATION DEPARTMENT

LTDC 8 TRANSFORMERS AND INDUCTORS FOR ELECTRONIC EQUIPMENT Bangalore 1985-07-24

Chairman Shri C. K. Sreenivas
Dy General Manager
Bharat Electronics Ltd
Bangalore

Drafts finalized for publication — Outline dimensions of transformers and inductors for use in telecommunication and electronic equipment: Part 1 Transformers and inductors using YEI — I laminations (1) Section 1 Bracket mounting, (2) Section 2 U-clamp mounting, and (c) Section 3 Printed wiring board mounting.

LTDC 2 RADIO COMMUNICATIONS New Delhi 1985-07-18

Chairman Shri S. P. Bhatikar
Engineer-in-Chief
All India Radio
New Delhi

Drafts finalized for publication — Characteristics of systems for monochrome and colour television. Specifications for: (a) Multichannel television tuners: Part 2 Electronic tuners, and (b) Receivers for monochrome television broadcast transmission (*second revision of IS : 4547*).

Drafts approved for wide circulation — Dimensions of the installation space for car radio. Methods of measurements for television tuners. Method of measurement on radio receivers for various classes of emission: (a) Part 1 General considerations and methods of measurement, (b) Part 2 Receivers for amplitude modulating sound broadcasting emissions, and (c) Part 3 Receivers for frequency modulated sound broadcasting emissions. Safety requirements for radio transmitting equipment (*first revision of IS : 10437*). Specification for medium wave amplitude modulation transmitters.

Standard reviewed and reaffirmed — 'IS : 9031-1979 Teleprinter paper page rolls'.

LTDC 26 NUCLEAR INSTRUMENTATION New Delhi 1985-07-01

Chairman Shri V. A. Pethe
Head, Electronics Division
Bhabha Atomic Research Centre
Trombay

Drafts finalized for publication — Definitions of test method terms for semiconductor radiation detectors and scintillation counting. Specifications for: (a) DC period meters, and (b) Radiation detectors for instrumentation and protection of nuclear reactors. Specifications for prospecting radiation meters with: (a) Geiger-Muller counter tube (linear scale instruments), and (b) Gamma-ray scintillation detectors (linear scale instruments). Test procedures for: (a) Amplifiers and preamplifiers for semiconductor detectors for ionizing radiation, and (b) Semiconductor detectors for ionizing radiation.

Drafts approved for wide circulation — Multichannel amplitude analyzers: Standards for time-to-amplitude converters. Nuclear instruments: Constructional requirements to afford personal protection against ionizing radiation. Specifications for: (a) Alpha, beta and alpha-beta contamination meters monitors; (b) Hand and/or foot contamination monitors and warning assemblies; (c) Multichannel amplitude analyzers, types, main characteristics and technical requirements; and (d) Portable x or gamma radiation exposure rate meters and monitors for use in radiological protection. Test methods for multichannel amplitude analyzers.

ELECTROTECHNICAL DEPARTMENT

ETDC 1 BASIC ELECTROTECHNICAL STANDARDS New Delhi 1985-07-11

Chairman Shri S. G. Ramachandra
Chartered Engineer
94, 11th Cross Road
Malleswaram
Bangalore



During July 1985, the Institution granted 86 new licences. Particulars of all these, as well as additional varieties of products included in the existing licences and the licences cancelled/lapsed are given in the tables which follow:

NEW LICENCES GRANTED

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1431032 1985-06-26	Gahalaut & Chaudhary Steel Pvt Ltd, M-3, Phase IV, Adityapur Industrial Area, Gamharia, Jamshedpur 831001 (Singhbhum) (Office: Contractors Area, Jamshedpur 831001)	IS : 1977-1975
CM/L-1431133 1985-06-29	Dhar Cement Ltd, Village Karondia, Tehsil Gandhwani, Dist Dhar (MP) (Office: 50 Sitlamata Bazar, Indore)	IS : 269-1976
CM/L-1431234 1985-06-29	Sagar Cements Ltd, Mathampally 508204 Taluk Huzurnagar Dist Nalgonda (Office: H. No. 8-3-1103, Plot No. 115, Srinagar Colony, Hyderabad 500873)	do
CM/L-1431335 1985-06-29	Indra Industries, A-84, Wazirpur Industrial Area, Delhi 110052	IS : 6315-1971
CM/L-1431436 1985-06-29	Panchmahal Cement Company Ltd, Village Chhapri, Dahod 389151, Dist Panchmahal (Gujarat) (Office: 51 Alkapuri, Vadodara 390005)	IS : 269-1976
CM/L-1431537 1985-06-29	Gaytri Cement and Chemical Industries Pvt Ltd, Bamanbore, Near Decora, Dist Surendra Nagar (Gujarat) (Office: Aradhna Kalvad Road, Opp P. V. Patel College, Rajkot 360001)	do
CM/L-1431638 1985-07-06	Indian Aluminium Cables Ltd, Village Kannamangala, Taluk Hoskote, Via Kedugodi, Bangalore 560067 (Karnataka)	IS : 398 (Part 1)-1975
CM/L-1431739 1985-07-06	Jagdev Engg Works, Sham Nagar, Near Alps Cinema, Patiala Road, Rajpura 140401, Punjab	IS : 3564-1975
CM/L-1431840 1985-07-06	M. Shanks Sanitary Cisterns Company, Mill Road, Goraya 144409	IS : 774-1971
CM/L-1431941 1985-07-06	Tamil Nadu Small Industries Corporation Ltd, (Tansi Pump Unit), C-14, Industrial Estate, Ambattur, Madras 600058 (Office: No. 1, Shites Road, Madras 600014)	IS : 9301-1982
CM/L-1432034 1985-07-06	STP Ltd, 55 & 56, A&B Developed Plots Industrial Estate, Ambattur, Madras 600098 (Office: 2nd Floor, Indian Chambers Building, Madras 600001)	IS : 1322-1982
CM/L-1432135 1985-07-06	Indian Aluminium Cables Ltd, Village Kannamangala, Taluk Hoskote, Via Kedugodi, Bangalore 560067 (Karnataka)	IS : 398 (Part 2)-1976
CM/L-1432236 1985-07-06	Bansal Ispat (Lucknow) Pvt Ltd, B 1/1 Industrial Estate, Nadarganj, Kanpur Road, Lucknow (Office: Bansal House, Way Road, Lucknow)	IS : 226-1975
CM/L-1432337 1985-07-06	Anil Sunil Trade and Investment Pvt Ltd, 'Lohanidhi' Yeyyadi Padavu, Konchady Post, Mangalore 575003 (Office: 'Manju Mahal', Pali Hill, Bandra, Bombay 400052)	IS : 1786-1979
CM/L-1432438 1985-07-06	Mukund Iron & Steel Works Ltd, Belapur Road, Kalwe, Thane 400605 (Office: Lalbahadur Shastri Marg, Kurla, Bombay 400070)	do
CM/L-1432539 1985-07-06	T. P. Shau & Sons (P) Ltd, 44 'A' Road, Bamungachi, Howrah 711106	IS : 1537-1976

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1432640 1985-07-06	U. S. Instruments (P) Ltd, 68/1 MIDC Area, Satpura, Nasik 422007	IS : 2834-1981
CM/L-1432741 1985-07-06	Standard Drum & Barrel Manufacturing Company, Corridor Road, Gavanpada Village, Chembur, Bombay 400074	IS : 1783 (Part 2)-1983
CM/L-1432842 1985-07-06	Varindra Industrial Corporation, 402 Industrial Area 'A', Ludhiana 141003	IS : 1729-1979
CM/L-1432943 1985-07-06	Ghosh Engineering Industries, 3 Dutta Began Lane, P. O. Serampore, Dist Hooghly 712201 (WB)	IS : 503-1975
CM/L-1433036 1985-07-06	Fort William Company Ltd, 6/A G. T. Road, Konnagar (Hooghly) 712235 (Office: 14 Netaji Subhas Road, Calcutta 700001)	IS : 2141-1979
CM/L-1433137 1985-07-06	P. K. (Industrial) Enterprises, 2 Lakshmi Narayan Chakraborty Lane, Kadamtala, Howrah 711101 (WB)	IS : 503-1975
CM/L-1433238 1985-07-06	Maharashtra Agro Industries Development Corporation Ltd, Rhizobium Culture Unit Sugras Factory, Aarey Milk Colony, Goregaon (E), Bombay 400065 (Office: Rajan House, 3rd Floor, Near Century Bazar, Prabhadevi, Bombay 400025)	IS : 9138-1979
CM/L-1433339 1985-07-06	Lily Chemicals, 7 Industrial Estate, G. T. Road, Ambala City 134002	IS : 9825-1981
CM/L-1433440 1985-07-06	Swathy Chemicals Pvt Ltd, No. 66 Mount Poona-malle Road, Village Manapakkam, Taluk Sriperumbudur, Dist Chingleput (TN)	IS : 8249-1976
CM/L-1433541 1985-07-06	Konark Jute Ltd, Dhanmandal, Dist Cuttack (Orissa) (Office : 50A, Kharvela Nagar, Unit III, Bhubaneswar)	IS : 2580-1982
CM/L-1433642 1985-07-06	Universal Cables Ltd, Post Box No. 9, Satna 485001 (MP)	IS : 4289-1967
CM/L-1433743 1985-07-06	G. G. Dandekar Machine Works Ltd, Dandekar Wadi, Bhiwandi 421302, Dist Thane	IS : 10048-1981
CM/L-1433844 1985-07-06	Godrej Soaps Ltd, Pirojsha Nagar, Eastern Express Highway, Vikhroli, Bombay 400079 (Maharashtra)	IS : 9681-1980
CM/L-1433945 1985-07-06	Maharashtra Agro Industries Development Corporation Ltd, Pesticides Formulation Unit, Plot No. C-4, MIDC Area, Akola (Office: Rajan House, 3rd Floor, Near Century Bazar, Prabhadevi, Bombay 400025)	IS : 7121-1973
CM/L-1434038 1985-07-06	International Industries, 221 Quay Street, Reay Road, Bombay 400010 (Office: 10 Bombay Timber Market, Signal Hill Avenue, Reay Road, Bombay 400010)	IS : 3831-1979
CM/L 1434139 1985-07-06	G. G. Dandekar Machine Works Ltd, Dandekar Wadi, Bhiwandi 421302, Dist Thane	IS : 8427-1977
CM/L 1434240 1985-07-06	do	IS:10507-1983
CM/L-1434341 1985-07-06	Swarup Chemicals (P) Ltd, Water Works Road, Aish Bagh, Lucknow	IS : 562-1978
CM/L-1434442 1985-07-08	Electrosteel Castings Ltd, B. T. Road, P. O. Sukchar, 24 Parganas (WB)	IS : 6915-1978
CM/L-1434543 1985-07-06	R. D. Chemicals Pvt Ltd, C-114 Bulandshahr Road, Industrial Area, Ghaziabad	IS : 4654-1974
CM/L-1434644 1985-07-10	Tirupati Rasayan Udyog (P) Ltd, 1 Industrial Development Colony, 6th K. M. Stone, Delhi Road, Hissar	IS : 546-1975
CM/L-1434745 1985-07-06	Golden Steel Corporation Ltd, 64 G. T. Road, Liluah, Howrah 711204 (Office: P 35, India Exchange Place, Calcutta 700001)	IS : 1977-1975
CM/L-1434846 1985-07-06	Maharashtra Agro Industries Development Corporation Ltd, Rhizobium Culture Unit, Sugras Factory, Aarey Milk Colony, Goregaon (E), Bombay 400065 (Office: Rajan House, 3rd Floor, Near Century Bazar, Prabhadevi, Bombay 400025)	IS : 8268-1976
CM/L-1434947 1985-07-06	Liberty Chemical Works, Mogra Road (Office: Nagardas Road, Andheri East, Bombay 400069)	IS : 4751-1968

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1435040 1985-07-06	Liberty Chemical Works, Mogra Road (Office: Nagardas Road, Andheri East, Bombay 400069)	IS : 4752-1968
CM/L-1435141 1985-07-06	Indian Steel Rolling Mills Ltd, 156 Madras-Trivellore High Road, Thiruninravur P. O. 602024, Dist Chingleput (Office: Rajan House, 156 Greames Road, Madras 600006)	IS : 226-1975
CM/L-1435242 1985-07-06	Crop, Health Product Pvt Ltd, D-31/1 Industrial Area, Meerut Road, Ghaziabad 201003	IS : 1398-1974
CM/L-1435343 1985-07-06	Northern Minerals (P) Ltd, Daulatabad Road, Gurgaon (Haryana) (Office: 19-A, Rajendra Mansion, Ansari Road, Daryaganj, New Delhi 110002)	IS : 9356-1980
CM/L-1435444 1985-07-06	Ghaziabad Steel Tubes Company, 35 K. M. Delhi-Hapur Road, Ghaziabad (UP) (Office: 6/23, Shantimiketan, New Delhi 110021)	IS : 1161-1979
CM/L-1435545 1985-07-06	Anilmaa Associates, 227 Nangli Sakrawati, Najafgarh Road, New Delhi 110043	IS : 1554 (Part 1)-1976
CM/L-1435646 1985-06-11	Yeshwant Casting, W-46, MIDC Industrial Area, Shirol, Kolhapur 416122 (Maharashtra)	IS : 4246-1984
CM/L-1435747 1985-07-06	Electrosteel Castings Ltd, B. T. Road, P. O. Sukchar, 24 Parganas (WB)	IS : 6914-1978
CM/L-1435848 1985-07-06	Maharashtra Steel Containers Industries, 691 Ganpati Peth, Sangli 416416 (Office: E-1/2, MIDC Kupwad, Dist Sangli 416416)	IS : 1783 (Part 2)-1983
CM/L-1435949 1985-07-06	Bharatmata Engg Works, 38 Kantapur Lane, Howrah 711101 (WB)	IS : 2906-1980
CM/L-1436042 1985-07-06	Eskay Steel Fabricators 6/1, Nutan Para Road, Liluah, Howrah (Office: 23A, Netaji Subhas Road, 4th Floor, Room No. 6, Calcutta 700001)	IS : 226-1975
CM/L-1436143 1985-07-06	Sriman Hosiery Mills, 4-A, Appachi Nagar, II Street, Kongunagar, Tirupur 638607 (TN)	IS : 4964-1980
CM/L-1436244 1985-07-06	Drums & Barrels (Madras) Pvt Ltd, 5-A, Vaidyanathan Street, Tondiarpet, Madras 600081	IS : 1783 (Part 2)-1983
CM/L-1436345 1985-07-06	do	IS : 3575-1977
CM/L-1436446 1985-07-06	Lubricants & Chemicals (P) Ltd, XLVIII/1407 Anchumana Mamangalam, Cochin 682024 (Kerala) (Office: Ram Mohan View, Cochin 682031)	IS : 285-1974
CM/L-1436547 1985-07-05	Klassik Foods Pvt Ltd, Plot No. F-30, MIDC Satpur, Nasik 422007	IS : 1011-1981
CM/L-1436548 1985-07-06	Shree Durga Steel Re-rolling Mills, P.O. Kandrori, Dist Kangra (HP)	IS : 1786-1979
CM/L-1436749 1985-07-06	P. K. Industries, Sodal Road, Jalandhar City (Punjab)	IS : 2932-1974
CM/L-1436850 1985-07-15	Protecto Engineering Pvt Ltd, 26 Govt Industrial Estate, Kandivli, Bombay 400067 (Office: Beguman Chambers, 27/33 Nagindas Master Road, Fort, Bombay 400023)	IS : 8034-1976
CM/L-1436951 1985-07-15	Jeet Industries, Kunjpura Road (Near Power House), Karnal 132001 (Haryana)	IS : 133-1975
CM/L-1437044 1985-07-18	R. S. Industries, A-241, 242 (B), Room No. 6-D, Vishwakarma Industrial Area, Jaipur 302013	IS : 1977-1975
CM/L-1437145 1985-07-18	Shree Pipes Ltd, P. O. Hamirgarh 311025, Dist Bhilwara (Rajasthan)	IS : 1592-1980
CM/L-1437246 1985-07-18	Kirloskar Electric Company Limited, Gokul Road, Hubli 580030	IS : 7538-1975
CM/L-1437347 1985-07-18	Sahu Cylinders and Udyog Pvt Ltd, D-12, Sipcot Industrial Complex, Gummidipoondi, Dist Chingleput 601201 (Office: 'Nirmal', 3rd Floor, 241 Backbay Reclamation, Nariman Point, Bombay 400021)	IS : 3196-1974

LICENCE No. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-143748 1985-07-21	Awadh Spun Pipe Industries, Maya Bazar, Faridabad	IS 458-1971
CM/L-1437549 1985-07-21	Jai Swastik Hume Pipe Industries, Bhagwatiganj, Balrampur, Dist Gonda	do
CM/L-1437650 1985-07-21	Lakshmi Spun Pipe Company, A-11 Industrial Area, Basti (Office: Mahri Khawan, Gandhi Nagar, Basti)	do
CM/L-1437751 1985-07-21	Krishna Hume Pipe Mfg Company, Semra Maghar, Khalilabad, Basti (Office: Agarwal Bhavan, Alinagar, Gorakhpur)	do
CM/L-1437852 1985-07-21	Gahalaut & Chaudhary Steel Pvt Ltd, M/3, Phase IV, Adityapur Industrial Area, Gamharia, Jamshedpur 831001 (Singhbhum) (Office: Contractors Area, Jamshedpur 831001)	IS : 1786-1979
CM/L-1437953 1985-07-21	Aji Industries, QMC 610, Uliyacovil Middle Ward, Quilona (Kerala State) (Office: P. B. No. 46, Beach Road, Quilona 691001)	IS : 916-1975
CM/L-1438046 1985-07-21	Jay Nit Engineering Company, G-10 D, Laxmi Woolen Mill Compound, Shakti Mill Lane (Office: Dr E. Mosses Road, Mahalaxmi, Bombay 400011)	IS : 2171-1976
CM/L-1438147 1985-07-21	Bharat Udyog [Prop Manohar Lal Hira Lal (P) Ltd] 28 KM, Delhi-Meerut Road, P.O. Muradnagar, Dist Ghaziabad (Office: 20 Naya Ganj, Ghaziabad 201001)	IS : 432 (Part 2)-1982
CM/L-1438248 1985-07-21	Mehta Electric & General Industries, Friends Colony Industrial Estate, Street No. 2, G. T. Road, Shahdara, Delhi 110032	IS : 1258-1979
CM/L-1438349 1985-07-21	Assam Ispat Limited, Amingaon, Gauhati, Assam (Office: H. B. Road, Machkhowa, Gauhati 781009, Assam)	IS : 6914-1978
CM/L-1438450 1985-07-21	do	IS : 6915-1978
CM/L-1438551 1985-07-21	Shree Cement Ltd, Bangur Nagar, Beawar Masuda Road, P. B. No. 33, Beawar (Rajasthan) (Office: Beawar Masuda Road, Village Andheri Deori, Beawar)	IS : 1489-1976
CM/L-1438652 1985-07-21	Patna Dairy Project, Feeds Balancing Dairy, Phulwarisharif, Patna (Office: B-9, Sri Krishnapuri, Patna 800001)	IS : 1165-1975
CM/L-1438753 1985-07-21	Eastern Bio Lab, Taki Road, Bamanmura, P.O. Badu, Dist 24 Paraganas	IS : 8268-1976
CM/L-1438854 1985-07-21	do	IS : 9138-1979
CM/L-1438955 1985-07-21	Continental Instrument (India), 2680 Timber Market, Ambala Cantt 133001	IS : 1223 (Part 2)-1982
CM/L-1439048 1985-07-21	Punjab Steel Works, Chauri-chaura, Dist Gorakhpur (Office: Ashok Nagar, Chauri-chaura, Dist Gorakhpur)	IS : 1786-1979
CM/L-1439149 1985-07-21	Advance Valves Pvt Ltd, Plot No. 60/61, MIDC Industrial Area, Chikalthana, Aurangabad 431210 (Office: Raghuwanshi Court Road, Aurangabad 431001)	IS : 810-1974
CM/L-1439250 1985-07-21	Cable Corporation of (I) Ltd, Dattapada Road, Borivli (E), Bombay 400066	IS : 1026-1960
CM/L-1439351 1985-07-23	Shree Bhagwati Re-rolling Mills, Road No. 6, F-551 Vishwakarma Industrial Area, Jaipur 302013	IS : 1977-1975
CM/L-1439452 1985-07-23	Swadeshi Enterprise & Chemical Industries 111/108A, Pukharpur, Kanpur (Office: 26/50, Birhana Road, Kanpur)	IS : 8074-1983
CM/L-1439553 1985-07-25	M. Lal & Company, X-33 Okhla Industrial Area, Phase II, New Delhi 110020	IS : 694-1977

ADDITIONAL VARIETIES OF PRODUCTS INCLUDED IN THE EXISTING LICENCES

SL No.	LICENCE NO.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-0410827	Globe Super Parts, Faridabad	IS : 4246-1984	New variety of domestic gas stoves for use with liquefied petroleum gases, double burner stainless steel sheet body (conventional) with cast iron burners with total gas consumption 266 g/h, big burner 1 688 kcal/h and small burner 1 206 kcal/h included in the licence with effect from 1985-06-29
2	CM/L-1185043	Fusebase India Pvt Ltd, Faridabad	do	New variety of domestic gas stoves for use with liquefied petroleum gases, double burner CRC sheet and nickel/chrome plated with stainless steel burner tops and mild steel fabricated mixing tubes with total gas consumption 254 g/h, small burner 1 206 kcal/h and big burner 1 554 kcal/h included in the licence with effect from 1985-07-06
3	CM/L-1253539	Mahender & Company, New Delhi	IS : 2548-1980	New variety of plastic water closet seats and covers, type 2A, Hollow included in the licence with effect from 1985-07-13
4	CM/L-1265344	Gemco Pressings India, Delhi	IS : 4246-1984	New variety of domestic gas stoves for use with liquefied petroleum gases, double burner stainless steel sheet body with total gas consumption 332 g/h, big burner 2 064 kcal/h and small burner 1 554 kcal/h included in the licence with effect from 1985-07-24
5	CM/L-1384453	Maruti Home Appliances, Faridabad	IS : 4760-1979	New variety of domestic cooking ranges including grillers for use with liquefied petroleum gases, top surface ranges with two boiling burners and a griller only, stainless steel sheet body with total gas consumption 480 g/h, big burner 2 064 kcal/h, small burner 1 554 kcal/h and grill burner 1 608 kcal/h included in the licence with effect from 1985-07-06
6	CM/L-1388158	Prithvi Innovations Pvt Ltd, Delhi	IS : 4246-1984	New variety of domestic gas stoves for use with liquefied petroleum gases, double burner stainless steel sheet body with total gas consumption 332 g/h, big burner 2 064 kcal/h and small burner 1 554 kcal/h included in the licence with effect from 1985-07-24
7	CM/L-1409544	Maruti Home Appliances, Faridabad	do	New variety of domestic gas stoves for use with liquefied petroleum gases, double burner stainless steel sheet body with total gas consumption 332 g/h, big burner 2 064 kcal/h and small burner 1 554 kcal/h included in the licence with effect from 1985-07-06

LICENCES CANCELLED

SL No.	LICENCE NO.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-0704339	Shyam Udyog, Panvel	IS : 2834-1964	Cancelled with effect from 1984-12-16; as the firm is not interested in holding the licence

Sl. No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
2	CM/L-1051325	Fusebase India (P) Ltd, Badli	IS : 4246-1984	Cancelled with effect from 1985-05-16; as the firm is not interested in holding the licence
3	CM/L-1272442	Bee Dee Steel Rolling Mills, Jalandhar	IS : 1786-1979	do
4	CM/L-1331634	Krishi Rasayan P. O. Ranital, Dist. Balasore	IS : 1307-1982	Cancelled with effect from 1985-02-01; as the firm is not interested in holding the licence
5	CM/L-1410125	Jet Paints & Allied Products, Kottayam	IS : 2932-1974	Cancelled with effect from 1985-04-16; as the firm is not interested in holding the licence

LICENCES LAPSED

Sl. No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-0145329	Excel Industries Limited, Bombay	IS : 3284-1965	Lapsed after 1985-06-15
2	CM/L-0207931	IMCC, Bombay	IS : 561-1978	Renewal was deferred after 1984-10-31; the licence now stands lapsed after that date
3	CM/L-0331629	Devidayal Electronics & Wires Ltd, Thane	IS : 1835-1976	Renewal was deferred after 1984-12-31; the licence now stands lapsed after that date
4	CM/L-0350633	Suessen Textile Bearing Limited, Vadodara	IS : 3176-1971	Renewal was deferred after 1984-08-15; the licence now stands lapsed after that date
5	CM/L-0371439	Sirhind Iron Rolling Mills, Ahmadabad	IS : 226-1975	Lapsed after 1985-02-15
6	CM/L-0391041	East India Industries (Madras) Pvt Ltd, Madras	IS : 1322-1982	Renewal was deferred after 1984-08-15; the licence now stands lapsed after that date
7	CM/L-0471241	Punalur Paper Mills, Punalur	IS : 1848-1981	Renewal was deferred after 1984-10-31; the licence now stands lapsed after that date
8	CM/L-0511227	Malhotra Scientific Glass Works, Ambala Cantt	IS : 1223 (Part 1)-1970	Renewal was deferred after 1983-06-30; the licence now stands lapsed after that date
9	CM/L-0578158	Anand Steel Rolling Works Pvt Ltd, Anand	IS : 1977-1975	Renewal was deferred after 1984-01-15; the licence now stands lapsed after that date
10	CM/L-0579362	Hindustan Chemical Industries, Bhagalpur	IS : 4654-1974	Renewal was deferred after 1983-12-31; the licence now stands lapsed after that date
11	CM/L-0585054	IMCC, Bombay	IS : 2861-1964	Renewal was deferred after 1984-10-31; the licence now stands lapsed after that date
12	CM/L-0605034	Loharu Steel Industries, Calcutta	IS : 226-1975	Renewal was deferred after 1985-04-30; the licence now stands lapsed after that date
13	CM/L-0620434	Malhotra Scientific Glass Works, Amabala Cantt	IS : 1223 (Part 3)-1972	Renewal was deferred after 1983-11-30; the licence now stands lapsed after that date
14	CM/L-0696063	C. P. Foundry Works, Nagpur	IS : 1726 (Part 4)-1974	Renewal was deferred after 1985-06-15; the licence now stands lapsed after that date
15	CM/L-0698572	Punjab United Pesticides & Chemicals, Dist Patiala	IS : 1832-1978	Lapsed after 1985-04-30
16	CM/L-0715344	Bharat Pulverising Mills Pvt Ltd, Bombay	IS : 1251-1973	Renewal was deferred after 1984-01-31; the licence now stands lapsed after that date
17	CM/L-0717954	Oyes Textiles, Tirupur	IS : 4964-1980	Renewal was deferred after 1984-08-31; the licence now stands lapsed after that date

Sl. No.	LICENCE No.	NAME OF THE LICENCEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
18	CM/L-0725246	Hafi Electra, Thane	IS : 325-1978	Renewal was deferred after 1983-10-31; the licence now stands lapsed after that date
19	CM/L-0734853	Premier Pesticides (P) Ltd, Kalamassery	IS : 565-1975	Renewal was deferred after 1984-11-30; the licence now stands lapsed after that date
20	CM/L-0737051	Rajesh Steel Industries (P) Ltd, Nagpur	IS : 1977-1975	do
21	CM/L-0745246	Reshmy's Wax & Chemicals (P) Ltd, Ambalamedu	IS : 4654-19/4	Renewal was deferred after 1985-01-15; the licence now stands lapsed after that date
22	CM/L-0746153	Rajivkamal Industries, Patna	IS : 6595-1980	Renewal was deferred after 1984-06-30; the licence now stands lapsed after that date
23	CM/L-0746254	Sangido Enterprises, Calcutta	IS : 7406 (Part 1)-19/4	Renewal was deferred after 1983-06-30; the licence now stands lapsed after that date
24	CM/L-0752350	Crop Health Products Pvt Ltd, Ghaziabad	IS : 6439-1978	Lapsed after 1985-05-15
25	CM/L-0759061	Mohan Steels Ltd, Unnao	IS : 6914-1975	Renewal was deferred after 1984-02-29; the licence now stands lapsed after that date
26	CM/L-0763352	Shakti Sales Corporation, Meerut	IS : 3055 (Part 1)-1977	Renewal was deferred after 1984-07-31; the licence now stands lapsed after that date
27	CM/L-0764862	Bajaria Coatings Industries (P) Ltd, Calcutta	IS : 1551-1976	Renewal was deferred after 1985-03-31; the licence now stands lapsed after that date
28	CM/L-0766159	Asian Chemical Works, Bombay	IS : 6406-1977	Renewal was deferred after 1982-03-31; the licence now stands lapsed after that date
29	CM/L-0772255	Star Electricals (India), Delhi	IS : 4159-1976	Renewal was deferred after 1984-01-31; the licence now stands lapsed after that date
30	CM/L-0782359	Coastal Packagers Pvt Ltd, Calcutta	IS : 7406 (Part 1)-1974	Renewal was deferred after 1983-06-30; the licence now stands lapsed after that date
31	CM/L-0794669	Kohinoor Paints (P) Ltd, Amritsar	IS : 127-1962	Renewal was deferred after 1984-08-31; the licence now stands lapsed after that date
32	CM/L-0794972	do	IS : 167-1950	do
33	CM/L-0806953	Sirhind Iron Rolling Mills (P) Ltd, Ahmadabad	IS : 1786-1979	Renewal was deferred after 1985-02-16; the licence now stands lapsed after that date
34	CM/L-0822345	T. S. R. & Company, Madras	IS : 3959-1978	Renewal was deferred after 1984-12-31; the licence now stands lapsed after that date
35	CM/L-0897376	Shri Ambika Metal Works, Calcutta	IS : 1786-1979	Renewal was deferred after 1984-09-30; the licence now stands lapsed after that date
36	CM/L-0898984	Bantia Steel Industries Pvt Ltd, Secunderabad	IS : 3312-1974	Renewal was deferred after 1983-09-30; the licence now stands lapsed after that date
37	CM/L-0913045	Plant Cure Concentrates, Saharanpur	IS : 565-1975	Renewal was deferred after 1984-11-15; the licence now stands lapsed after that date
38	CM/L-0918055	Nagarjuna Agro & Steel Corporation, Dist Guntur	IS : 633-1975	Renewal was deferred after 1984-12-15; the licence now stands lapsed after that date
39	CM/L-0926761	Excel Industries Ltd, Bombay	IS : 3284-1965	Renewal was deferred after 1984-06-15; the licence now stands lapsed after that date
40	CM/L-0935762	Maharashtra Capacitors, Pune	IS : 2834-1964	Renewal was deferred after 1984-02-15; the licence now stands lapsed after that date

SL No	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
41	CM/L-0948165	Guru Ram Dass Iron & Steel Rolling Mills, Mandi Gobindgarh	IS : 226-1975	Lapsed after 1985-03-15
42	CM/L-0968979	Hemavathy Chemicals & Pesticides, Hassan	IS : 562-1978	Renewal was deferred after 1984-05-31; the licence now stands lapsed after that date
43	CM/L-0977778	Sangido Enterprises, Calcutta	IS : 7406 (Part 2)-1980	Renewal was deferred after 1983-06-30; the licence now stands lapsed after that date
44	CM/L-1009326	Gujarat Agrochemicals Mfg Company, Naroda	IS : 4783-1982	Renewal was deferred after 1984-11-30; the licence now stands lapsed after that date
45	CM/L-1014925	Chetna Capacitors, Pune	IS : 2834-1964	Renewal was deferred after 1983-12-15; the licence now stands lapsed after that date
46	CM/L-1037937	Hindustan Rolling Mills, Siliguri Town	IS : 1786-1979	Renewal was deferred after 1985-02-28; the licence now stands lapsed after that date
47	CM/L-1072939	Indiana Cosmetics & Chemicals Industries, Raipur	IS : 4654-1974	Lapsed after 1985-04-30
48	CM/L-1087851	Akay Rolling Mills (P) Ltd, Faridabad	IS : 226-1975	Lapsed after 1985-06-15
49	CM/L-1090234	Jaypee Chemicals Ltd, Sikandrabad	IS : 1832-1978	Lapsed after 1985-05-31
50	CM/L-1094141	J & K Engineering, Thiruvottiyur	IS : 702-1961	Renewal was deferred after 1984-07-15; the licence now stands lapsed after that date
51	CM/L-1133832	Verma Engg Works, Batala	IS : 9020-1979	Renewal was deferred after 1984-11-30; the licence now stands lapsed after that date
52	CM/L-1148542	Vishal Bharat Agro Industries, Moga	do	Renewal was deferred after 1985-01-15; the licence now stands lapsed after that date
53	CM/L-1149241	Premier Pesticides (P) Ltd, Kalamassery	IS : 633-1975	Renewal was deferred after 1984-11-30; the licence now stands lapsed after that date
54	CM/L-1169449	All India Medical Corporation, Naroda	IS : 9359-1980	Renewal was deferred after 1985-03-15; the licence now stands lapsed after that date
55	CM/L-1189455	Liberty Pesticides Industries, Udaipur	IS : 8960-1978	Renewal was deferred after 1984-05-31; the licence now stands lapsed after that date
56	CM/L-1189758	Magnum Opus Engineers, Coimbatore	IS : 4246-1984	do
57	CM/L-1190743	Titan Engg Works Ltd, Bombay	do	Lapsed after 1985-05-31
58	CM/L-1192444	Kissan Chemicals, Chandigarh	IS : 8028-1976	Lapsed after 1985-06-15
59	CM/L-1192646	Lahariya Industries, Gwalior	IS : 4246-1984	Renewal was deferred after 1984-06-15; the licence now stands lapsed after that date
60	CM/L-1199458	Liberty Pesticides Industries, Udaipur	IS : 561-1978	Renewal was deferred after 1984-06-30; the licence now stands lapsed after that date
61	CM/L-1202421	do	IS : 562-1978	Renewal was deferred after 1984-07-15; the licence now stands lapsed after that date
62	CM/L-1225938	Universal Pesticides, Bangalore	IS : 561-1978	Renewal was deferred after 1984-08-15; the licence now stands lapsed after that date
63	CM/L-1232935	National Engineering Industries Ltd, Calcutta	IS : 3735-1966	Renewal was deferred after 1984-09-15; the licence now stands lapsed after that date
64	CM/L-1245237	Malde Capacitors Mfg Company, Thane	IS : 2834-1964	Renewal was deferred after 1984-11-15; the licence now stands lapsed after that date

Sl. No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
65	CM/L-1258953	Maharashtra Steel Industries, Jalgaon	IS : 1786-1979	Renewal was deferred after 1984-12-31; the licence now stands lapsed after that date
66	CM/L-1262439	Hitkari Engineering Works, Moga	IS : 9020-1979	Renewal was deferred after 1985-01-15; the licence now stands lapsed after that date
67	CM/L-1270539	Uttra Rasayan Udyog Ltd, Sikandrabad	IS : 2567-1978	Lapsed after 1985-01-31
68	CM/L-1271036	Navyug Auto & Allied Industries, Jalandhar	IS : 7494-1974	Renewal was deferred after 1985-01-31; the licence now stands lapsed after that date
69	CM/L-1274143	Kanoria Alkalis & Plastics Ltd, Sahibabad	IS : 561-1978	Renewal was deferred after 1985-02-15; the licence now stands lapsed after that date
70	CM/L-1280643	National Re-rolling Mills, Nagpur	IS : 1786-1979	do
71	CM/L-1281342	Sethi Engg Works, Moga	IS : 9020-1979	do
72	CM/L-1281645	Hindustan Agriculture Corporation, Moga	do	do
73	CM/L-1288154	Rajasthan Agro Industries, Sri Ganganagar	do	Renewal was deferred after 1985-03-15; the licence now stands lapsed after that date
74	CM/L-1289661	Shakti Industries, Hyderabad	IS : 5348-1981	Lapsed after 1985-03-15
75	CM/L-1292246	Solar Syndicate, Dungri	IS : 8029-1976	Renewal was deferred after 1985-03-31; the licence now stands lapsed after that date
76	CM/L-1296557	National Re-rolling Mills, Nagpur	IS : 226-1975	do
77	CM/L-1297963	Lotus Pesticides, Sadri	IS : 8291-1976	do
78	CM/L-1308235	Jaypee Chemicals Ltd, Sikandrabad	IS : 4323-1980	Renewal was deferred after 1985-05-15; the licence now stands lapsed after that date
79	CM/L-1308336	do	IS : 3903-1975	Lapsed after 1985-05-15
80	CM/L-1316133	Annapurna Pulverising Mills, Eluru	IS : 7122-1973	Lapsed after 1985-06-15
81	CM/L-1317539	Volrho Limited, Secunderabad	IS : 1832-1978	do
82	CM/L-1321631	Krishna Metals Industries Ltd, Hyderabad	IS : 226-1975	Lapsed after 1985-06-30

ACID TEST OF PRODUCTIVITY

The acid test of productivity is the quality, the values, the power of full production at the smallest unit of efforts, fueled by human energy but with maximum ingenuity. This yields a string of worthwhile results for legitimate and beneficial distribution to the widest body of associated publics.

INDIAN STANDARDS

The Standards listed below have been classified departmentwise.

NEW AND REVISED INDIAN STANDARDS

AGRICULTURAL AND FOOD PRODUCTS DEPARTMENT

IS : 4366 (Part 2)-1985 Agricultural tillage discs: Part 2 Flat type (second revision). Gr 3

IS : 6320-1985 Power thresher, hammer-mill type (first revision). Gr 3

IS : 10898-1984 Fortified wheat Atta. Gr 2

IS : 10899-1984 Fortified wheat Maida. Gr 2

IS : 10900-1984 Fortified barley powder. Gr 2

IS : 10901-1984 Paushtik wheat Atta. Gr 4

IS : 10902-1984 Paushtik Wheat Maida. Gr 2

IS : 10903-1984 Paushtik Barley powder. Gr 2

IS : 11135-1984 Metoxuron, technical. Gr 3

IS : 11204-1985 Sugarcane harvesting knife. Gr 2

IS : 11238-1985 Hubs for cane knives. Gr 2



CHEMICAL DEPARTMENT

IS : 2034-1961 Butter tins. Gr 2

IS : 3025 (Part 4)-1983 Methods of sampling and test (physical and chemical) for water and waste water: Part 4

Colour (first revision). Gr 3

IS : 3025 (Part 16)-1984 Methods of sampling and test (physical and chemical) for water and waste water: Part 16 Filterable residue (total dissolved solids) (first revision). Gr 1

IS : 11230-1985 Leather for utility glove. Gr 2

IS : 4671-1984 Expanded polystyrene for thermal insulation purposes (first revision). Gr 5

CIVIL ENGINEERING DEPARTMENT

IS : 712-1984 Building limes (third revision). Gr 3

IS : 774-1984 Flushing cisterns for water-closets and urinals (other than plastic cisterns) (fourth revision). Gr 4

IS : 3499 (Part 1)-1985 Metal chairs for office purposes: Part 1 Non-revolving and non-tilting (second revision). Gr 2

IS : 3499 (Part 2)-1985 Metal chairs for office purposes: Part 2 Revolving and tilting (second revision). Gr 2

IS : 4422-1985 Willow clefts for cricket bats (first revision). Gr 2

IS : 4895-1985 Teak logs (first revision). Gr 3

IS : 6189-1985 Metal stationery cupboards (first revision). Gr 3

IS : 7231-1984 Plastic flushing cisterns for water-closets and urinals (first revision). Gr 5

IS : 7760-1985 Steel glass-front cabinets (first revision). Gr 3

IS : 9338-1984 Cast iron screw-down stop valves and stop and check valves for water works purposes (first revision). Gr 5

IS : 9561-1985 Code of practice for felling and conversion of trees into logs (first revision). Gr 3

IS : 11108-1984 Portable fire extinguishers — halon 1211 type. Gr 4

IS : 11130-1984 Criteria for structural design of barrages and weirs. Gr 7

IS : 11196-1985 Equipment for determination of liquid limit of soils cone penetration method. Gr 4

IS : 11208-1985 Guidelines for registration of plumbers. Gr 3

IS : 11215-1985 Determination of moisture content of timber and timber products. Gr 4

ELECTRONICS AND TELECOMMUNICATION DEPARTMENT

IS : 8872 (Part 4/Sec 4)-1984 Variable resistors: Part 4 Preset, Section 4 Type VRT 4 P. Gr 5

IS : 11018 (Part 2)-1984 Expression of the properties of cathode-ray oscilloscopes: Part 2 Storage oscilloscopes. Gr 4

ELECTROTECHNICAL DEPARTMENT

IS : 10810 (Part 25)-1984 Methods of test for cables: Part 25 Conductivity of water extract test of insulating paper. Gr 1

IS : 10810 (Part 26)-1984 Methods of test for cables: Part 26 pH value of water extract test of insulating paper. Gr 1

IS : 10810 (Part 27)-1984 Methods of test for cables: Part 27 Ash content test of insulating paper. Gr 1

IS : 10810 (Part 28)-1984 Methods of test for cables: Part 28 Water absorption test (electrical). Gr 1

IS : 10810 (Part 29)-1984 Methods of test for cables: Part 29 Environmental stress cracking test. Gr 1

IS : 10810 (Part 30)-1984 Methods of test for cables: Part 30 Hot set test. Gr 1

IS : 10810 (Part 31)-1984 Methods of test for cables: Part 31 Oil resistance test. Gr 1

IS : 10810 (Part 32)-1984 Methods of test for cables: Part 32 Carbon content test for polyethylene. Gr 1

IS : 10810 (Part 33)-1984 Methods of test for cables: Part 33 Water absorption test (gravimetric). Gr 1

IS : 10810 (Part 34)-1984 Methods of test for cables: Part 34 Measure-

ment of thickness of metallic sheath, Gr 1

IS : 10810 (Part 35)-1984 Methods of test for cables: Part 35 Determination of tin in lead alloy for sheathing, Gr 1

IS : 10810 (Part 36)-1984 Methods of test for cables: Part 36 Dimensions of armouring material, Gr 1

IS : 10810 (Part 37)-1984 Methods of test for cables: Part 37 Tensile strength and elongation at break of armouring materials, Gr 1

IS : 10810 (Part 40)-1984 Methods of test for cables: Part 40 Uniformity of zinc coating on steel armour, Gr 1

MARINE, CARGO MOVEMENT AND PACKAGING DEPARTMENT

IS : 7408 (Part 1)-1984 Blow moulded polyolefin containers: Part 1 Up to 5 litres capacity (first revision), Gr 5

IS : 8013-1985 Performance requirements and testing of marine diesel engines for fishing vessels (first revision), Gr 4

IS : 11218-1984 Marine valve hand wheels, Gr 1

MECHANICAL ENGINEERING DEPARTMENT

IS : 1135-1984 Laminated springs assembly for automobile suspension (third revision), Gr 6

IS : 4022-1985 (Indexable (throw-away) carbide inserts without fixation hole (first revision), Gr 4

IS : 5895-1985 Steel roller conveyors (first revision), Gr 5

IS : 8198 (Part 1)-1984 Code of practice for steel cylinders for compressed gases: Part 1 Atmospheric gases (first revision), Gr 6

IS : 9975 (Part 3)-1984 'O' rings: Part 3 Seal housing dimensions, tolerances and design criteria for standard applications, Gr 7

IS : 11157-1984 Pneumatic tyres for mopeds — diagonal ply, Gr 3

IS : 11173 (Part 2)-1985 Recommendations for tool shanks 7/24 taper for numerically controlled machine tools with automatic tool changers (tool rotating type): Part 2 Retention knobs, Gr 2

IS : 11178-1985 Recommendations for storage and handling of pneumatic tyres for automotive vehicles, Gr 2

IS : 11188-1985 Vault doors, Gr 3

PETROLEUM, COAL AND RELATED PRODUCTS DEPARTMENT

IS : 2744-1984 1-Naphthylamine (first revision), Gr 4

IS : 3065-1985 Cutting oil, neat (second revision), Gr 2

IS : 3708 (Part 1)-1985 Methods of test for natural rubber latex: Part 1 Determination of dry rubber content NRL : 1 (first revision), Gr 3

IS : 3708 (Part 2)-1985 Methods of test for natural rubber latex: Part 2 Determination of sludge content NRL : 5 (first revision), Gr 3

IS : 3708 (Part 3)-1985 Methods of test for natural rubber latex: Part 3 Determination of density NRL : 6 (first revision), Gr 3

IS : 3708 (Part 4)-1985 Methods of test for natural rubber latex: Part 4 Determination of total alkalinity NRL : 7 (first revision), Gr 3

IS : 3708 (Part 5)-1985 Methods of test for natural rubber latex: Part 5 Determination of KOH-number NRL : 8 (first revision), Gr 3

IS : 3708 (Part 6)-1985 Methods of test for natural rubber latex: Part 6 Determination of mechanical stability NRL : 9 (first revision), Gr 3

IS : 6092 (Part 2)-1985 Methods of sampling and test for fertilizers: Part 2

Determination of nitrogen (first revision), Gr 5

IS : 6092 (Part 3)-1985 Methods of sampling and test for fertilizers: Part 3 Determination of phosphorus (first revision), Gr 4

IS : 6092 (Part 4)-1985 Methods of sampling and test for fertilizers: Part 4 Determination of potassium (first revision), Gr 4

IS : 7623-1985 Lithium base grease for industrial purposes (first revision), Gr 3

IS : 8406-1985 Gear lubricants for enclosed industrial gear drives (first revision), Gr 3

IS : 11176-1985 3,3'-Dichlorobenzidine salts, Gr 2

IS : 11177-1985 4-Nitro-2-toluidine, Gr 2

STRUCTURAL AND METALS DEPARTMENT

IS : 7806-1985 Martensitic and austenitic high alloy steel castings for high temperature service (first revision), Gr 3

IS : 8800-1985 Technical delivery conditions for steel casting (first revision), Gr 4

IS : 11166-1984 Permissible deviation on dimensions, surface roughness with investment casting process, Gr 2

IS : 11232-1985 Chromate conversion coatings on aluminium, Gr 2

TEXTILE DEPARTMENT

IS : 3920-1985 Methods for sampling of cotton yarn for determination of physical characteristics (first revision), Gr 3

IS : 11187-1985 Spring bottoms for cylindrical sliver cans, Gr 3

IS : 11191-1985 Methods for sampling of woollen fabrics, Gr 3

IS : 11200-1985 Terminology for open-end spinning, Gr 2

STANDARDIZATION FOR APPROPRIATE FARM MECHANIZATION—Continued from page 319

should be got verified from ISI before calling tenders to avoid quoting outdated standards in the tender notices. A manufacturer may not find any difficulty in supplying products to any standard, but the purchaser may be at a loss while purchasing a product in

accordance with the old version of a standard which has become outdated.

b) The purchaser should be clear whether he wants the product to conform to an Indian Standard or to bear the ISI Certification Mark. These are two different things. In the former

case, the claim of conformity is that of the manufacturer and ISI has no responsibility in regard to quality of the concerned product whereas in the latter case, ISI gives a third-party guarantee regarding its quality on behalf of the manufacturer.

INTERNATIONAL STANDARDS

■ ISO STANDARDS

AGRICULTURAL FOOD PRODUCTS (TC 34)

ISO 1990/2-1985 Fruits — Nomenclature — Second list

ISO 1991/2-1985 Vegetables — Nomenclature — Second list

ISO 6648-1985 Rice — Evaluation of cooking behaviour using a visco-elastograph

ISO 6740-1985 Dried whey — Determination of nitrate and nitrite contents — Method by cadmium reduction and spectrometry

ISO 7218-1985 Microbiology — General guidance for microbiological examinations

AIRCRAFT AND SPACE VEHICLES (TC 20)

ISO 1161/2-1985 Flight dynamics — Concepts, quantities and symbols: Part 2 Motions of the aircraft and the atmosphere relative to the Earth

ISO 1161/7-1985 Flight dynamics — Concepts, quantities and symbols: Part 7 Flight points and flight envelopes

ISO 7166-1985 Aircraft — Rial and stud configuration for passenger equipment and cargo restraint

ISO 7715-1985 Air cargo equipment — Ground handling and transport systems for unit load devices — Minimum requirements

ISO 7716-1985 Air cargo equipment — Unit load devices transport vehicle (UTV) — Functional requirements

ISO 8074-1985 Aerospace — Surface treatment of austenitic stainless steel parts

ISO 8075-1985 Aerospace — Surface treatment of hardenable stainless steel parts

ISO 8279-1985 Aerospace — Plain hexagon nuts with strength classification 1 100 MPa and maximum operating temperature 235°C

ANALYSIS OF GASES (TC 158)

ISO 8158-1985 Evaluation of the performance characteristics of gas analysers

APPLICATION OF STATISTICAL METHODS (TC 69)

ISO 2859/2-1985 Sampling procedures for inspection by attributes: Part 2 Sampling plans indexed by limiting quality (LQ) for isolated lot inspection

BUILDING CONSTRUCTIONS (TC 59)

ISO 6284-1985 Tolerances for building — Indication of tolerances on building and construction drawings

CHEMISTRY (TC 47)

ISO 7104-1985 Liquefied anhydrous ammonia for industrial use — Determination of water content — Gas chromatographic method

ISO 7942-1985 Information processing systems — Computer graphics — Graphical Kernel System (GKS) functional description

ISO 8006-1985 Carbonaceous materials used in the production of aluminium — Pitch for electrodes — Determination of ash

CINEMATOGRAPHY (TC 36)

ISO 162-1985 Cinematography — Head gaps and sound records for three, four, or six-track magnetic sound records on 35 mm and single-track on 17,5 mm motion-picture film containing no picture — Positions and width dimensions

ISO 1223-1985 Cinematography — Picture areas for motion-picture films and slides for television — Position and dimensions

COMPUTER AND INFORMATION PROCESSING (TC 97)

ISO 7501-1985 Identification cards — Machine readable passport

CRANES, LIFTING APPLIANCES AND RELATED EXCAVATOR EQUIPMENT (TC 96)

ISO 4301/2-1985 Lifting appliances — Classification: Part 2 Mobile cranes

ISO 7752/2-1985 Lifting appliances — Controls — Layout and characteristics: Part 2 Basic arrangement and requirements for mobile cranes

DENTISTRY (TC 106)

ISO 1942-1983/Add 5-1985 Dental vocabulary — Addendum 5

ISO 7491-1985 Dental materials — Determination of colour stability of dental polymeric materials

DOCUMENTATION (TC 46)

ISO/TR 8393-1985 Documentation — ISO bibliographic filing rules (International Standard Bibliographic Filing Rules) — Exemplification of bibliographic filing principles in a model set of rules

DOORS AND WINDOWS (TC 162)

ISO 8275-1985 Doorsets — Vertical load test

EARTH MOVING MACHINERY (TC 127)

ISO 3541-1985 Earth-moving machinery — Dimensions of fuel filler opening

IMPLANTS FOR SURGERY (TC 150)

ISO 5841/1-1985 Implants for
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surgery — Cardiac pacemakers: Part 1 Implantable ventricular pacemakers

ISO 7206/1-1985 Implants for surgery — Partial and total hip joint prostheses: Part 1 Classification, designation of dimensions and requirements

ISO 7207/1-1985 Implants for surgery — Partial and total knee joint prostheses: Part 1 Classification, definitions and designation of dimensions

IRON ORES (TC 102)

ISO 7215-1985 Iron ores — Determination of relative reducibility

MATERIALS AND EQUIPMENT FOR PETROLEUM AND NATURAL GAS INDUSTRIES (TC 67)

ISO 5226-1985 Materials and equipment for petroleum and natural gas industries — Aluminium alloy drill pipe for oil or natural gas wells

MECHANICAL CONTRACEPTIVES (TC 157)

ISO 8009/2-1985 Reusable rubber contraceptive diaphragms: Part 2 Determination of size

ISO 8009/3-1985 Reusable rubber contraceptive diaphragms: Part 3 Determination of dome thickness

ISO 8009/5-1985 Reusable rubber contraceptive diaphragms: Part 5 Determination of tensile properties

ISO 8009/6-1985 Reusable rubber contraceptive diaphragms: Part 6 Determination of deterioration after accelerated ageing

ISO 8009/7-1985 Reusable rubber contraceptive diaphragms: Part 7 Determination of compression resistance of coil spring and flat spring diaphragms

ISO 8009/8-1985 Reusable rubber contraceptive diaphragms: Part 8 Determination of twisting during compression of coil spring and flat spring diaphragms

ISO 8009/9-1985 Reusable rubber contraceptive diaphragms: Part 9 Packaging and labelling

ISO 8009/10-1985 Reusable rubber contraceptive diaphragms: Part 10 Recommendations for storage

METROLOGY AND PROPERTIES OF SURFACES (TC 57)

ISO 2632/1-1985 Roughness comparison specimens: Part 1 Turned, ground, bored, milled, shaped and planed

ISO 4291-1985 Methods for the assessment of departure from round-

ness — Measurement of variations in radius

ISO 5436-1985 Calibration specimens — Stylus instruments — Types, calibration and use of specimens

ISO 6318-1985 Measurement of roundness — Terms, definitions and parameters of roundness

NON-DESTRUCTIVE TESTING (TC 135)

ISO 5579-1985 Non-destructive testing — Radiographic examination of metallic materials by X- and gamma rays — Basic rules

PACKAGING (TC 122)

ISO 780-1985 Packaging — Pictorial marking for handling of goods

PAPER, BOARD AND PULPS (TC 6)

ISO 287-1985 Paper and board — Determination of moisture content — Oven-drying method

ISO 1924/2-1985 Paper and board — Determination of tensile properties: Part 2 Constant rate of elongation method

PLASTICS (TC 61)

ISO 1675-1985 Plastics — Liquid resins — Determination of density by pycnometer method

ISO 2078-1985 Textile glass — Yarns — Designation

ISO 4575-1985 Plastics — Polyvinyl chloride pastes — Determination of apparent viscosity using the Severs rheometer

PLASTICS PIPES, FITTINGS AND VALVES FOR THE TRANSPORT OF FLUIDS (TC 138)

ISO 727-1985 Fittings of unplasticized polyvinyl chloride (PVC-U), chlorinated polyvinyl chloride (PVC-C) or acrylonitrile/butadiene/styrene (ABS) with plain sockets for pipes under pressure — Dimensions of sockets — Metric series

QUANTITIES, UNITS, SYMBOLS, CONVERSION FACTORS AND CONVERSION TABLES (TC 12)

ISO 31/1-31/10 and 31/13 Amend 1-1985 Quantities and units — Amendment 1

ROAD VEHICLES (TC 22)

ISO 3808/2-1980 Amend 1-1985 Road-vehicles — Unscreened high-

tension ignition cables: Part 2 Cable class, types, applicable tests and special requirements — Amendment 1

RUBBER AND RUBBER PRODUCTS (TC 45)

ISO 123-1985 Rubber latex — Sampling

ISO 706-1985 Rubber latex — Determination of coagulum content (sieve residue)

ISO 1364-1985 Rubber compounding ingredients — Carbon black — Determination of iodine adsorption number — Titrimetric method

ISO 4656/1-1985 Rubber compounding ingredients — Carbon black — Determination of dibutylphthalate absorption number: Part 1 Method using absorptometer

ISO 6810-1985 Rubber compounding ingredients — Carbon black — Determination of surface area — Surfactant adsorption methods

ISO 7323-1985 Rubber, raw and unvulcanized compounded — Determination of plasticity number and recovery number — Parallel plate method

SAFETY DEVICES FOR PROTECTION AGAINST EXCESSIVE PRESSURE (TC 185)

ISO 6718-1985 Bursting discs and bursting disc devices

SMALL TOOLS (TC 29)

ISO 1180-1983/Add 1-1985 Shanks for pneumatic tools and dimensions of chuck bushings — Addendum 1

ISO 2586-1985 Shell end mills with plain bore and tenon drive — Metric series

ISO 5610-1985 Single point tool holders for turning and copying, for indexable inserts — Dimensions

ISO 8017-1985 Mould guide pillars, straight and shouldered, and locating guide pillars, shouldered

ISO 8018-1985 Mould guide bushes, headed, and locating guide bushes, headed

TECHNICAL DRAWINGS (TC 10)

ISO 129-1985 Technical drawings — Dimensioning — General principles, definitions, methods of execution and special indications

ISO 3511/4-1985 Industrial process measurement control functions and instrumentation — Symbolic representation: Part 4 Basic symbols for process computer interface, and shared display/control functions

**TRACTORS AND MACHINERY
FOR AGRICULTURE AND
FORESTRY (TC 23)**

ISO 6534-1985 Forestry machinery
— Portable chain-saws — Front hand-
guard — Determination of strength

ISO 7714-1985 Irrigation equip-
ment — Volumetric valves — General
requirements and test methods

ISO 7918-1985 Forestry machinery
— Portable brush-saws — Circular
saw-blade guard — Dimensions

ISO 8380-1985 Forestry machinery
— Portable brush-saws — Circular
saw-blade guard — Strength

IEC PUBLICATIONS

ELECTRIC CABLES (TC 20)

IEC 800 (1984) Heating cables with
a rated voltage of 300/500V for
comfort heating and prevention of ice
formation

IEC 811-1-2 (1985) Common test
method for insulating and sheathing
materials of electric cables: Part 1
Methods for general application,
Section Two — Thermal ageing
methods

IEC 811-1-3 (1985) Common test
methods for insulating and sheathing
materials of electric cables: Part 1
Methods for general application,
Section Three — Methods for deter-
mining the density — Water absorption
tests — Shrinkage test

IEC 811-1-4 (1985) Common test
methods for insulating and sheathing
materials of electric cables: Part 1
Methods for general application,
Section Four — Tests at low tempera-
ture

Amendment No. 1 (1985) to IEC
Pub 245-2 (1980) Rubber insulated
cables of rated voltages up to and
including 450/750V: Part 2 Test
methods

Amendment No. 1 (1985) to IEC
Pub 245-3 (1980) Rubber insulated
cables of rated voltages up to and
including 450/750 V: Part 3 Heat
resistant silicone insulated cables

Amendment No. 1 (1985) to IEC
Pub 245-4 (1980) Rubber insulated
cables of rated voltages up to and
including 450/750 V: Part 4 Cords and
flexible cables

Amendment No. 1 (1985) to IEC
Pub 245-5 (1980) Rubber insulated
cables of rated voltages up to and
including 450/750V: Part 5 Lift
cables

Amendment No. 1 (1985) to IEC
Pub 245-6 (1980) Rubber insulated
cables of rated voltages up to and
including 450/750V: Part 6 Arc
welding electrode cables

**ELECTRICAL EQUIPMENT IN
MEDICAL PRACTICE (TC 62)**

IEC 789 (1984) Characteristics and
test conditions of radionuclide imaging
devices

**ELECTRICAL INSTALLATIONS IN
SHIPS (TC 18)**

Amendment No. 1 (1985) to IEC
Pub 92-202 (1980) Electrical installa-
tions in ships: Part 202 System design
— Protection

**FLUIDS FOR ELECTRO-
TECHNICAL APPLICATIONS
(TC 10)**

IEC 628 (1985) Gassing of insu-
lating liquids under electrical stress
and ionization

IEC 813 (1985) Test method for
evaluating the oxidation stability of
hydrocarbon insulating liquids

IEC 814 (1985) Determination of
water in insulating liquids by auto-
matic coulometric Karl Fischer
titration

**INSULATING MATERIALS
(TC 15)**

IEC 455-3-3 (1984) Specification
for solventless polymerisable resinous
compounds used for electrical insu-
lation: Part 3 Specifications for indi-
vidual materials, Sheet 3 Unfilled
polyurethane compounds

IEC 455-3-4 (1984) Specification
for solventless polymerisable resinous
compounds used for electrical insu-
lation: Part 3 Specifications for indi-
vidual materials, Sheet 4 Filled poly-
urethane compounds

IEC 684-2 (1984) Specification for
flexible insulating sleeving: Part 2
Methods of test

INSULATION SYSTEMS (TC 63)

IEC 792-1 (1985) The multi-factor
functional testing of electrical insu-
lation systems: Part 1 Test procedures

Amendment No. 1 (1984) to IEC Pub
621-2 (1978) Electrical installations for
outdoor sites under heavy conditions
(including open-cast mines and
quarries): Part 2 General protection
requirements

**LAMPS AND RELATED
EQUIPMENT (TC 34)**

IEC 81 (1984) Tubular fluorescent
lamps for general lighting service

Amendment No. 1 (1985) to IEC
Pub 566 (1982) Capacitors for use in
tubular fluorescent and other discharge
lamp circuits

**MEASURING EQUIPMENT FOR
BASIC ELECTRICAL
QUANTITIES (TC 85)**

IEC 51-1 (1984) Direct acting
indicating analogue electrical measur-
ing instruments and their accessories:
Part 1 Definitions and general require-
ments common to all parts

IEC 51-2 (1984) Direct acting indi-
cating analogue electrical measuring
instruments and their accessories:
Part 2 Special requirements for am-
meters and voltmeters

IEC 51-3 (1984) Direct acting indi-
cating analogue electrical measuring
instruments and their accessories:
Part 3 Special requirements for watt-
meters and varmeters

IEC 51-4 (1984) Direct acting indi-
cating analogue electrical measuring
instruments and their accessories:
Part 4 Special requirements for fre-
quency meters

IEC 51-6 (1984) Direct acting indi-
cating analogue electrical measuring
instruments and their accessories:
Part 6 Special requirements for ohm-
meters (impedance meters) and con-
ductance meters

IEC 51-7 (1984) Direct acting indi-
cating analogue electrical measuring
instruments and their accessories:
Part 7 Special requirements for multi-
function instruments

IEC 51-8 (1984) Direct acting indi-
cating analogue electrical measuring
instruments and their accessories: Part
8 Special requirements for accessories

**SAFETY OF HOUSEHOLD AND
SIMILAR ELECTRICAL
APPLIANCES (TC 61)**

IEC 335-2-7 (1984) Safety of house-
hold and similar electrical appliances:
Part 2 Particular requirements for
washing machines

IEC 335-2-18 (1984) Safety of
household and similar electrical
appliances: Part 2 Guide for preparing
safety requirements for battery-powered
motor-operated appliances and their
charging and battery assemblies

IEC 335-2-19 (1984) Safety of house-
hold and similar electrical appliances:
Part 2 Particular requirements for
battery-powered shavers, hair clippers
and similar appliances and their charg-
ing and battery assemblies

IEC 335-2-20 (1984) Safety of
household and similar electrical
appliances: Part 2 Particular require-
ments for battery-powered tooth-
brushes and their charging and battery
assemblies

IEC 335-2-43 (1984) Safety of
household and similar electrical
appliances: Part 2 Particular require-
ments for clothes dryers and towel rails

NEW ISI MEMBERS

■ SUSTAINING MEMBERS

CENTRAL BOARD FOR THE PREVENTION & CONTROL OF WATER POLLUTION, 5TH & 6TH FLOORS, SKYLARK, 60 NEHRU PLACE, P. O. BOX NO. 4364, NEW DELHI 110019 — Set up in 1974 under the *Water (Prevention and Control of Pollution) Act 1974* to promote cleanliness of wells and streams in the States; improve the quality of air and prevent control or abate air pollution in the country.

CREATIVE ELECTRONICS, 55 COMMUNITY CENTRE, EAST OF KAILASH, NEW DELHI 110065 — Covers diverse fields, such as export of handicrafts and garments manufacture and marketing of decorative lamps. Now plan to manufacture and market a wide and sophisticated range of consumer electronic items such as black and white, and colour TVs.

GEO-CHEM LABORATORIES (RAJKOT) PVT LTD, BUNGLOW NO. 3, JAYANT SOCIETY, MAVDI PLOT, GONDAL ROAD, RAJKOT 360004 — Undertake analysis and physical testing of oils, oilcakes, agriproducts, metals, chemicals, etc.

GOVERNMENT POLYTECHNIC, DHANBAD — Conducts diploma courses in civil, electrical, mechanical and metallurgical (sandwich pattern) engineering.

MEHUL AUTO INDUSTRIES, GREEN COTTAGE, NEAR PANCHNATH, DR R. P. ROAD, RAJKOT 360001 — Manufacturers of brake shoes and liners for scooters, motorcycles, mopeds and rikshaws, bonding done with special adhesive; brake shoes for cars also manufactured.

RAJASTHAN STATE BRIDGE & CONSTRUCTION CORPORATION LTD, SETU BHAWAN, OPP JHALANA DOONGRI, JAIPUR-AGRA BYPASS ROAD, JAIPUR 302004 — Engaged in the construction of large span bridges, industrial structures, foundation works of all types including sub-soil exploration, high rise buildings, aqueducts, dairy works, thermal and hydel power stations, chimneys, etc.

SHRI NATARAJ CERAMIC AND CHEMICAL INDUSTRIES LTD, 4 SCINDIA HOUSE, NEW DELHI 110001 — Manufacturer of fire-clay and high alumina refractories, mortars, cements and castables mainly for cement industry; also manufacture high alumina roof sets for electric arc furnaces.

TELECOM FACTORY (INDIAN POSTS & TELEGRAPHS DEPTT), DEONAR, BOMBAY 400088 — Manufacture telecommunication equipment, such as trunk switch boards, PBX, PABX boards of various capacities, auto manual switch boards, coin box telephones, etc, used in P&T Department.

■ ASSOCIATE MEMBERS

DECCAN SUGAR INSTITUTE, MANJARI (BK) 412307, TALUK HAVELI, DIST PUNE — Carry out applied research on the problems of the sugar industry in factory and farms, research on utilization of the bye-products of the sugar

industry, provide advisory, extension and information services to member sugar factories and give training in scientific methods of sugarcane cultivation, sugar technology, etc.

GAS AUTHORITY OF INDIA LTD, HOTEL SAMRAT, CHANAKYAPURI, KAUTILYA MARG, NEW DELHI 110021 — Main objectives of the company include augmentation and setting up of necessary plants, infrastructure facilities, etc, for utilization of natural gas, processing, transporting and marketing of natural gas, design and construction of pipelines, and formulation of plans for proper utilization of natural gas and products, in close coordination with Government and concerned agencies including industrial users.

GUJARAT CO-OPERATIVE OILSEEDS GROWERS' FEDERATION LTD, NARAYAN CHAMBERS ASHRAM ROAD, AHMADABAD 380009 — Popularly known as 'GROFED', set up by National Dairy Development Board (NDDB) to implement the project for restructuring the edible oil sector in Gujarat; activities include procurement of groundnut from village societies, production of edible oil and cakes and its marketing.

GOLDEN PAINTS, THODUPUZHA, IDIKKI (KERALA) — Manufacture industrial coatings, marine paints, cashewnut shell liquid polymer resin based synthetic enamels and chlorinated insulating varnishes, etc.

IBP CO LTD, A-4 MIDC INDUSTRIAL AREA, AMBAD, NASIK 422010 — Main area of activity covers the field of high vacuum engineering and cryogenics engineering; manufacture portable cryogenic containers employing super insulation technology for storage and transportation of liquid nitrogen, develop evacuated solar collectors by employing a novel technique for exploiting high temperature heat from solar radiation; also manufacture LPG gas regulators and valves.

INDUSTRIAL MINERALS CEMENTS & REFRAC-TORIES, C-700, SECTOR 7, FARIDABAD 121006 — Process industrial minerals like China clay, bentonite, bauxite, vermiculite and diatomite, for rubber, paint, paper and chemical industries; manufacture refractory and insulation materials and mortars, acid and alkali resistants for cement, mortar, etc; also undertake refractory insulation of boiler/furnaces.

JAYPEE INDUSTRIES PVT LTD, B-62 OKHLA INDUSTRIAL AREA, PHASE I, NEW DELHI 110020 — Manufacture filters/strainers for separating dirt and solids from liquid or gas; also fabricate pressure vessels, heat exchangers, gas dryers and liquid loading arms.

KANERIA ENGINEERING WORKS, DHEBARBAI ROAD, RAJKOT 360002 — Manufacturers of oil engines of 6.8 and 9.10 hp, 950 rev/min engines.

MEEKAN TRANSMISSIONS PVT LTD, 2A/244 (1), AZAD NAGAR, KANPUR 208002 — Engaged in manufacturing

high quality gears for automobiles and two-wheelers.

METAZINC PRIVATE LTD, NEW INDIA CENTRE, 5TH FLOOR, COOPERAGE ROAD, BOMBAY 400039 — Manufacture rubber grade zinc oxide, insoluble sulphur for rubber industry, sulphuric acid, oleums and stabilized liquid sulphur trioxide.

NEASUM TELEPAINTS, G-12 INDUSTRIAL AREA NO. 1, SULTANPUR ROAD, RAE BARELI 229019 — An ancillary to Indian Telephone Industries Ltd, Rae Bareli, for manufacture of paints, chemicals and allied products.

PATHEJA FORGINGS & AUTO-PARTS MANUFACTURERS PVT LTD, 399/A VITHALBHAI PATEL ROAD, OPP CONGRESS HOUSE, BOMBAY 400004 — Manufacture closed die and upset steel forgings ranging from 30 gms to 100 kg, open die forgings up to 3 tonnes and cater mainly to automobile (two-wheeler and four-wheeler) industry.

PERFECT ELECTROPLATING PVT LTD, 37/2c, SHANKARSHET ROAD, PUNE 411009 — Undertake nickel and chromium electroplating on self-designed, computerized automatic plant.

POPULAR ENGINEERING CORPN, MAVDI PLOT, RAJKOT 360004 — Manufacture diesel engines and high speed diesel engines of various ranges.

PRECISION FASTENERS, 185 KAMBEKAR STREET, BOMBAY 400003 — Manufacturers of precision parts and pressed components from any ferrous/non-ferrous metals, brass cable glands, hollow/tubular/solid rivets.

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THE COVER — Cracks in the brick-faced wall of a building. These could be structural or non-structural depending upon the nature of fault in the design, construction or workmanship. The Handbook on Causes and Prevention of Cracks in Buildings published recently by ISI provides guidance for diagnosing the causes of various types of non-structural cracks and gives suggestions for suitable remedial measures, where feasible (see also page 359).



ISI Bulletin is published every month and supplied free of charge to all ISI members. Subscription for non-members: Annual, Rs 36'00 (£5'40) or \$ 18'00; Single copy Rs 4'00 (£ 0'60 or \$ 2'00).

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Cracks in Buildings

■ Most structures develop cracks in their fabric, usually soon after construction, sometimes later. These could be structural or non-structural depending on the nature of fault in the design, construction or workmanship of a building. Structural cracks are caused due to incorrect design, faulty construction or over-loading and may endanger the safety of a building. Non-structural cracks are mostly due to internally induced stresses in building materials and generally do not directly result in structural weakening.

Cracking can affect a structure in a number of ways. If severe, it may result in loss of stability, rain penetration, air infiltration, heat loss and reduced sound insulation, all of which mean lower efficiency of the structure. Usually, cracking is mild and mainly affects the appearance and finish of a building, giving it an unseemly look, creating an impression of faulty work or resulting in a feeling of instability.

Modern structures are comparatively tall and slender, have thin walls, are designed for higher stresses and are built at a fast pace. These are, therefore, more crack-prone as compared to older ones which used to be low, had thick walls, were lightly stressed and were built at a slow pace. Moreover, moisture from rain can easily reach the inside and spoil the internal finish of modern buildings as they have thin walls. Measures for the control of cracks in buildings have, therefore, assumed much greater importance on account of the present trends in construction.

The Indian Standards Institution provides guidance on the causes and prevention of cracks in buildings in a handbook (SP : 25-1984) published recently. The Handbook discusses in detail various causes of non-structural cracks which are due to moisture changes, thermal variations, elastic deformation, creep, chemical reactions, foundation movement, settlement of soil and vegetation. It also gives some typical examples of occurrence of cracks and recommends suitable measures for their prevention. Some guidance is also available on diagnosing the causes of cracks that may have occurred in a structure along with remedial measures, wherever feasible. For ready reference, the Handbook contains a summary of the various measures to be taken for the prevention of cracks in structures. Prepared by ISI under Science and Technology Project of the Government of India as part of a series of handbooks and other compilations based on the National Building Code and relevant Indian Standards, it is expected to be useful to architects, engineers and construction agencies in proper understanding of the various factors leading to development of cracks in buildings. This will help them take timely action for preventing cracks and minimizing the extent of damage when they do occur.

• S. K. JAIN

NORMS AND VALUES

Classification of Insulation Systems of Electrical Equipment

The electrical industry in India is quite aware of the need for consensus on thermal classification of insulating materials and has contributed a good deal towards achieving this end. 'IS : 1271-1958 Classification of insulating materials for electrical machinery and apparatus in relation to their thermal stability in service' prepared by the Indian Standards Institution with the help of the concerned interests including electrical industry fairly well documents the efforts at the national level in this regard and serves as a means for consolidating service experience on known materials, thereby enabling their proper classification into one of the seven classes — Y, A, E, B, F, H and C — with corresponding temperature levels ranging from 90° to 100°C (and above). However, to interpret the classification for specific applications in practice, several other factors are to be taken into account including the following:

- a) Depending on actual use, a combination of several parameters — electrical, mechanical, thermal and chemical, and not just thermal — would bear upon the life of the material;
- b) Materials behave differently when in combination with others than when they are in isolation; and
- c) Materials and their combinations behave differently in different equipment by virtue of different configurations coming into play.

The realization of the factor mentioned at (a) above was evident in the formulation of 'IS : 8504 Guide for the determination of thermal endurance properties of insulation materials' which provides a pragmatic manner of classifying insulation materials and assigning temperature indices based on several end-point criteria. Factors (b) and (c) call for a study of 'insulation systems' rather than 'insulating materials' in the same manner as identified in IS : 8504.

However, the study of insulation systems and their classification is more complex, for it has to take into account a large number of new materials and their combinations being introduced together with various types of electrical equipment being designed. A new Sectional Committee (ETDC 65 Electrical Insulation Systems Sectional Committee) was, therefore, set up under the Electrotechnical Division Council of ISI in 1979 to lay down general guidelines on all related matters. The work

of this committee was aimed at providing guidelines to the relevant equipment committees to help them study the conventional system(s) used in their respective fields on the basis of a well laid out procedure. The programme of work of ETDC 65 basically includes preparation of guidelines on the evaluation (hence classification) of insulation systems of electrical equipment based on test procedures under different factors of influence, such as electrical, mechanical, thermal and ambient.

A basic standard giving details of principal aspects of functional evaluation and ageing mechanisms on systems and another on thermal endurance test procedures has been finalized by ETDC 65 and will be shortly available in printed form.



Interchangeable Shoe Soles

With growing interest in physical fitness and sports activity, it is not uncommon for a person to have as many as six pairs of different kinds of canvas shoes — shoes for walking, jogging or trekking and for hockey, football or cricket or, for that matter, any other game one may fancy.



According to a PTI report in the Times of India (1 October 1985), Americans spend more than \$ 500 million a year on canvas shoes of one type or another. An American company has solved the problem of purchasing and stacking a number of canvas shoes for different activities by introducing canvas shoes with interchangeable soles. For example, if you are walking on a hard surface

you wear one kind of sole. And if you get on to a rough terrain, you peel off the first sole and replace it with another which just sticks on to the bottom of the shoe.

Isn't this a unique form of economy through variety reduction albeit standardization?

Efficiency and Safety in the Microbiological Lab

Validity of results and protection of personnel are principles which go hand in hand where microbiological examinations are concerned. The technician or researcher is called upon to detect or enumerate the presence of a micro-organism with a high degree of certainty and that organism may be dangerous. While test procedure itself is the very subject of technical training and a great deal of information is available on it, guidance is needed for the right practice to be adopted during microbiological examinations.

To ensure that the general techniques used for carrying out microbiological examinations are the same in all laboratories and contribute to protection of the health of personnel by avoiding risks of infection, the International Organization for Standardization (ISO) has just issued an International Standard 'ISO 7218 General guidance for microbiological examinations'.

This standard is part of the ISO programme relating to agricultural food products which includes international methods for microbiological examination of specific foods, such as dairy products and meat, and for detection of particular groups or species of micro-organism. It provides as much guidance as possible on the basic requirements for microbiology work as is easily transferable for wide consultation. The guidance in ISO 7218, however, applies to practically all laboratory work, its technical sources including many authorities in the general field of microbiology.

The Standard points out that, ultimately, it is the analyst who should judge whether manipulations are safe and can be considered good laboratory practice. Nevertheless, a number of precautions need to be generally taken in the laboratory and these form the subject matter of the Standard including those relating to personal hygiene, proper installations and equipment, preparation of apparatus and culture media, sampling procedures and hygiene during examinations. ISO 7218 gives the essence of good practice in this regard including counting techniques (with related statistical tables) and culture preparation.

Advantages of ISI Certification

It is by now well known that a number of advantages accrue from the ISI Certification Marks

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Scheme to different sectors of economy: manufacturers, consumers and exporters. Listed here are, sector-wise, some of the benefits flowing from the Scheme:

To Manufacturers

- Streamlining of production processes and introduction of quality control system
- Independent audit of quality control system by ISI
- Reaping of production economies accruing from standardization
- Better image of products in the market, both internal and overseas
- Winning for wholesalers, retailers and stockists consumer confidence and goodwill
- Preference for ISI-marked products by organized purchasers, agencies of Central and State Governments, local bodies, public and private sector undertakings, etc. Some organized purchasers offer even higher price for ISI-marked goods
- Financial incentives offered by financial institutions including the Industrial Development Bank of India (IDBI) and nationalized banks

To Consumers

- Conformity with Indian Standards by an independent technical, national organization
- Help in choosing a standard product
- Free replacement of ISI-marked products in case of their being found to be of substandard quality
- Protection from exploitation and deception
- Assurance of safety against hazards to life and property

To Organized Purchasers

- Convenient basis for concluding contracts
- Elimination of the need for inspection and testing of goods purchased, saving time, labour and money
- Free replacement of products with ISI Mark, found to be substandard

To Exporters

- Exemption from preshipment inspection, wherever admissible
- Convenient basis for concluding export contracts

Standard Sentiment

When a tree stops growing, it is ready to die. As long as it is extending its roots and branches — producing leaves, fruit and flowers — it is a healthy growing tree; when the growth stops, its days are numbered even if it may linger a while in suspended animation.

CONSUMER NEWS

DIRECTORATE OF CONSUMER AFFAIRS IN DELHI ADMINISTRATION

The Delhi Administration has set up a Directorate of Consumer Affairs to safeguard the interests of consumers and create greater awareness amongst them about their rights and responsibilities. The main functions of the Directorate include:

- Promotion of a strong consumer movement in the Capital
- Protection of consumer rights
- Identification of the broad range of consumer problems and formulation of measures to solve them
- Redress of consumer grievances through provision of proper machinery for the purpose
- Dissemination of information to consumers about matters affecting them.

To carry out these functions effectively, the Directorate will seek the cooperation of voluntary consumer bodies and women's organizations and launch a massive educational campaign to make the consumers aware of their rights. It will bring out brochures, distribute leaflets, issue advertisements, put up hoardings and utilize audio-visual media to provide information to consumers on the salient features of various enactments which aim at protecting consumer interests

besides making them aware of Indian Standards of concern to them.

To ensure prompt registration, investigation and remedial action in respect of the complaints received by it, the Directorate will coordinate enforcement activities of the Department of Food and Civil Supplies, Directorate of Weights and Measures and Directorate of Prevention of Food Adulteration. Administration officials will also make test purchases of essential commodities to ensure quality, fair price and correct weight of goods put on the market.



LIQUID BINDI

Bindi is one of the traditional cosmetics used by Indian women to adorn their foreheads. It may be in powder or liquid form or even of stick-on-the-forehead type. Liquid *bindi* consists of a homogeneous suspension of pigment in emulsion or suspension medium and is applied with an applicator. It is mostly produced in the small scale sector and its quality varies from manufacturer to manufacturer. To ensure the availability of a good quality, dermatologically safe liquid *bindi*, the Indian Standards Institution has brought out a standard (IS : 10998-1984) which provides the requisite guidelines

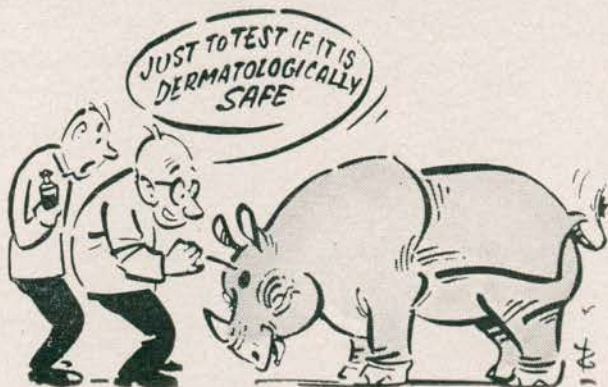
for its proper manufacture.

The Standard specifies that the *bindi* should be homogeneous with an agreeable odour and should not leave any stain on the skin after washing with water. The dyes, colours, pigments and other ingredients used in its manufacture should comply with the requirements of the Indian Standard on classification of cosmetic raw material and adjuncts [IS : 4707 (Parts I and II)] subject to provisions of the *Drugs and Cosmetics Act* and *Rules* made thereunder. To ensure that the layer of *bindi* is not very thin, the Standard specifies the minimum total solids in it. Even at a high temperature, say, $45 \pm 2^\circ\text{C}$, there should be no appreciable separation or sedimentation of the solid contents of *bindi*. Besides, its pH value is so prescribed that the *bindi* is neither very alkaline nor acidic in nature. Test methods to ensure compliance to these requirements

have also been specified.

No stipulations have been made in the Standard regarding composition of the liquid *bindi*. However, it is necessary that the raw materials used are such that in the concentrations in which they would be present in the final product, after interaction with other raw materials used in the formulation, they are free from any harmful effects. For determining the dermatological safety of a new formulation, or of a new raw material used in an old formulation, the methods of test prescribed in 'IS : 4011-1982 Methods for dermatological tests for cosmetics (first revision)' are to be followed. Based on these tests, the manufacturers must satisfy themselves as to the dermatological safety of their formulation before actually releasing it for sale.

To give the consumers a third-party guarantee of the quality of *bindi*, it may also carry the ISI Mark.





The Indian delegation at the ISO General Assembly (from left): Shri B. K. Sinha, Joint Secretary, Department of Civil Supplies; Dr B. N. Singh, Additional Director General; and Dr G. M. Saxena, Director (International Relations), ISI.

Tokyo Meetings

ISO Council and General Assembly

The thirteenth triennial General Assembly of the International Organization for Standardization (ISO) was held in Tokyo during 9-13 September 1985. It was preceded by a meeting of the ISO Council during 4-6 September 1985. Both the meetings were presided over by Dr D. C. Kothari, President ISO.

The Indian delegation to the General Assembly comprised Shri B. K. Sinha, Joint Secretary, Department of Civil Supplies; Dr B. N. Singh, Additional Director General; and Dr G. M. Saxena, Director (International Relations), ISI. The ISO Council meeting was attended by Dr B. N. Singh and Dr G. M. Saxena.

A brief resumé of the important decisions taken at the Council and General Assembly meetings with reference to the functioning of ISO as a whole, particularly with respect to India's interests in international standardization, follows.

ISO COUNCIL

The ISO Council meeting held during 4-6 September 1985 was attended by delegations from 17 member bodies. Some of the important issues discussed at the Council meeting are detailed here along with the decisions taken.

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ISO/IEC Collaboration

Specific proposals on collaboration between ISO and IEC with a view to harmonizing the efforts of the two international organizations and bringing about economy in their operations were made by India and some other countries which are members of both the organizations. Two working groups were set up, one to rationalize the distribution of work between ISO and IEC in overlapping areas and the other to harmonize their working procedures and methods. India stressed the need for maintaining these efforts, particularly with the objective of shared utilization of common facilities. The Council approved a new version of ISO/IEC liaison and work allocation procedure.

Priority to Development of ISO Standards for Products

The developing countries emphasized the need for ISO technical committees giving higher priority to preparation of complete product specifications, clearly prescribing the quality and performance of products at the international level. Such standards are particularly required by the developing countries for guiding their manufacturers and promoting international trade. The ISO Council agreed to

request its Executive Board to consider this aspect while reviewing the long-range strategy and planning future technical work of ISO and report its conclusions at the next Council meeting.

Delay in the Processing of International Standards

The Council expressed concern at the long time taken by technical committees in the development of international standards and observed that, although certain procedures had been accepted in the past to curtail the time taken, tangible benefits had not been achieved. During these discussions, India referred to some studies undertaken by ISI in this regard and highlighted the effectiveness of corrective measures taken after such studies. It was also recalled that in 1964 India had submitted some documents on the subject to STACO which were circulated to all national standards bodies for studying the problem of delays in the preparation of their standards at the national level and these findings had then been extremely useful. The Indian delegation proposed that the ISO Central Secretariat should also initiate similar scientific studies on the subject. The Council requested the Technical Board to undertake an in-depth study of the

problem and submit its conclusions to the Council at its next meeting.

India also pointed out that a high percentage of Council negative votes on account of "member bodies' objections inadequately considered" was not desirable. It emphasized that while speeding up preparation of standards, due consideration should be given to member bodies' objections on technical documents, specially because many developing countries were unable to send delegations to technical committee meetings on account of financial constraints.

Proposal for Publication of Interim International Standards

India expressed a fundamental objection to the Central Secretariat proposal relating to publication of interim international standards primarily because, according to the procedure suggested in the proposal, such documents did not enjoy the support or approval of a majority of ISO member bodies. It was pointed out that many technical committees had as few as 10 participating members, mostly from developed countries. Therefore, many documents approved by technical committees really reflected the consent of only 5 to 10 ISO member bodies, none of them being developing countries. As such, it would be wrong to call such documents as international standards. This viewpoint was supported by many other countries in the meeting and the proposal was withdrawn.

ISO Development Programme for 1986-1988

The Development Committee (DEVCO) had set up an *ad hoc* group under the convenership of India for drafting the ISO Development Programme for 1986-1988. On the basis of consultations with members of the *ad hoc* group, the draft of the Development Programme was submitted by India in May 1985 to DEVCO where it was approved for submission to ISO Council. While the proposed Development Programme for 1986-1988 was endorsed by the Council as presented, the question of funds for its implementation was raised. It was pointed out that the Development Programme for 1983-85 could be implemented only partially due to lack of funds. Therefore, for the programme for 1986-1988, it would be essential for ISO member bodies to contribute in cash or kind. Further, it would be necessary for some funds to be provided for this programme from ISO's own budget as had been done in 1981. The Indian delegation referred to its

own contributions in kind in the form of training programmes organized in India and providing two frameworks for development manuals. The need for collecting funds from ISO's own resources as well as from external contributions was voiced by other delegations as well. The Council underlined the need for fulfilment of various elements of the Programme and requested the Secretary General to ensure its proper execution.

Principles for the Assessment of Membership Subscriptions

The ISO membership subscription is presently determined by a formula which is based on the Gross National Product (GNP) and export and import trade of a country, with provision of separate minimum subscription rates for developed and developing countries. The proposal to have a common minimum level for the developed and developing countries (which would have meant raising the present minimum limit for developing countries) met with strong opposition on the ground that developing countries were having serious balance of payments problems and any proposal to raise the minimum contribution was likely to result in the developing countries defaulting on payments. The Council, therefore, deferred consideration of the review of membership subscription.

Budget for 1986

The budget, as presented, indicated an increase of 8 percent over the 1985 budget without commensurate increase in the level of activities. India pointed out that the increase in the budget was not justified by the activities projected in it, particularly because the inflation rate in Switzerland was 4 percent and, if accepted, it would impose additional burden on the ISO member bodies in the form of higher membership subscription. The Secretariat's plea that a large number of ISO standards were expected to be published, calling for higher expenditure on that account, did not convince the delegations of the quantum of increase. In view of the diverse opinions expressed by members, voting was resorted to where seven countries voted in favour of the budget while eight were against it and consequently, the budget as presented was not approved. After some discussion, the Council approved the revenue budget as presented except for an increase in membership subscription value by only 4 percent instead of 8 percent, and authorized the Executive Board to decide on the expenditure budget based on the available revenues.

Unit Value for 1986

The unit value of membership subscription rates was increased by 4 percent over the 1985 figure, and was declared as Swiss francs 9 100 for 1986. India's subscription to the ISO is 30 units.

Appointment of India on the Technical Board for the Term 1986-88

Dr B. N. Singh was reappointed as member on the Technical Board for the three-year term 1986-88. The Technical Board, earlier known as the Planning Committee, consists of 9 members, elected by the Council, each for a three-year term, and advises the Council on all matters concerning the organization, coordination and planning of the technical work of ISO.

Appointment of New Secretary General

Dr Lawrence D. Eicher, currently Assistant Secretary General of ISO, was appointed as new Secretary General in succession to Mr Ollé Sturen.

ISO GENERAL ASSEMBLY

The ISO General Assembly was attended by 50 ISO member bodies through 135 delegates and observers and three correspondent members. It was also attended through invitation by representatives of 14 international organizations including the International Electrotechnical Commission (IEC), General Agreement on Tariffs and Trade (GATT), International Organization of Legal Metrology (OIML), International Trade Centre (ITC) and Council for Mutual Economic Assistance (CMEA).

The inaugural ceremony held on 9 September 1985 was addressed by Mr Renzo Taguchi, President, Japan Industrial Standards Committee (JISC); Mr K. Murata, Minister of International Trade and Industry (MITI); Japan; Mr I. Yamashita, Vice-President of Keidanren (Federation of Economic Organizations of Japan); and Dr D. C. Kothari, President of ISO. Representatives of 13 international organizations with whom ISO has liaison also made statements at the General Assembly bringing out the salient points of collaboration between ISO and those organizations. These included African Regional Standards Organization (ARSO), Arab Organization for Standardization and Metrology (ASMO), Customs Cooperation Council (CCC), European Committee for Standardization (CEN), Council for Mutual Economic Assistance (CMEA), General Agreement on Tariffs and Trade (GATT), International Chamber of Commerce (ICC),

International Federation for the Application of Standards (IFAN), International Trade Centre (ITC), International Telecommunications Union (ITU), International Organization of Legal Metrology (OIML), Universal Postal Union (UPU) and World Meteorological Organization (WMO).

Some of the important issues discussed in the General Assembly are highlighted here along with the decisions taken.

Review of ISO Activities During 1982-85

An overall review of ISO activities during the last three years was made by the ISO President, the Secretary General and some member bodies. The delegations which participated in the discussions stressed the following points:

a) Participation of developing countries in ISO technical work is very limited and this situation must be improved;

b) Demands on ISO for the preparation of International Standards are greater than the existing resources; therefore, ISO must evolve short-term and long-term strategies to meet this demand with optimum utilization of resources; and

c) Distribution of the secretariats of Technical Committees and Sub-committees should be made wider than at present.

The delegates made special mention of the progress in regard to ISO and IEC collaboration during the last three years and brought out the future challenges faced by the Organization. The discussions highlighted the need for increasing ISO membership and bringing countries still in a developing stage within its fold. India proposed that a system of assigning priority to each new subject in the form of a numerical index should be introduced so that resources could be utilized on the basis of a systems approach. As regards need for increased participation of developing countries in ISO's technical work, a reference was made to the Development Programme for 1986-88 highlighting the necessity of ISO finding ways and means for its effective implementation from its own

resources and external contributions.

Application of ISO Standards by Member Bodies

A presentation was made by Germany on the methodology for application of International Standards by member bodies. While most of the presentation was acceptable, a suggestion was made that International Standards should fit into national standards systems or regional standards systems. India pointed out that it was not International Standards which had to fit into national or regional standards systems but *vice versa*. India's objection to the proposed suggestion was upheld by almost all delegations and Germany agreed to have this aspect reconsidered.

International System of Conformity Assessment of Products and Services

A presentation on this subject was made by the United Kingdom. During discussions, India pointed out that a good start to the concept of international system of conformity assessment could be made in the form of bilateral agreements for mutual recognition of certification systems. Such bilateral agreements could develop into multilateral agreements and in future some international system of certification could perhaps emerge. The Indian viewpoint was shared by several other delegations.

ISO Development Programme

The ISO Development Programme for 1986-88 as endorsed by ISO Council was presented in the General Assembly. The main issue discussed related to the availability of funds for its implementation. It is noteworthy that Canada, France, Germany and the United Kingdom indicated the possibility of making contributions to the funds. Czechoslovakia and Turkey announced that they hoped to start training programmes for nominees from developing countries.

ISO External Relations

India made a presentation on the activities of NAM Working Group in the Sphere of Standardization, Mea-

surement and Quality Control (SMQC) and pointed out that the main emphasis in this activity among NAM countries was on strengthening SMQC activities in developing countries through collective and pooling of resources. These efforts could be supplemented by those of ISO in the form of effective implementation of the ISO Development Programme. On behalf of the NAM Working Group in this sphere, India called for close relations between ISO and the NAM Working Group in meeting the common objectives. Cuba also highlighted the useful role of NAM Working Group for non-aligned and other developing countries.

Five-Year Plan for ISO Work

The Five-Year plan for the work of ISO was presented for adoption by the General Assembly. India opposed the adoption of the plan as presented on the ground that it did not take into account the decisions of the Council and the General Assembly, specially on financing long-term and short-term strategies for its technical work and the needs for standards-related activities, such as the Development Programme. Many other countries also supported India's contention and the General Assembly requested the Council to review the draft Five-Year Plan, taking into account the resolutions adopted by the Council and the General Assembly.

Election of Council Members

China, Germany, India, Kenya, Turkey and the USSR were elected members of the ISO Council for the term 1986-88. India has already been on the Council continuously for the last nine years.

Election of ISO President

Mr I. Yamashita (Japan) was elected as ISO President for the next three-year term (1986-88).

Next General Assembly

An invitation by Czechoslovakia was accepted for holding the next General Assembly in that country. □

HANDICAP TO PROGRESS

The man who knowingly produces poor quality commodities, big or small, and is more interested in profit than in good quality of production exploits the patriotism of consumers to establish a monopoly for his commodities and is an undesirable citizen and a handicap to the progress and welfare of the nation.



World Standards Day celebrations in India this year were marked by seminars, symposia, lectures, get-togethers, exhibitions and franking of outgoing dak with the slogan 'World Standards Day'.

The Day is celebrated every year on 14 October to commemorate formation of the International Organization for Standardization (ISO) on this day in 1946. The celebrations are aimed at promoting the concept of standardization and its significance in day-to-day life, utilization of standardization as a means for developing national economy and as a vehicle for greater international cooperation. ISO aims at promoting the development of standards to facilitate international exchange of goods and services and to develop mutual cooperation in intellectual, scientific, technological and economic fields. The Indian Standards Institution has been playing an active role in the affairs of ISO since its very inception and is today a member of a number of its Technical Committees besides being represented on the ISO Council and other important committees dealing with policy, administrative and technical matters.

A brief resume of World Standards Day celebrations at the Headquarters and Regional and Branch Offices of ISI follows.

World Standards Day : 1985 Celebrations

ISI HEADQUARTERS

At the ISI Headquarters, a Seminar on 'Productivity and Quality Assurance — Impact of Standardization' was organized in collaboration with Delhi Section of the Institute of Standards Engineers. Inaugurating the Seminar, Shri K. P. Singh Deo, Union Minister of State for Food and Civil Supplies and President ISI, said that quality should not be based on random inspection but should be built into a product right from the design stage and added that Indian industry should come up to the level of performance witnessed in developed countries, particularly Japan. In that context, he emphasized the need for ISI playing a more effective role than it had been doing so far and said that it should initiate some urgent measures for narrowing down the existing gap between standards formulation and quality certification activities.

Shri K. C. Pandeya, Secretary, Ministry of Food and Civil Supplies, highlighted the benefits of ISI Certification Marks Scheme to both the consumers and the manufacturers. The certification marks activity, he said, enabled the consumer to make a judicious choice among the products put on the market and get the right value for the money spent in terms of quality and quantity. As for the manufacturer, the operation of the ISI Certification Marks Scheme resulted in fewer rejections and lower cost of production.

Shri V. P. Punj, Vice-President, ISI, hoped that ISI activities would become more consumer-oriented in the coming years. He suggested that



Shri V. P. Punj, Vice-President ISI, addressing the participants at the Seminar on 'Productivity and Quality Assurance — Impact of Standardization'. Seated on the dais are (from right): Shri B. K. Sinha, Joint Secretary, Ministry of Food and Civil Supplies; Shri K. P. Singh Deo, Union Minister of State for Food and Civil Supplies and President ISI; Shri K. C. Pandeya, Secretary, Ministry of Food and Civil Supplies; and Dr B. N. Singh, Additional Director General, ISI

those items which posed a threat to the life of a consumer should be brought under mandatory certification.

In his keynote address delivered at the technical session chaired by Shri Punj, Dr B. N. Singh, Additional Director General, ISI, said that standardization had an impact on quality assurance not only at the national level but also at the international level. He also enumerated the different aspects of standardization and said that variety reduction was the foremost

among them as it resulted in considerable economy. Keynote papers were also presented by Shri R. S. Gupta, Deputy Director General, National Productivity Council (NPC), and Shri G. L. Dua, Chief Engineer, Rural Electrification Corporation (REC). Shri Gupta stressed the importance of public sector units taking appropriate measures for improving their productivity to enable them to compete in the international market. Shri Dua described the impact of standardization effort of REC on the reduction



Bhopal: Visitors at the exhibition of ISI-marked products



Hyderabad: Shri R. B. Rao, Chairman, Hyderabad Section of the Institute of Standards Engineers, addressing the Seminar on 'Role of Standardization in Industrial Development'. Others on the dais are (from left): Shri M. Sarangapani, Managing Director, U-Foam Private Limited; Shri K. K. Sinha, Managing Director, Mishra Dhatu Nigam Limited; Shri Y. K. Bhat, Director, Hyderabad Branch Office, ISI; and Dr S. S. R. L. Swamy, Technical Director, Instruments Techniques Private Limited

of Engineers (India), Bangalore Section of the Institute of Standards Engineers and Bangalore Branch Office of ISI. Delivering the Presidential address, Shri T. R. Satish Chandran, Chief Secretary, Government of Karnataka, said that there should be no compromise on the quality of goods produced in the country and felt that standardization should be given its due place in the country's economy. In his keynote address on 'Perspectives in electronics', Shri K. P. P. Nambiar, Chairman and Managing Director,

Indian Telephone Industries Limited and Chief Guest for the function, elaborated the contribution electronics industry could make in the fields of mass communication, education, health, family welfare and agriculture. Remarking that tremendous potential existed for electronic products in the country, he said that due importance should be given to research and development in the electronics industry. Dr S. Srikanth, Managing Director, Karnataka State Electronics Development Corporation Ltd, highlighted the develop-

ments taking place in Karnataka in the field of electronics and said that the State was poised to make an important place for itself in electronics industry in the country.

BHOPAL

The Bhopal Branch Office of ISI organized an exhibition of ISI-marked products and ISI publications, explaining the activities of ISI through charts and photographs. Visitors to the exhibition showed keen interest in the activities of ISI.

BHUBANESHWAR

The Bhubaneswar Branch Office celebrations were organized in collaboration with the District Small Scale Industries Association (DSSIA) at Cuttack. Shri Sashi Sekhar Samal, President of District Small Scale Industries Association, presented the keynote paper on World Standards Day. Shri Hamid, Officer-in-Charge, District Industries Centre (DIC), Cuttack, highlighted the results achieved by developed countries through the adoption of quality control techniques. Shri R. K. Bhartari, Head, Bhubaneswar Branch Office, ISI, gave a historical perspective of the work of ISO and explained its contribution in facilitating exchange of goods and services as also developing cooperation among different countries in scientific, economic and technical matters. He also informed the participants about the role played by ISI in international standardization activities. Besides, he described the operation of the ISI Certification Marks Scheme and highlighted the importance of installing testing facilities as well as following quality control techniques in manufacturing.

HYDERABAD

The Hyderabad Branch Office of ISI organized a seminar on 'Role of Standardization in Industrial Development' in collaboration with Hyderabad Section of the Institute of Standards Engineers (ISE). Delivering the Presidential address, Shri R. B. Rao, Chairman, Hyderabad Section of SEI, emphasized the need for consumers playing an active role in the formulation of standards and said that

effective standardization could be undertaken only through their complete cooperation. In his keynote address, Shri K. K. Sinha, Managing Director, Mishra Dhatu Nigam Limited, said that standards were a pre-requisite for industrial development and added that consumer awareness could make a positive contribution in drawing up national standards. Dr S. S. R. L. Swamy, Technical Director, Instruments Techniques Private Limited, said that standardization should keep pace with advancement in technology and stressed its role in the field of exports where huge amounts of foreign exchange were involved.

JAIPUR

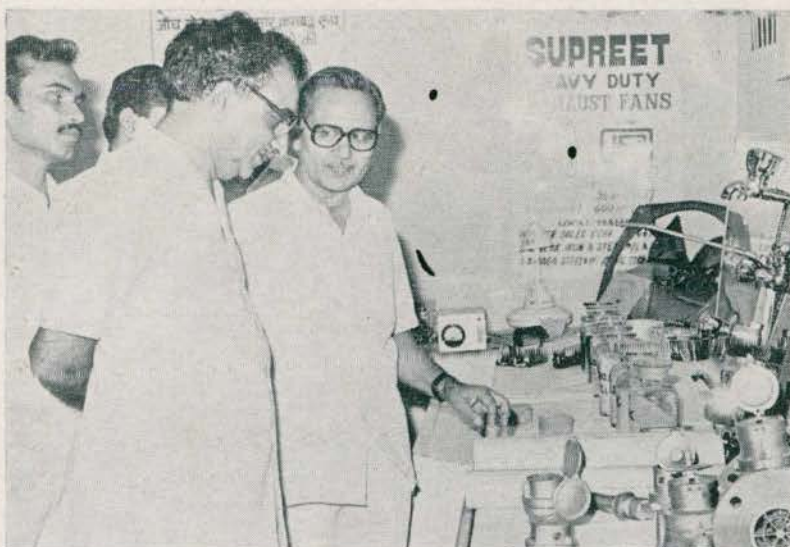
The Jaipur Branch Office celebrated the World Standards Day by holding a meeting and screening a film 'The Bridge' in ISI pavilion in the Congress Centenary Exhibition. Speaking on the occasion, the Chief Guest, Shri J. M. Malhotra, Secretary, Public Works Department, Government of Rajasthan, said that standardization was the key to quality control of industrial products and ISI Mark was the most reliable indicator of their quality. He, therefore, called upon purchasing organizations and individuals to go in for products carrying the ISI Mark. Shri G. P. Agrawal, Director, Small Industries Service Institute (SISI), Jaipur, said that greater publicity should be given to the utility of ISI Certification Mark in procuring quality products.

KANPUR

The Kanpur Branch Office declared its premises open to the general public and organized an exhibition of ISI-marked products of general consumer interest.

PATNA

A Symposium on 'Consumer Protection — Role of ISI' was organized by the Patna Branch Office of ISI as part of its World Standards Day celebrations. Presiding, Justice S. B. Sanyal of Patna High Court stressed the significance of standardization as an effective means for strengthening the Indian economy and called for taking maximum advantage of



Jaipur: Shri J. M. Malhotra, Secretary, Public Works Department, Government of Rajasthan (left) evincing keen interest in the ISI-marked products on display at the ISI pavilion in the Congress Centenary Exhibition



Patna: Dr G. P. Sinha, Vice-Chancellor, Patna University, delivering the keynote address at the Symposium on 'Consumer Protection — Role of ISI'. Others on the dais are (from left): Shri G. S. Vilku, Director, Patna Branch Office, ISI; Shri S. B. Sanyal, Justice, Patna High Court; and Shri S. K. Chaudhari, Joint Director, Patna Branch Office, ISI

the ISI Certification Marks Scheme. Delivering the keynote address, Dr G. P. Sinha, Vice-Chancellor, Patna University, said that the consumer could purchase with confidence goods carrying the ISI Mark. He also emphasized the importance of consumer education and said that consumers should organize themselves not only for protecting their rights but also asserting themselves for exercising

the privileges to which they were entitled.

TRIVANDRUM

World Standards Day celebrations at Trivandrum were organized by ISI in collaboration with Trivandrum Chapter of the Indian Association for Quality and Reliability, Kerala State Centre of the Institution



Pune: Shri H. K. Firodia, Chairman and Managing Director, M/s Bajaj Tempo Ltd, addressing the participants. Others on the dais are (from left): Shri M. Srinivasulu, Secretary, Institute of Standards Engineers (Pune Section); Shri S. P. Raman, Director, ISI, Bombay; Dr P. G. Patankar, Chairman, Institute of Standards Engineers (Pune Section); and Rear-Admiral S. S. Venkateswaran, Controller, Technical Services and Coordination, Automotive Research Association of India, Pune

of Engineers (India) and Kerala Section of Institute of Standards Engineers (SEI). Inaugurating the function, Shri P. Ramachandran, Governor of Kerala, stressed the need for bringing more and more consumer products under mandatory quality certification to ensure consumer protection. Competitive markets, both at the national and international levels, would en-

courage production of better quality products, he added. Presiding, Shri K. S. Unnithan, Chairman, Kerala State Centre of the Institution of Engineers (India), described India's participation in international standardization activities in different spheres. Delivering the keynote address, Dr V. P. Kulkarni, Director, Office of Electronics Services, Vikram Sara-

bhai Space Centre, Trivandrum, dwelt on the need for standardizing components to ensure that the final product could be assembled without any problem even if the various parts were procured from different sources.

PUNE

The ISI Inspection Office at Pune organized a get-together in collaboration with the Institute of Standards Engineers and Institution of Engineers (India), Pune. Inaugurating the Programme, Shri H. K. Firodia, Chairman and Managing Director, M/s Bajaj Tempo Ltd, Pune, emphasized the importance of standardization in industry and said that consumers provided the real standard by which the quality of a product could be gauged, specially in view of the fact that a buyer's market was gradually replacing the seller's market in India. Dr P. G. Patankar, Chairman, Pune Chapter, SEI, stressed the need for standards being strictly followed in the country. Rear-Admiral S. S. Venkateswaran, Controller, Technical Services and Coordination, Automotive Research Association of India, Pune, brought out the importance of safety and pollution standards and stressed the need for their proper implementation in automotive industry, especially in metropolitan cities.

MR ISAMU YAMASHITA IS NEW ISO PRESIDENT



■ Mr Isamu Yamashita (Japan) has been elected President of the International Organization for Standardization (ISO) for the next three-year term (1986-88) and takes office from 1 January 1986. He succeeds Dr D. C. Kothari of India.

A mechanical engineer, Mr Yamashita is one of Japan's leading industrialists, whose experience of standardization includes both the elaboration of standards and their application in his own company, the Mitsui Engineering and Shipbuilding Co Ltd of which he is Chairman.

Mr Yamashita is Vice-President of KEIDANREN (the Federation of Economic Organizations whose membership consists of top-ranking industrialists and businessmen who ex-

press opinions to the Japanese Government on important issues) and is a member of both the Industrial Structure Council of MITI (Ministry of International Trade and Industry, Government of Japan) and the Japan-United States Economic Council.

Besides, Mr Yamashita currently presides over several Japanese bodies involved with standards and standards-related activities concerning, for example, basic technology for new industries, various aspects of information technology, such as office automation, computer graphics, information network systems, protection of computer software, interchangeability of data processing systems and control of nuclear material.



Dr D. C. Kothari

President, International Organization for Standardization

■ *World Standards Day is dedicated to the ideals of industrial discipline, the complex coordination of global commercial practice and integration of international industrial culture to the benefit of the whole of humanity. This 16th World Standards Day is an occasion for me to communicate to this global fraternity as its President and I take this opportunity to share my ideas on the ideals of standardization and their fulfilment.*

At this point of time, the world at large has come to realize the great role and significance of international standardization as an efficient vehicle of development through improved productivity, streamlined economic relations, enlarged trade, and in facilitating transfer of technology.

A standard is a control device in striving towards excellence. It is a guarantee for quality and fitness for consumption. Standards streamline new discoveries and technologies and attempt to indicate among them the select band that would eventually stand the test of time.

Standardization is an attempt at perfection, of codifying industrial practice to make it conform to accepted norms. International standardization is an attempt of unifying, reconciling and harmonizing various sets of such industrial codes drawn up in various parts of the globe.

Thus international standardization introduces selectivity into the giant waves of developments that engulf the industrial world. It provides a common denominator for acceptance of products that flow in from regions far removed. It saves time and energy going waste on testing and qualifying. For the phenomenal speed and volume of advancement in our times, standardization is an essential reference frame without which the sheer force of science could be blinding.

This rapid scientific evolution has another dangerous off-shoot: it leaves in its trail an equally speedy obsolescence. This presents a seemingly insurmountable challenge for standards institutes all over the world. To face this challenge, it is important not to be bogged down by the sheer magnitude of the new evolving order, but stand up to it. Let us keep pace with the fast-moving technologies lest they should overtake the speed of standards work.

These fast-moving technologies and their concomitant requirements necessitate a fresh orientation in standardization. Our system has to acquire a new in-built sense of priority and discretion in decision making — to shift out the redundancies, pinpoint and concentrate on the essential development crux.

The volume of our impending labours — of what we have to do — is immeasurable. But what we can do is unfortunately limited by our constraints of manpower, finance and other resources. The responsibilities of international standardization therefore are not to be further complicated by avoidable duplication of precious efforts. Timely realization that world standardization bodies could ill-afford such wastage, dispersal and dissipation of resources, or entering into jurisdictional disputes has impelled premier institutions of ISO and IEC towards working with a new spirit of cooperation.

International standardization also has the function of bridging the gap of North-South attitudinal differences. Advanced nations can be dissuaded from climbing high platforms of inordinately stiff specifications in the name of the standards norm, which adversely affect Third World trade. The latter, on the other hand, is to be spurred on to attain greater levels of excellence towards self-inspired attempts for the promotion of external trade.

The world standards movement has passed many a milestone! Its volume of work is ever-expanding; it now encompasses a large section of the globe. We have succeeded to a fair degree in educating public opinion, in awakening a quality-consciousness and in gaining greater official acceptance.

It now faces a challenging future and is gearing up to it. It is my big hope and prayer that it helps the Third World catch up with the time-technology gap; in effacing the advancement differentials that have put a majority on our map for behind certain affluent pockets and at a great disadvantage.

This is a tough task but, if achieved, a crowning accomplishment and the biggest service to the greatest needs of our times.

On this World Standards Day, let us renew our pledge and commitment to do our mite towards human perfection.



Mr Alexis Pejou
President, International Electrotechnical Commission

Today the rate of technical development, the growth of the electronics and telecommunications sectors, the rise of the information technology society and the spread of automation are having profound and ever-increasing effects on national economies and the world economy.

The growing dependence on these high technology growth sectors is reflected in the scope of the IEC, so that whereas today the IEC field of work corresponds to 35 percent of world trade in manufactured products, by the year 2000 this will have increased to 50 percent. In view of these statistics we cannot afford to underestimate the benefits of international standards in opening up the world's trading channels to all countries.

The rapid evolution and change taking place within the electrical and electronics world places new demands on the IEC's 204 specialized technical and subcommittees demands undreamt of when the IEC was first established more than 80 years ago.

We are now brought face to face with the need to speed up our work, especially in new areas where the length of time between inception, development, manufacturing and obsolescence has been telescoped into a fraction of the time traditionally taken to produce an international standard.

I am confident that we can meet the increased demands of manufacturers and users for international standards. Our recent 49th General Meeting in Montreal, which brought together nearly 1 300 delegates from 36 countries, was an outstanding example of the international will to produce standards more quickly. Delegates managed to complete 256 draft documents for circulation to IEC's National Committees — an all-time record for any IEC General Meeting.

The IEC has now produced 70 000 pages of international standards, a task to which thousands of engineers and scientists, the vast majority of whom give their time voluntarily, have contributed. Their efforts towards standardization by consensus and speeding up the work should be congratulated.

But the need for speed is placing great demands on the people available to carry out the work. There is now a shortage of manpower and it is perhaps fitting in this United Nations Year of Youth to reflect on where this manpower will come from to meet the challenges that lie ahead.

Although in the next 20 years the majority of those who are now creating IEC standards will have ceased work, the need for standards will not cease. They will still have to be written — many of them for technologies yet to be developed. We need, therefore, to ensure that our work is carried forward with the same regard for quality and accuracy that has always characterized the IEC. Attention to the needs of users, producers and governments must not be allowed to decrease.

Taking part in standardization activities may not at first sight seem particularly attractive to young scientists or engineers. It is vital to help them understand, be they students or already engaged in research or industry, that to contribute to this task is not only of benefit to the international community but at the same time enriching for the individual by reason of the personal contacts it brings about.

The IEC must be able to count on the younger generation for its future.

Role of Standards in Improving the Quality of TV Receivers

■ The Seminar on the Role of Standards in improving the Quality of TV Receivers held in New Delhi on 28 September 1985 called upon TV manufacturers in the country to implement Indian Standards through the ISI Certification Marks Scheme to ensure the quality of TV receivers produced and marketed by them. This specifically applied to the critical components used in TV receivers. The Seminar was jointly organized by Delhi Section of the Institute of Standards Engineers (SEI) and Indian Television Manufacturers Association (ITMA).

Presiding over the Seminar, Shri Kamal Meattle, Chairman, Institute of Standards Engineers (Delhi Section), highlighted the need for evolving a code of ethics by TV industry to ensure that manufacturers adhered to claims made in the advertisements. Remarking that TV had become a basic necessity and was no more a luxury, he said that the quality of TV receivers should be ensured to an acceptable standard. He then commented on the cost of television receivers in terms of percentage of per capita income and said that a TV receiver in India cost as much as 100 percent of per capita income while it might be less than 1 percent in the UK or the USA. He, therefore, suggested evolution of a *Janata* model which should have maximum standard components with the least number of moving parts and should be without any frills. This should result in high quality TV receivers at a low cost for use by rural consumers. As rural India did not have enough service facilities, the TV sets should be such that they could be serviced by less skilled mechanics. Shri Meattle also advocated institutional financing for the purchase of TV sets in rural areas.

Addressing the participants, Dr B. N. Singh said that the electronics industry was growing at a fast pace and about 20 percent of its production was devoted to consumer electronics. Talking about television receivers, he said that ISI had taken up standardization of television receivers as far back

as 1968 when it brought out a standard for black and white TV receivers which was first revised in 1978 and then in 1985 taking into account the developments that had taken place during the intervening period. He also described the efforts made by ISI, Department of Electronics, Central Electronics Engineering Research Institute (CEERI) and TV manufacturers in formulating a standard for colour TV receivers. As the television was an assembly of over 1 500 components, it was essential that quality and reliability was built into the various components to ensure proper performance of the TV receivers. Dr Singh informed the participants that ISI had taken up formulation of standards for critical components and urged the manufacturers to have their own company/association level standards to bridge the gap wherever national standards were not available. He also highlighted the details of the ISI Certification Marks Scheme which acted as a technical audit for the quality control system operated by the manufacturers and called upon the TV manufacturers to take advantage of the Scheme by taking ISI Certification Marks licences for TV receivers as well as various components manufacturers.

Shri Sunder T. Vachani, President of the Indian Television Manufacturers Association, traced the development of TV receivers from the earlier sets based on valves and diodes to the latest based on integrated circuits and said that TV industry in India had risen to the expectations of the authorities during the Asian Games by producing two million TV sets in a short span of less than one year. As TV was an assembly of several components, it was essential to have a uniform standard for TV receivers to provide the consumer with good quality and reliable TV sets. He also advocated the need for standards for designing TV circuits to ensure high quality and reliability norms and help in training TV engineers for providing effective after-sales service.

Earlier, welcoming the participants, Shri M. Raghupathy, Director (Stand-

ards Promotion), ISI, highlighted the importance of the television, the consumer durable for mass communication, education and entertainment. He also gave a brief outline of the history of the Institute of Standards Engineers and its objectives which had prompted it to organize this Seminar in collaboration with ITMA.

TECHNICAL SESSION

Presiding over the technical session that followed, Shri B. S. V. Rao, Deputy Director General (Engineering), Directorate General of Technical Development, said that standardization could help in producing cheaper TV sets with better quality while at the same time bringing greater benefits to the manufacturers. Stating that standardization was a valuable tool for management, Shri Rao said that it encompassed all efficiency techniques like value engineering and industrial engineering. The benefits of standardization included interchangeability of systems, accepted levels of quality and assessment, mass production leading to increased productivity and consumer satisfaction. Standardization practised at the international level could be taken as that at macro level and that practised at the company level could be described as that at micro level and each had a definite role to play; however, one should smoothly dovetail into the other. Shri Rao added that standards must be objective and should be used as a means for achieving productivity and quality rather than being treated as an end by themselves. They should take care of the future developments and provide for achieving higher levels of quality year after year in line with the advancing technology. Shri Rao said that the ultimate quality of a product depended on the quality of the various inputs and added that the belief that 100 percent inspection would give 100 percent assured quality was only a myth. In 100 percent inspection, in addition to increased cost, discretion crept in at every step which reduced the ultimate quality.

Standardization of Television Receivers and Associated Equipment at the National Level

Presenting the paper on standardization at national level on television receivers and associated equipment, Shri N. Srinivasan, Director (Electronics and Telecommunication), ISI, highlighted the benefits of standardization and explained the procedure followed in ISI for the formulation of Indian Standards and their review every five years. Tracing the history of standardization in the electronics field, which dated back to 1950 with the formulation of standards for radio receivers, he said that ISI had established a separate Division Council to deal with electronics and telecommunications in 1975. Coming to the standards for TV receivers, he said that initially the emphasis was on methods of measurement but later specifications were formulated for TV receivers with close association of the Department of Electronics, All India Radio, Central Electronics Engineering Research Institute and Indian Television Manufacturers Association. While explaining the different aspects covered by the standards on TV receivers, he said that Indian Standards specified an operating life test of 1 000 hours. Stressing that the television involved an assembly-oriented technology with a large number of components going into the manufacture of TV receivers, he said that the quality of TVs depended on that of the components used. ISI had already taken up standardization of critical components. Shri Srinivasan added that only the minimum number of essential tests had been prescribed in the standards and they would be expanded as the industry developed. He urged the manufacturers to implement the Indian Standards and come forward in increasing numbers to take ISI Certification Marks licences for the TV receivers manufactured by them.

During the discussions that followed, it was mentioned that public opinion varied as far as subjective viewing and listening was concerned and the quality parameters specified for these subjective characteristics needed to be clearly identified. A participant urged that the adequacy of resolution should be specified in the relevant Indian Standard. Another highlighted the need for standards percolating to all levels. In this, DOE and the Electronic Components Industries Association (ELCINA) could play an important role.

Impact of Standardization on TV Receivers

Presenting the paper on impact of
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standardization on TV receivers, Dr R. P. Wadhwa, Director (STQC), Department of Electronics, described the involvement of DOE in national standardization work and said that DOE went into the totality of standardization programme for TV receivers. Highlighting the importance of standardization in the growth of any industry, he said that since the guiding principles of the Seventh Five-Year Plan were industrial growth associated with improved efficiency and productivity, standardization had a very important role to play in achieving the Seventh Plan objectives. Dr Wadhwa described the measures adopted by the Government of India for the liberalization of licensing and spread of electronics industry in India and said that the STQC Division of DOE was endeavouring to ensure quality right from manufacturing stage to ultimate use. He informed the participants about the responsibility given to DOE in the preparation of standards for colour TV receivers and provision of test facilities and highlighted the work done by All India Radio and CEERI for testing colour TV receivers to obtain repeatable and reproducible results. Dr Wadhwa stressed the important role played by DOE in the formulation of Indian Standards for colour television receivers and said that one of the criteria adopted by the concerned Technical Committee while formulating the relevant Indian Standards was that the specifications must be achievable by Indian manufacturers. Speaking on the scope of consumer electronics in India, he said that the investment-turnover ratio was the highest in the field of consumer electronics which stood at 1 : 42 and added that the per capita consumption of consumer electronics in India, which was presently less than Rs 10, was expected to increase to more than Rs 30 by 1990. This figure for advanced countries was of the order of Rs 1 000. Highlighting the work done by DOE, Dr Wadhwa mentioned the establishment of test facilities and the limited approval scheme operated by it. He also referred to the suggestions made to colour TV manufacturers regarding improvements to be effected and re-orientation of their inward inspection system based on test results and added that the extensive testing done by DOE had resulted in the availability of test data at a central place whose analysis could be made use of for upgrading the quality, reducing the costs and improving the after-sales service in respect of TV receivers. He also stated that the TV industry developed confidence on the basis of testing done on the TV receivers produced by it.

To a query whether any mechanism existed for verifying the claims made by TV manufacturers and for ensuring the quality of TV receivers after a limited approval had been given to them, Dr Wadhwa said that 44 out of 60-70 manufacturers in India had received limited approval from DOE and further testing was undertaken soon by taking two samples from each of the approved manufacturers. The details regarding the test set-up required to be established by the manufacturers were also intimated to them so that they were able to monitor the quality of TV receivers. Shri N. Srinivasan supplemented the information by saying that the list of test instruments had been identified for manufacturers as well as test laboratories and the limited approval given to manufacturers could pave the way for full approval based on complete acceptance tests. He urged DOE to exert pressure on the manufacturers to cover their products under the ISI Certification Marks Scheme.

TV Receivers — Manufacturer's Approach to Consumer Protection

Presenting his paper on manufacturers' approach to consumer protection in regard to TV receivers, Shri J. S. Jhaveri, Past President of ITMA, highlighted the importance of TV receivers both for entertainment and education as well as rapid developments in the production of TV receivers and said that the unethical trends likely to develop in the industry could be effectively curbed through standardization. He mentioned the problems faced by the industry regarding proliferation of the variety of components with varying standards and advocated standardization of components to provide a base for indigenous production. Besides, additional requirements pertaining to contrast, brightness, depth of colour and stability of sub-carrier oscillator should be covered in the Indian Standards for TV receivers. As a manufacturer, Shri Jhaveri expressed the need for the development of a buyers' market for TV receivers as only a competitive buyers' market could improve the prospects of TV industry. Stating that the quality of deflection components and polyester capacitors was low, he urged compulsory enforcement of standards in respect of critical components used by the TV industry. He also advised the manufacturers to provide a circuit diagram and an operation manual along with each TV set to facilitate easy maintenance. Noticing that some manufacturers did not put their name on the TV receivers manufactured by them,

(Continued on page 379)

CEMENT CERTIFICATION IN TAMIL NADU — First Review Meeting

The Indian Standards Institution organized the First Review Meeting on Cement Certification in Tamil Nadu on 20 September 1985 in Madras. Participants from different cement plants attended the meeting.

In his opening remarks, Shri C. R. Rama Rao, Deputy Director General (Southern Region), ISI, briefly traced the growth of cement industry in India and said that over 100 units were producing nearly 37 million tonnes of different varieties of cement. While manufacturers and users were familiar with the production, testing and usage of ordinary portland cement some problems had been faced in the operation of Certification Marks Scheme for portland pozzolana cement using pozzolanas like flyash and calcined clay. Such review meetings, Shri Rama Rao felt, would help in identifying the problems and finding appropriate solutions. He also stressed the need for adhering to the *Standards of Weights and Measures Act, 1976* in packing cement and said that the quality of packaging material should be in accordance with the relevant Indian Standards, wherever available.

Shri M. S. Nagaraj, Joint Director, ISI, presented a technical note on 'Cement certification in Tamil Nadu'. It covered various aspects of cement certification like cement testing and its frequency, testing and quality of pozzolana, packing and weight. A proposal for modification of the scheme of testing in respect of frequency of testing received from the cement manufacturers was also discussed in detail.

Summing up the deliberations, Shri T. S. Subramanian, Director, ISI, said that various difficulties in the operation of the ISI Certification Marks Scheme in relation to cement had been identified and some useful recommendations made. These recom-

mendations would be suitably followed up at different levels including concerned technical committees of the Institution.

The recommendations emerging from the deliberations at the meeting are as under:

- a) Those cement plants in Tamil Nadu, which do not have all the testing facilities at present, should be completely equipped at the earliest;
- b) For assessing the soundness of cement, only one test, that is, Le Chatelier test or Autoclave test may be laid down in the relevant Indian Standard;
- c) If both the Le Chatelier and Autoclave tests are specified, the Le Chatelier assessment may be on daily basis while that by the Autoclave method may be on weekly basis;
- d) Three cubes should be invariably cast for assessing the compressive strength of cement as there is no more shortage of standard sand;
- e) Discussions may be initiated with M/s Tamil Nadu Minerals Ltd, Madras, for adequate supply of standard sand to cement manufacturing units in Tamil Nadu;
- f) Alternate sources of supply of standard sand may be finalized urgently;

g) Testing of laboratory ground samples of portland pozzolana (PPC) (clinker + pozzolana + gypsum) presently covered in the scheme of testing for 'IS : 1489-1976 Specification for portland pozzolana cement (*second revision*)' may be deleted;

h) Weekly chemical analysis of portland pozzolana cement grinding may be deleted;

j) Where a mixture of pozzolanas is used, individual pozzolanic materials may be tested for chemical requirements and the physical requirements assessed on composite samples in the actual proportions of pozzolanas as used in making PPC;

k) The test for lime reactivity may be deleted as it indicates the strength of pozzolana when mixed with lime and does not truly reflect the properties of PPC where pozzolana is mixed with ordinary portland cement (OPC) clinker;

m) Jute bags should be ISI-marked according to 'IS : 2580-1982 Specification for jute sacking bags for packing cement (*second revision*)'. Paper and HDPE woven bags should be of appropriate quality to withstand higher temperature and handling stresses;

n) Marking on the bags should be



Shri C. R. Rama Rao, Deputy Director General (Southern Region), ISI (centre) presiding over the First Review Meeting on Cement Certification in Tamil Nadu

legislation to ensure this, screen printing may be used, as far as possible. If printing is done by an outside agency, ISI monogram and week and year of the manufacture of cement should be printed in the plant premises; and

p) The weight of bags and bulk supplies should be strictly in accordance with the provisions of the *Standards of Weights and Measures Act, 1976*. At least three bags per nozzle per hour should be checked. The weighing scale used should match the speed of packing and should be frequently calibrated.

GET-TOGETHER OF SMALL SCALE UNITS IN TAMIL NADU

The Indian Standards Institution organized a Get-Together of Small Scale Units in Madras on 21 November 1985. The main objective of the Get-Together was to explain the growing incentives and preferences available to the units going in for ISI certification. Some 100 delegates from financial and lending institutions and State and Central Government agencies connected with the promotion of small scale units in Tamil Nadu participated in the Get-Together.

Inaugurating the Get-Together, Shri V. Selvaraj, Commissioner and Secretary, Industries Department, Government of Tamil Nadu, exhorted the manufacturers to produce goods of quality which alone would enable them to find a ready market for their products. The ISI Certification Marks Scheme was a sure means for achieving this objective and should be followed by all industries. Shri Selvaraj said that the State Government had sanctioned Rs 200 000 during 1984-85 to provide cash subsidy to 100 small scale units. Besides, Government departments and corporations had been asked to give price preference to ISI-certified products, he added.

Shri U. A. Acharya, Deputy General Manager, Industrial Development Bank of India (IDBI), Madras, said that the share of small scale sector in the total assistance provided by IDBI was Rs 11 000 million at the end of June 1985.

Shri V. S. Surappa, Director, Regional Testing Centre, Madras, said that it was proposed to set up field testing centres in 30 more places during the Seventh Five-Year Plan period in the country.

Shri M. Swaminathan, Manager (Marketing), Tamil Nadu Small Industries Development Corporation (SIDCO), said that the Corporation arranged for easy availability of all the relevant Indian Standards for



Shri V. Selvaraj, Commissioner and Secretary, Industries Department, Government of Tamil Nadu, inaugurating the Get-Together of Small Scale Units in Tamil Nadu

consultation by small units registered with it.

Outlining the objectives of the Get-Together, Shri C. R. Rama Rao, Deputy Director General (Southern Region), ISI, said that, of the 815 units operating the ISI Certification Marks Scheme in Tamil Nadu, 75 percent were from the small scale sector.

The technical session that followed was presided over by Shri M. Dharmapandian, Joint Director of Industries and Commerce (Engineering), Government of Tamil Nadu. Shri T. R. Rajagopalan, Deputy Director (Southern Region), ISI, presented a technical paper highlighting the various incentives and preferences being made available throughout the country by various governments, undertakings and financial and other institutions.

The following recommendations emerged from the discussions that followed:

a) The State Government should consider enhancing the quantum of subsidy to small scale industries from Rs 2 000 to Rs 5 000 for joining the ISI Certification Marks Scheme giving it on a recurring basis every year;

b) Group testing facilities should be set up by the State Government as far as possible after identifying the homogeneity of industries in each district; and

c) The State Government and financial institutions should render liberal assistance either by providing soft loans or outright grant-in-aid for the purchase of essential testing equipment needed for the purpose of the ISI Certification Marks Scheme.

WORKSHOP ON STANDARDIZATION AND CERTIFICATION OF PROCESSED FOOD PRODUCTS, ANAND.

A Workshop on Standardization and Certification of Processed Food Products was organized by Indian Standards Institution with the co-operation of National Dairy Development Board (NDDB) at Anand on 15 October 1985. The Workshop was organized as part of the World Standards Day celebrations in Gujarat. It was attended by some 70 delegates from Gujarat and Maharashtra comprising representatives of manufacturers of processed foods and dairy and bakery products.

Inaugurating the Workshop, Shri V. R. S. Cowlagi, Industries Commissioner, Government of Gujarat, highlighted the importance of standardization *vis-a-vis* development efforts through industrialization and improvement of product quality, specially in the field of high technology, and said that adequate measures should be taken for the implementation of standards. He described newer developments that had taken place in the processed food industry with special reference to those based on soyabean, seaweeds, cocoa, etc., and hoped that suitable standards would be developed in due course keeping in view the export potential of such products.

Welcoming the participants, Dr R. P. Aneja, Secretary, National Dairy Development Board, Anand, described the work done by ISI in the field of developing standards in areas like management and accounting system for dairy industry and hoped that its efforts in this direction would continue.

Shri S. R. Kuppanna, Deputy Director General (Western Region), ISI, delivered the keynote address on the significance of World Standards Day. He explained that the World Standards Day was celebrated throughout the world on or around 14 October every year to commemorate the establishment of the International Organization for Standardization (ISO) in 1947 for the formulation of International Standards for the promotion of international trade amongst nations. He also explained the work of ISO for the benefit of the delegates.

The inaugural function was followed by two technical sessions. The first technical session on standardization of processed food products was presided over by Dr I. S. Verma, Principal, Dairy Science College, Anand. Presenting his paper on standardization of processed food products, Shri T. Purnanandam, Director (Agricultural and Food Products), ISI,

described the work done in the field of formulation of standards for processed food products since 1947. He said that the development of Indian Standards on processed food products was closely related to statutory food laws and explained that the Indian Standards were constantly reviewed, amended or revised in the light of the latest technological developments. He also described the food standards programme of Codex Alimentarius Commission which was set up for developing food standards intended for international use. Stating that voluntary implementation was the ideal means for the manufacturers to implement standards, Shri Putnanandam called upon the delegates to ensure greater interaction with ISI by providing suitable feedback regarding difficulties faced by them in this task so that the relevant standards could be updated and developed in a more realistic way.

Shri V. M. Patel, General Manager, Mehsana Dairy, Mehsana, presented a paper on standardization *vis-a-vis* food legislation, specially with respect to dairy products. He discussed the objectives of food legislation and felt that there was no effective control on the unorganized sector of industry as far as implementation of the PFA Act was concerned. He emphasized the need for reviewing the food legislation to ensure its effective implementation.

Presenting his paper, Shri K. S. Kannan, Standards Manager, Britannia Industries Limited, discussed the role of standardization, specially with respect to production and marketing of quality goods in the biscuit industry. Shri Kannan said that quality should be built into a product and hence it was necessary to effectively standardize the whole production process from the raw material stage to packaging of the product, thereby ensuring conformity to the quality specification.

During the discussions, the Chairman, Dr I. S. Verma, stressed the importance of standardization and hoped that, with proper interaction among industries, research laboratories and ISI, suitable standards would be developed in various fields for the benefit of industry as a whole.

The second technical session, chaired by Shri M. G. Sathe, Managing Director, Sathe Biscuits and Chocolate Company Limited, Pune, dealt with certification of processed food products.

In his paper, Shri E. N. Sunder, Director (Central Marks), ISI, stressed the importance of quality and certification in relation to processed food products and added that strict

adherence to the basic principles of hygiene was of paramount importance. Other aspects which needed attention of the processors were food additives and packaging. He felt that proper consideration of the various factors alone could ensure the maintenance of quality in food processing units. Shri Sunder also dealt with the significance of food laws in relation to inspection and certification, specially with a view to differentiating between substandard and adulterated foods.

Shri H. K. Vasuki, Director, Windsor Foods Ltd, Vadodara, explained in his paper the significance of certification of food products, specially with respect to bakery products, and felt that, unless certification of processed food products was made compulsory, the industry would not be able to achieve the desired growth rate. He added that economic levels of production had to be achieved by every manufacturer for his own survival and in this voluntary adoption of suitable standards and certification could be of great help. Shri Vasuki said that the cost of sampling and carrying out of tests and process control checks would not amount to more than 0.75 percent of the total turn-over of a company in case it covered its products under the ISI Certification Marks Scheme. If the certification of processed food products was made compulsory, the total production of individual manufacturers would come within the ambit of the Scheme which would prevent the commercial excellence of a product from having an advantage over its quality.

Presenting his paper, Shri M. W. Shende, Head (R&D), Hickson & Dadajee Co Ltd, Bombay, dwelt on the quality requirements and certification of food colours in detail. He said that standards had already been developed for different types of food colours and described the role of ISI in ensuring the quality of certified food colours as envisaged under the ISI Certification Marks Scheme. However, he stated that the same standard of hygienic conditions might not be necessary in a drug or pharmaceutical manufacturing plant, the category to which the food colour industry really belonged, as that required in other food processing units. He, therefore, felt that a standard for hygienic conditions to be maintained in the food additive industry with particular reference to food colour industry should be developed. He also called upon ISI to organize training programmes for the maintenance of hygienic conditions for the benefit of workers engaged in such industries. Shri Shende also

suggested that ISI should initiate action for educating the public on the use of certified colours only through various media as use of non-permitted colours constituted a serious health hazard.

ISO MEETINGS ON STEEL

Meetings of the ISO Technical Committee for Steel (ISO/TC 17) as well as its two Subcommittees, namely, Subcommittee on Terminology, Classification and Designation of Steel (ISO/TC 17/SC 2) and Subcommittee on Dimensions and Tolerances of Structural Steel Sections and Bars (ISO/TC 17/SC 8) were held in Dusseldorf (West Germany) during 22 September-4 October 1985. India holds the Secretariat responsibilities for the two Subcommittees while the Secretariat of ISO/TC 17 is with Japan.

The Indian delegation to these meetings comprised Shri P. K. Chakravarty (Tata Iron and Steel Company); Shri A. G. Rama Rao (Bhilai Steel Plant); and Shri K. Raghavendran, Director (Structural and Metals), ISI.

The Subcommittee on Terminology, Classification and Designation of Steel (ISO/TC 17/SC 2) held its eighth meeting during 23-24 September 1985 under the chairmanship of Shri P. K. Chakravarty. The meeting was attended by 12 delegates from five countries. The Subcommittee approved for processing as a technical report, after editing, the draft proposal on steel names based on letter symbols (ISO/DP 4949). It also agreed that the draft proposal on definitions of steel products by shape and dimensions (ISO/DP 6929) would be further processed for submission to the Central Secretariat for member body voting after approval from ISO/TC 17. The Subcommittee decided not to undertake work on the glossary of terms relating to steel in its present form but take up specific work like heat treatment and surface finish. The subject 'Definitions for different types of steels' was also dropped from its programme of work.

The fourteenth meeting of the Subcommittee on Dimensions and Tolerances of Structural Steel Sections and Bars (ISO/TC 17/SC 8) took place during 24-27 September 1985. Some 20 delegates from 9 countries participated in the meeting. In the absence of Shri M. Dhar of India, Mr Bates of the United Kingdom was elected to the chair. During the meeting, Draft International Standards on equal and unequal leg angles (ISO/DIS 657/1 and 657/2) were examined and the number of sizes reduced to contain the preferred list

with other sizes forming a secondary list. It was agreed to circulate the revised Draft International Standards under the combined voting procedure. The Subcommittee also decided to revise the Draft International Standard on parallel flange sections (ISO/DIS 657/6) in two sections, one for the European series and the other for the American series with reduced number for preferred series. The subjects 'Z-sections' and 'T-sections' were kept in abeyance for the time being. Besides, the Subcommittee discussed the draft proposals on tolerances for parallel flange sections for beams and tolerances for equal and unequal leg angles and made certain modifications. These draft proposals would be considered again at the next meeting.

The fifteenth plenary meeting of the ISO Technical Committee for Steel (ISO/TC 17) held during 30 September-4 October 1985 was attended by 50 delegates from 17 countries. At this meeting, activities of all the Subcommittees under ISO/TC 17 were reviewed. Reports of the meetings of SC 2 and SC 8 were presented by Shri Chakravarty and Shri Raghavendran respectively. To resolve the current differences within ISO/TC 17 regarding discrepancy in the definitions

of 'sheet' and 'strip' used by two Subcommittees under it, namely, ISO/TC 17/SC 2 and ISO/TC 17/SC 12 Subcommittee on Continuous Mill Flat Rolled Products, it was proposed that the following footnote might be added in ISO/DP 6929: 'It should be noted that there are still other definitions in use for sheet, strip and plate.'

ISO/TC 17 lifted the embargo on the work connected with 'ISO/DP 4885 Glossary of terms relating to steel'. In regard to the International Numbering System for Metals, the Committee decided that a questionnaire be circulated among ISO/TC 17 members inquiring as to whether this subject should be retained or dropped. It also allotted the Secretariat of the Subcommittee on Steel for Reinforcement and Prestressing of Concrete (ISO/TC 17/SC 16) to the Norwegian member body.

ROLE OF COMPUTERS IN STANDARDS MANAGEMENT INFORMATION SYSTEM — Bombay Programme

The Indian Standards Institution organized an Orientation Programme on 'Role of Computers in Standards Management Information System'

during 29-30 October 1985 in Bombay for the benefit of ISI officers. The Programme was attended by 12 officers of the rank of Joint Directors, Deputy Directors and Assistant Directors of the Western Regional Office of ISI.

Inaugurating the Programme, Shri S. R. Kuppanna, Deputy Director General (Western Region), ISI, said that computerization meant increased accuracy, timely disposal of cases and faster speed. He called upon the participants to help the Institution develop computer culture.

The topics covered in the Programme included computer concepts, computer architecture, computer applications and management approach to computerization. In addition to these general topics, the Programme covered present applications of the Institution's computer terminal and proposed computer applications for covering different activities of ISI. The participants were also taken to the Indian Institute of Technology (IIT), Bombay, to have an idea of the practical uses of computer.

Shri T. N. Misra, Director, and Shri Jayant Sinha, Assistant Director (Computer Centre), ISI, conducted the Programme.

ROLE OF STANDARDS IN IMPROVING THE QUALITY OF TV RECEIVERS

— Continued from Page 375

he urged that the name and full address of the manufacturers should be given on the TV receivers so that the consumer could communicate with them for his requirements in regard to service, spare parts, etc. He concluded by saying that the TV industry would be able to respond to the call for improving the quality in accordance with Indian Standards.

During the discussions that followed, the problems of consumers in the case of a manufacturer closing down his operations were highlighted. As the import content of colour TV sets manufactured in the country was quite high, it was pointed out that problems might crop up when the sources of critical components were changed due to indigenization. Shri Jhaveri

said that the Grievance Cell established by ITMA would take care of TV receivers manufactured by the units which had closed down their operations. As for ensuring the quality of critical components used in the TV receivers after indigenization, he added that these should be covered under the ISI Certification Marks Scheme.

SUMMING UP

In his concluding remarks, Shri B. S. V. Rao complimented ISI and DOE on the standardization work done in the field of TV receivers and said that a lot more needed to be done to ensure the quality and reliability of TV receivers manufactured in the country. He urged the development of

appropriate technology for different volumes of production and called upon the manufacturers to adopt it for ensuring competitiveness in the market. He also highlighted the role of professional bodies in coordinating and matching of systems and sub-systems which assumed greater significance in the electronics industry. Stating that national testing facilities could be increasingly used for catering to the needs of the manufacturers, Shri Rao urged them to improve their systems of manufacture to match the advancement in technology. He also advised ISI to keep standards in the fast-growing field of electronics up to date, in fact futuristic.

STANDARDIZATION

ECHOES AND IMAGES

Standardizing Tyres

The All India Tyre Dealers' Federation (AITDF) has called for Indian Standards to be made compulsory for tyres and tubes as a measure of consumer protection. It has also pleaded with the Government that each tyre must carry the date of manufacture, load carrying capacity and mileage guarantee, according to a press release issued by the Federation.

— The Hindustan Times, 18 September 1985



Microprocessors to Improve Productivity

The use of computer-based technology like microprocessors would not only enhance quality and productivity but also make the products competitive, Dr M. S. Sanjeevi Rao, Chairman, Electronics Commission, said in New Delhi on 2 September 1985.

Inaugurating a two-day National Seminar on Microprocessors in Industrial Control, he said that, if properly managed, this type of automation need not affect the labour and employment prospects of the people. Microprocessors technology would give the country the tools to manage its resources, such as power, infrastructure and capacity in such a way that its optimum use would be made possible. This technology could give command over the factors of production to make any industrial activity cost-effective.

— The Indian Express, 3 September 1985



Conservation of Diesel Fuel Urged

Development of a fuel-efficient agricultural diesel engine having power capacity matching the pump requirements is successfully going on to check reckless use of diesel for irrigation purposes in the country, according to the Advisory Board on Energy (ABE).

A study fully financed by ABE and undertaken by the Prototype Development and Training

Centre, Rajkot — a unit of the National Small Industries Corporation — contends that excessive fuel consumption by agricultural engines needs to be checked to save loss of precious energy.

It is estimated that agricultural diesel engines in the country consume over one-third of the total annual high speed diesel (HSD) which amounts to one-tenth of the total petroleum consumption. The estimated population of diesel engines in operation today exceeds five million in number.

The study singles out two reasons for excessive fuel consumption by agricultural engines. One is the extremely inadequate maintenance of these engines and the other pertains to power mis-match of the driving and driven machinery.

Pointing out that the amount of diesel consumed by the agricultural sector is much more than the designed value, the study notes that over-consumption of diesel fuel acquires added importance in view of the fact that diesel demand has been increasing at a disproportionately higher rate compared to other petroleum fractions.

This has also become a compelling reason to expand the distillation range of what is called diesel and this has resulted in undesirable change in certain properties of diesel fuel like lowering of flash point, the study adds.

According to the study, a clear possibility of saving at least 20 percent of diesel fuel was established by merely effecting alterations in the engine, such as setting fuel injection, pressure and valve timing to their optimum values.

— The Amrita Bazar Patrika, 3 September 1985



Safety in the Chemical Industry

If the safety concept is yet to be properly appreciated and adopted by Indian industry in general, the track record of that segment which manufactures or handles toxic and hazardous chemicals has been far from creditable. Although statistics pertaining to industrial mishaps are highly deficient, according to one estimate at least 100 workers died and about 11 000 were injured in 1980 in the chemical industry. The world's worst ever chemical-related environmental disaster which occurred in Bhopal last year showed only too well, and in a brutally shocking fashion, that the neglect of the safety aspect in processes

...ing potentially dangerous chemicals poses a threat to the whole lot of people who happen to live in the vicinity of the plant concerned. But the Bhopal tragedy is rare only in terms of the shocking and anti-human dimensions of the havoc it wrought. There have been several instances since of toxic gases and fumes escaping from corroded storage tanks or pipes and also of the effluent treatment systems failing. The industry and the regulatory agencies have been slow in learning the lessons from the Bhopal catastrophe. In the latest such case, chlorine leaked from a factory located in that part of metropolitan Bombay which is known as the city's gas chamber, and one person died and over 200 others took ill following the incident. Out of 1 400 tonnes of air pollutants released by various sources in Bombay, Chembur plants are said to account for 340 tonnes.

The growth of the chemical industry has been phenomenal over the last three decades and the trend is bound to continue, if not get accelerated, in the years to come. With it will grow the risks to human health and environment and if Bhopal-type tragedies are to be prevented, drastic action is called for to bridge the gaps in the safety system. Apart from the existing regulations not being stringent enough in this critical area, there is a severe dearth of trained manpower which renders effective inspection virtually impossible. Also those charged with the responsibility of inspection at times collude with erring managements. Primarily, however, the onus of providing foolproof safety standards is on the company itself which means it should firmly resist the temptation to slacken and compromise on this score for economic or other reasons whether in designing the plant or maintaining the safety system built into it.

— The Hindu, 9 September 1985

Safety Measures for all New Industrial Units

Specific stipulations on safety measures would be included in sanctions for all new industrial units.

This is part of an action plan drawn up by the Ministry of Chemicals and Fertilizers.

An inter-departmental meeting of the Ministry on 21 September 1985 decided to have all plant hazards classified with reference to their danger potential. The hazardous units would be classified as toxic, highly reactive, inflammable and explosive.

According to an official source, special groups were being set up to study the existing units in the private sector for recommending safety measures. The work would be completed in respect of 24 units in the next six months, the source said.

Special care is already being taken in respect of safety in public sector units which fall under the purview of this ministry. Two expert groups would complete the safety review of all these public sector units within the next six months. One group will study fertilizer units and the other chemical units.

— The Financial Express, 22 September 1985

Colour TV Firms Told to Indigenize Sets

The Government has served notice on colour TV manufacturers to progressively indigenize their sets, especially as the Bharat Electronics Limited and other units have started manufacturing some of the vital components.

The Chairman of the Electronics Commission, Dr M. S. Sanjeevi Rao, said on 10 September 1985 that no government could allow heavy outgo of foreign exchange for a piece of consumer electronics, such as TV and urged the industry to make use of indigenous components.

Dr Rao said that if no progress was made towards indigenization of the colour TV, the country would have to spend as much as Rs 2 000 million a year on imports of components by 1990. Since colour TV did not fall in the category of essential commodities, such as edible oils, such a waste of oreign exchange would not be permitted.

The Government was also very keen on standardization and volume production which were interlinked.

Dr Rao said that indiscriminate import of components and lack of standardization would create immense problems for the country. Already, there were problems of inadequate volumes of production and high replacement costs of imported components.

— The Times of India, 11 September 1985

Consumers Urged to be Assertive

Shri Abid Hussain, Member of Planning Commission, said in New Delhi on 11 September 1985 that the consumer must always be the king. He must be knowledgeable, assertive and should never be taken for a ride.

Inaugurating a Seminar on 'Youth and Consumerism: Preparing the Youth for Consumer Action', he noted that the law could be effective only if law-abiding citizens asserted their rights. However, this did not mean that the State had no role to play. Quality control and price control must be forcefully implemented and deterrent punishment given to shopkeepers breaking the law.

Shri Hussain observed that people got what they deserved. This was where consumer education assumed importance.

He said that shortages always led to selling of shoddy goods at high prices and tempted people to produce imitations to cheat consumers. In India, the economy should lay emphasis on production of more goods.

Shri Hussain further noted that monopoly production must be broken. Competition, he said, ensured better production of good quality stuff at reasonable prices.

— The Times of India, 11 September 1985

COMMITTEE MONTH

This month, we report the proceedings of 15 committees which held their meetings during the month of August 1985. Detailed notes regarding 12 committee meetings are given below. The Table of Meetings lists important items of business transacted by other committees.

AGRICULTURAL AND FOOD PRODUCTS DIVISION COUNCIL

The twentyeighth meeting of the Agricultural and Food Products Division Council (AFDC) was held on 19 August 1985 under the chairmanship of Dr M. V. Rao, Deputy Director General (Crop Sciences), Indian Council of Agricultural Research, New Delhi. The Council unanimously re-elected Dr Rao as Chairman of the Division Council for another term of three years ending 22 June 1988.

Reviewing the activities of the Sectional Committees under the Division Council, Dr Rao said that 83 standards had been added during the last year; of these, more than 50 standards related to agro-chemicals and other agricultural inputs, the rest concerning to processed foods and others. In the field of certification marking, the total number of operative ISI licences covered by Indian Standards under the purview of the Division Council came to 1 713. Dr Rao also briefly reviewed the latest developments in agriculture, sugar industry, apiary industry, and in regard to cereals and pulses, tobacco and tobacco products, food additives, spices and condiments, and adulteration of pesticides and fruits and vegetables.

The Council specifically discussed the questions of increasing adulteration of coffee powder with chicory, tea grading nomenclature, and water requirements for different crops under different agro-climatic conditions and noted the various steps being taken by the concerned agencies to solve the problems relating to these subject areas. It also discussed a proposal regarding packaging requirements of pesticides in view of innovations being made elsewhere and agreed that the guidelines laid down by the relevant Sectional Committee might be followed



Dr M. V. Rao, Deputy Director General (Crop Sciences), Indian Council of Agricultural Research, New Delhi (extreme right), presiding over twentyeighth meeting of the Agricultural and Food Products Division Council (AFDC). Others in the picture are (from left) : Shri D. Ajitha Simha, Deputy Director General; and Dr B. N. Singh, Additional Director General, ISI.

by and large. While adopting newer materials the system as a whole should be considered. The need for putting it to test was also emphasized as it was necessary to ensure adequate protection for the performance of the package as a whole.

The Division Council agreed to set up a new Sectional Committee on Infant Feeding Appliances (AFDC 66) and reconstituted another on Soil Amendments and Reclamation of Problem Soils (AFDC 45). Besides, the scope of the Storage Structure and Storage Management Sectional Committee (AFDC 28) was revised. The Division Council appointed new Chairmen for four Sectional Committees as under: (a) Dr G. L. Kaul (Indian Council of Agricultural Research, New Delhi) — AFDC 23 Fruits and Vegetables Sectional Committee; (b) Shri M. R. Nair [Central Institute of Fisheries Technology (ICAR), Cochin] — AFDC 27 Fish and Fisheries Products Sectional Committee; (c) Dr D. K. Salunkhe [Mahatma Phule Agricultural Uni-

versity, Rahuri (Ahmednagar) — AFDC 33 Edible Starches and Starch Products Sectional Committee; and (d) Dr B. N. Mathur (National Dairy Research Institute, Karnal) — AFDC 34 Dairy Products Sectional Committee.

During the discussions, attention of the Council was drawn to the importance of controlling aflatoxin infestation in foodgrains and oilseeds and their products. It was agreed that a National Seminar should be organized to help evolve systems for effective control of aflatoxin infestation. These could eventually emerge as Indian Standard guidelines or codes of practice.

AHMADABAD ADVISORY COMMITTEE

The sixth meeting of the Ahmadabad Advisory Committee (AAC) of Indian Standards Institution was held in Ahmadabad on 12 August 1985 under the chairmanship of Shri A. Mayangar, Additional Industries Commissioner, Government of Gujarat,

in the absence of its Chairman, Shri V. R. S. Cowlagi, Industrial Commissioner, Government of Gujarat who could not be present for the meeting. Members from Government organizations and private sectors attended the meeting.

Presiding over the meeting, Shri Mayangar informed the Committee that the Government of Gujarat had sanctioned an amount of Rs 9 million for setting up an ISI laboratory in the State and hoped that the project would gain momentum and be completed within a fixed time frame. He was also optimistic that with the setting up of a laboratory, industries would be benefited and the ISI Certification Marks Scheme promoted in Gujarat.

Reviewing the position of certification marking on cement, it was pointed out that some cement manufacturers were using old jute bags for packing cement. The committee clarified that since cement was under compulsory ISI Certification, manufacturers were not allowed to use old bags without the ISI Mark. However, to avoid any misuse, this issue had already been brought to the notice of State Civil Supplies Department, Government of Gujarat, which was the appropriate authority for taking necessary action against such manufacturers. During discussions on the implementation of the *Household Electrical Appliances (Quality Control) Orders*, it was clarified under this Order, conformity to Indian Standards on electrical appliances was mandatory, however the enforcing authority was the Chief



Shri A Mayangar, Additional Industries Commissioner, Government of Gujarat (centre) presiding over the sixth meeting of the Ahmadabad Advisory Committee. Others are (from right) : Shri S. R. Kuppana, Deputy Director General (Western Region); and Shri B. Mukherji, Director, Ahmadabad Branch Office, ISI.

Electrical Inspector of the State. The members were informed that necessary steps were being taken by them to enforce this Order in the State at the earliest. It was also clarified to members that while certifying any electrical appliances, the safety requirements were also to be taken into consideration apart from its quality and performance requirements.

The members expressed concern about the quality of some type of synthetic detergents being manufactured in and around Ahmadabad and sold at very low prices, and suggested that they should be brought under compulsory ISI certification. After considerable discussions on the subject, it was decided that a proposal be

sent to the appropriate authority, as a recommendation of the Advisory Committee, that synthetic detergents be brought under compulsory certification in the interest of consumer protection.

To provide guidance on the implementation of the ISI laboratory project in Gujarat, a Building Planning Subcommittee was set up under the chairmanship of Shri V. R. S. Cowlagi. The members coopted on the committee included the Superintending Engineer, Gujarat Industrial Development Corporation (GIDC); Dr R. C. Trivedi, Advisor (PC), Office of the Industries Commissioner, Government of Gujarat; and Shri S. R. Kuppanna, Deputy Director General (Western Region), ISI.

TABLE OF MEETINGS

AGRICULTURAL AND FOOD PRODUCTS DEPARTMENT

AFDC 27 FISH AND FISHERIES PRODUCTS

New Delhi
1985-08-08/09

Chairman Dr C. C. Pandurangarao
Director
Central Institute of Fisheries
Technology
Cochin

Drafts finalized for publication—Specifications for: (a) Dried prawns (second revision of IS : 2345), (b) Dried white baits (*Stolephorus* sp) (second revision of IS : 2883), (c) Dry-salted DHOMA (first revision of IS : 8836), (d) Dry-salted horse mackerels (*caranx* sp) (first revision of IS : 3853), (e) Dry-salted leather jackets (*chrorinomus* sp) (first revision of IS : 3852), (f) Dry-salted mackerel (first revision of IS : 4302), (g) Dry-salted seer fish (first revision of IS : 5198), (h) Dry-salted shark (first revision of IS : 5199), (j) Dry-salted surai (TUNA) (first revision of IS : 5736), (k) Fish maws (first

revision of IS : 5472), (m) Frozen prawns (second revision of IS : 2237), (n) Lactarious sp. canned in oil (first revision of IS : 6121), and (p) Mackerel (*Restrelliger* sp) canned in oil (second revision of IS : 2420).

CHEMICAL DEPARTMENT

CDC 1 CHEMICAL STANDARDS

Bombay
1985-08-16

Chairman Dr B. N. Mattoo
Maharashtra State Forensic
Science Laboratory, Bombay

Drafts approved for wide circulation—Specifications for: (a) Lead by ASS, (b) Magnesium by AAS, (c) Manganese by AAS, (d) Mercury by AAS, (e) Molybdenum by AAS, and (f) Nickel by AAS.

Standards reviewed and reaffirmed—'IS : 5194-1969 Method for determination of nitrogen—Kjeldahl method'; and 'IS : 8770-1978 Artificial sea water for laboratory use'.

New subjects — Antimony by atomic absorption spectrophotometric method, barium by atomic absorption spectrophotometric method, and colorimetric method for the determination of tungsten.

CDC 33 LABORATORYWARE AND RELATED APPARATUS New Delhi 1985-08-23

Chairman Dr M. Sankar Das
Bhabha Atomic Research Centre
Bombay

Drafts finalized for publication — Methods for assessing the chemical resistance of enamels used for colour and colour marking. Specifications for: (a) Colour coding for pipettes, (b) Graduated pipettes: (1) Part 1 General requirements, (2) Part 2 Pipettes for which no waiting time is specified, (3) Part 3 Pipettes for which a waiting time of 15s is specified, and (4) Part 4 Blow-out pipettes.

Drafts approved for wide circulation — Specifications for: (a) Gas washing bottles, (b) Glass alcoholometers: Part 1 Glass alcoholometer without thermometer (*first revision of IS : 3608*), and (c) Glass alcoholometer with thermometer (thermo alcoholometers) (*first revision of IS : 3608*).

Standards reviewed and reaffirmed — 'IS : 1381 (Part 1)-1976 Flask with plain neck (*first revision*)'; 'IS : 1381 (Part 2)-1977 Flasks with conical ground socket (*first revision*)'; 'IS : 1541-1978 Glass filter funnels (*first revision*)'; 'IS : 2619-1971 Glass beakers (*first revision*)'; 'IS : 2626-1979 Petri dishes (*first revision*)'; 'IS : 2627-1979 Glossary of terms relating to liquid-in-glass thermometers (*first revision*)'; 'IS : 2836-1974 Methods of test and quality requirements for porcelain, laboratory apparatus (*first revision*)'; 'IS : 2837 (Part 1)-1975 Crucibles (*first revision*)'; 'IS : 2837 (Part 2)-1977 Basins (*first revision*)'; 'IS : 3055 (Part 1)-1977 Solid-stem type (*first revision*)'; 'IS : 3432-1965 Clay pipe triangles'; 'IS : 3936-1966 Porcelain mortars and pestles'; 'IS : 3953-1966 High temperature combustion boats'; 'IS : 3990-1967 Combustion tubes'; 'IS : 5009-1968 Buchner funnels'; 'IS : 5011-1968 Gooch crucibles'; 'IS : 5165-1969 Interchangeable conical ground-glass joints'; 'IS : 6017-1971 Thermometer for whirling psychrometers'; 'IS : 6128-1971 Desiccators'; 'IS : 6154-1971 Perforated plates for desiccators';



'IS : 6274-1971 Method of calibrating liquid-in-glass thermometers'; 'IS : 6500-1972 Thermometer for measurement of sea surface temperature'; 'IS : 6592-1972 Soil thermometers'; 'IS : 7000-1973 General purpose maximum and minimum thermometers'; 'IS : 8728-1977 Adjustable range thermometers'; 'IS : 8729-1977 Principles of construction and adjustment of volumetric glassware'; 'IS : 8787-1977 Principles of design, construction and use of liquid-in-glass thermometers'; 'IS : 8897-1978 Tables for calibration and method of verification of volumetric glassware'; and 'IS : 9213-1979 BOD bottles'.

New subject — Piston operated micropipettes.

CIVIL ENGINEERING DEPARTMENT

BDC 32 PREFABRICATED AND COMPOSITE CONSTRUCTION Madras 1985-08-01

Chairman Shri A. Ramakrishna
General Manager (Civil)
Larsen & Toubro Limited
Madras

Drafts approved for wide circulation — Code of practice for composite concrete construction (*first revision of IS : 3935*). Criteria for design of precast-truss (*first revision of IS : 3201*).

BDC 41 WATER-PROOFING AND DAMP-PROOFING New Delhi 1985-08-06

Chairman Prof M. S. Shetty
Head of the Department of Construction
Faculty of Civil Engineering
College of Military Engineering
Pune

Drafts approved for wide circulation — Code of practice for application of silicone based water repellents. Glossary of terms relating to bituminous waterproofing and damp-proofing of buildings (*first revision of IS : 4911*). Specifications for: (a) Bitumen mastic for use in waterproofing of roofs, (b) Bitumen primer for use in waterproofing and damp-proofing (*first revision of IS : 3384*), and (c) Silicone based water repellents.

New subject — Recommendations for waterproofing and damp-proofing of wet areas in buildings.

BDC 59 HYDROELECTRIC POWER HOUSE STRUCTURES New Delhi 1985-08-22/23

Chairman Dr P. S. Nigam
Engineer-in-Chief
UP Irrigation
Lucknow

Drafts approved for wide circulation — Guidelines for selection of hydroelectric turbines for medium and large hydroelectric power houses. Guidelines for selection of turbines, preliminary dimensioning and layout of surface hydroelectric power houses: (a) Part 1 Medium and large power houses, Section 1 Vertical reaction turbines; (b) Part 2 Pumped storage power houses; and (c) Part 3 Small, mini and micro power houses.

CONSUMER PRODUCTS AND MEDICAL INSTRUMENTS DEPARTMENT

CPDC 8 PENCILS New Delhi 1985-08-12

Chairman Shri H. Mitra
Controllerate of Stationery
Calcutta

Drafts finalized for publication — Specification for slates, writing, school.

Draft approved for wide circulation — Specification for coloured pencils.

New subject — Clutch pencils.

ELECTRONICS AND TELECOMMUNICATION DEPARTMENT

LTDC 5 ACOUSTICS

New Delhi
1985-08-12

Chairman Shri K. D. Pavate
Scientists-in-Charge
Central Electronics Engineering
Research Institute Extension
Centre
New Delhi

Drafts finalized for publication—Specifications for: (a) Conference system, Part 1 General, and (b) Mechanical coupler for measurement on bone vibrators.

Drafts approved for wide circulation—Booths for simultaneous interference—General characteristics and equipment. Characteristics and methods of measurements for sound system equipment: (a) Part 6 Headphones and headsets, and (b) Part 7 Automatic gain control devices. Measurement of: (a) Airborne noise emitted by pneumatic tools and machines: (1) Part 1 Engineering method for determination of sound power levels, and (2) Part 2 Method for checking compliance with noise limits; and (b) Sound insulation in buildings and of building elements: Part 9 Laboratory measurement of room airborne sound insulation of a suspended ceiling with a plenum absorber. Testing and calibration of ultrasonic therapeutic equipment.

Standards reviewed and reaffirmed—'IS : 3028-1980 Methods of measurements of noise emitted by moving road vehicles'; 'IS : 7709-1975 Standard hydrophone'; 'IS : 7741 (Part 2)-1975 Specification for loudspeakers: Part 2 Direct radiator moving coil loudspeakers'; 'IS : 9302 (Part 9/Sec 1)-1980 Characteristics and methods of measurements for sound system equipment: Part 9 Programme level meters, Section 1 General'; 'IS : 9302 (Part 9/Sec 2)-1980 Characteristics and methods of measurements for sound system equipment: Part 9 Programme level meters, Section 2 Peak programme meters, Type 1'; 'IS : 9302 (Part 10)-1980 Characteristics and methods of measurement for sound system equipment: Part 10 Preferred matching values for the interconnection of sound system components'; and 'IS : 9671-1980 Frequency weighting for the measurement of aircraft noise (D-weighting)'.

ELECTROTECHNICAL DEPARTMENT

ETDC 45 ILLUMINATING
ENGINEERING AND LUMINAIRES

New Delhi
1985-08-07

Chairman Shri G. K. Khemani
Chief Engineering (Electrical-I)
Central Public Works Department
New Delhi

Drafts finalized for publication—Specifications for: (a) Artificial daylight for the assessment of colours: (1) Part 1 Illuminant for colour matching and colour appraisal, and (2) Part 2 Viewing conditions for the graphic arts industry; and (b) Luminaires: Part 5 Particular requirements, (1) Section 1 General purpose luminaires, and (2) Section 2 Recessed luminaires.

Drafts approved for wide circulation—Constant current regulators for airport lighting systems. Specifications for: (a) Flameproof electric lighting fittings: Part 4 Portable flameproof hand lamps and approved flexible cables; (b) Isolation transformers for airport lighting systems; and

(c) Luminaires: Part 5 Particular requirements, (1) Section 3 Luminaires for road and street lighting, (2) Section 4 Portable general purposes luminaires, and (3) Section 5 Flood lights.

New subject—Illumination engineering handbook.

MARINE, CARGO MOVEMENT AND PACKAGING DEPARTMENT

MCPD 7 FREIGHT CONTAINERS

Bombay
1985-08-21

Chairman Capt N. A. Tamhane
Manager
Lee & Muirhead (India) Pvt Ltd
Bombay

Drafts finalized for publication—Guidelines for packing, stowage and securing of cargo inside the freight containers: (a) Part 1 General cargo, and (b) Part 2 Dangerous goods. Specifications for series 1 general cargo freight containers for general purposes: (a) Part 1 General requirements [first revision of IS : 6929 (Part 1)], and (b) Part 2 Testing [first revision of IS : 6929 (Part 2)].

Drafts approved for wide circulation—Code for marking of freight containers: (a) Part 1 Coding identification and marking [first revision of IS : 6928 (Part 1)], and (b) Part 2 Layout and location of marks.

Standards reviewed and reaffirmed—'IS : 8575 (Part 1)-1977 Series 1 freight containers, platform based open-sided with complete superstructure: Part 1 General requirements'; 'IS : 8575 (Part 2)-1977 Series 1 freight containers, platform based, open-sided with complete superstructure: Part 2 Testing'; 'IS : 9273 (Part 1)-1979 Series 1 box type dry bulk containers (non-pressurized): Part 1 General requirements'; 'IS : 9273 (Part 2)-1979 Series 1 box type dry bulk containers (non-pressurized): Part 2 Testing'; and 'IS : 9384-1979 Consolidated data plate for freight containers'.

MCPD 8 AIR CARGO HANDLING

New Delhi
1985-08-29

Chairman Shri K. N. S. Krishnan
Director of Aeronautical
Inspection
Office of the Director General of
Civil Aviation
New Delhi

Drafts finalized for publication—Functional requirements for air cargo unit load devices transport vehicle. General requirements for ground handling and transport system equipment for air cargo unit load devices. Ground equipment requirements for compatibility with aircraft unit load devices.

New subjects—Methodology of calculating aircraft cargo volumes; performance requirements factors for design of four wheel drive aircraft towing tractors; and symbology for standardization of ULD handling devices.

MCPD 11 PLASTIC CONTAINERS

New Delhi
1985-08-29

Chairman Shri A. S. Athalga
Technology Transfer Pvt Ltd
Bombay

Drafts finalized for publication—Flexible packs for the packing of vanaspati.

Drafts approved for wide circulation—Specifications for: (a) HDPE containers for liquid pesticides (nominal capacity 1 to 5 litres), (b) Laminated collapsible tubes, (c) Polyethylene containers for foam compounds (first revision of IS : 5959), and (d) Polyethylene pucks for liquid milk.



New subjects—Flexible containers for pickles, tomato ketchup and fruit juices; plastics bags for aseptic packaging of fruit juices, dairy products and other processed food items; plastics corrugated board and boxes; polythene bags for garbage; and retortable pouches for packing of processed fruit and vegetables in brine.

MECHANICAL ENGINEERING DEPARTMENT

EDC 57 CHEMICAL ENGINEERING New Delhi
1985-08-26

Chairman Dr J. K. N. Sharma
(for the Deputy Director
meeting) National Physical Laboratory
New Delhi

Drafts finalized for publication—Code of practice for fluid bed-dryer. Specifications for: (a) Data sheet for industrial ovens, (b) Designer's data sheet for column internal, (c) Designer's data sheet for mechanical design of column, (d) Liquid nitrogen vessels of capacity up to 35 litres, (e) Purchaser's data sheet for distillation column design, (f) Purchaser's data sheet for fluid bed-dryers, and (g) Suppliers data sheet for fluid bed-dryers.

Drafts approved for wide circulation—Specifications for: (a) Industrial oil-fired burners, (b) Jaw crushers (first revision of IS : 4254), (c) Piping code for pressure piping in chemical and petroleum industry, (d) Rotary-disc vacuum filters (first revision of IS : 5675), (e) Unit type rake classifiers, and (f) Vibrating screens.

EDC 61 CONVEYORS, VERTICAL Calcutta
HOISTS AND BUCKET ELEVATORS 1985-08-21/22

Chairman Shri K. C. Mehrotra
(for the Senior Manager (Mechanical)
meeting) Projects & Development India
Ltd, Sindri

Drafts finalized for publication—Specifications for: (a) Calibrated high tensile steel chains (round link) for chain conveyors and ploughs used in mines (first revision of IS : 3948), (b) Pulleys and belt conveyors (first revision of IS : 8531), and (c) Scraper bars for armoured face conveyors.

386 *Drafts approved for wide circulation*—Code of recommended

practice for conveyor safety: (a) Part 2 General safety requirements (first revision of IS : 7155), and (b) Part 3 Belt conveyors and feeders (first revision of IS : 7155). Specification for roller type hold back device.

EDC 64 PNEUMATIC TOOLS Hyderabad
1985-08-07

Chairman Shri V. G. Dhayagude
Vice-President (Marketing)
Consolidated Pneumatic Tool
Company (India) Limited
Bombay

Drafts finalized for publication—Specification for pneumatic portable drilling machine (first revision of IS : 5441). Technical supply conditions for pneumatic tools.

New subjects—Dimensions for piston pin and pin butts for pneumatic ramming tools, and dimensions for weld flux sceler shanks.

PETROLEUM, COAL AND RELATED PRODUCTS DEPARTMENT

PCDC 9 ORGANIC CHEMICALS New Delhi
(MISC) 1985-08-23

Chairman Shri S. Ramaswamy
Deputy Director General
(Chemicals)
Directorate General of Technical
Development
New Delhi

Draft finalized for publication—Specification for ethylene glycol (first revision of IS : 5295).

Drafts approved for wide circulation—Methods of sampling and test for ion-exchange resins (first revision of IS : 7330). Specifications for: (a) Hexamethylene tetramine (hexamine) (second revision of IS : 4306), (b) α -Phenylacetamide (first revision of IS : 6393), (c) Pentachlorophenol (first revision of IS : 716), (d) Pentaerythritol (first revision of IS : 7619), (e) Polyethylene glycol 400, (f) Potassium ethyl xanthate, (g) Trichloroethylene (third revision of IS : 245), and (h) Vinyl acetate monomer.

New subjects—Polyethylene glycol 200, terephthalic acid (fibre grade), and triethylene glycol.

STATISTICS DEPARTMENT

AFDC 57 SAMPLING METHODS FOR New Delhi
FOOD PRODUCTS AND 1985-08-26
AGRICULTURAL INPUTS

Chairman Prof Prem Narain
Director
Indian Agricultural Statistics
Research Institute
New Delhi

Drafts finalized for publication—Methods of sampling for: (a) Fish and fisheries products, and (b) Determination of pesticide residues: Part 1 Agricultural and food commodities.

Drafts approved for wide circulation—Methods of sampling for: (a) Agricultural machinery and equipment: Part 1 Animal-drawn and hand-operated equipment (first revision of

IS : 1111; and (b) Determination of pesticide residues
Part 2 Environment, Section 1 Air.

**BDC 31 BUILDING MATERIALS
AND COMPONENTS SAMPLING** New Delhi
1985-09-16

Chairman Dr A. K. Mullick
(for the Joint Director
meeting) National Council for Cement
and Building Materials
New Delhi

Drafts finalized for publication — Methods of sampling of:
(a) Hydraulic cement (first revision of IS : 3535), and (b)
Vitreous and fire clay sanitary appliances (first revision of
IS : 9140).

Drafts approved for wide circulation — Methods for sampling
of aggregate concrete (first revision of IS : 2430).
Methods of sampling hardboards and insulation boards.

STRUCTURAL AND METALS DEPARTMENT

SMDC 8 FERRO ALLOYS New Delhi
1985-08-13

Chairman Dr P. R. Khangaonkar
Deputy Director-in-Charge
National Metallurgical
Laboratory Unit, Madras

Drafts finalized for publication — Specifications for: (a)
Chrome manganese (first revision of IS : 3012), and (b)
Ferro vanadium (third revision of IS : 1466).

Drafts approved for wide circulation — Specifications for:
(a) Charge chrome, (b) Metallic silicon (first revision of
IS : 2301), and (c) Molybdenum oxide (technical) (first
revision of IS : 5634).

TEXTILE DEPARTMENT

**TDC 17 JUTE MILL ACCESSORIES
AND JUTE MACHINERY SPARE
PARTS** Calcutta
1985-08-30

Chairman Shri R. C. Pani
The Lagan Jute Machinery
Company Limited
Calcutta

Drafts finalized for publication — Specifications for: (a)

Bobbin carrier
Jute drawing
frames, and (d) S.

Drafts approved for Faller bar's for
(a) Faller bar slides for jute drawing
for jute spinning frames.
machine.

**TDC 19 TEXTILE MILL
ACCESSORIES (OTHER THAN JU**

Chairman Shri V. N. Subba Rao
Technical Director
Binny Limited
Madras

Draft finalized for publication — Specification for warp
tubes for ring spinning and doubling spindles : Part 4
Recommended dimensions for tubes, taper 1:40 [IS : 3625
(Part 4)]

Drafts approved for wide circulation — Specifications for:
(a) Picking sticks for overpick cotton looms (second revision
of IS : 1896), and (b) Weft pirns (taper fit) for use in shuttles
for plain calico looms (second revision of IS : 3265).

**TDC 29 COTTON WEAVING
MACHINERY COMPONENTS** Bombay
1985-08-10

Chairman Shri J. C. Agrawal
Director
Stovec Screens India Ltd
Bombay

Draft finalized for publication — Specification for check
(martingle) straps.

Draft approved for wide circulation — Working widths and
reed spaces of plain calico looms (first revision of IS : 3166).

**TDC 30 SPINNING MACHINERY
(COTTON SYSTEM)** Bombay
1985-08-12

Chairman Shri Suresh M. Mehta
Chairman
Star Industrial & Textile
Enterprises Ltd
Bombay

Draft approved for wide circulation — Leaf gauges for
carding engines (metric system) (first revision of IS :
6786).

OBITUARY



■ **Shri Brij Mohan**, Assistant (Structural and Metals Department), ISI, died of heart attack in New Delhi on 9 October 1985. He was only 49.

Shri Brij Mohan joined the service of the Institution in 1957 as a Lower




Division Clerk and became an Assistant in 1966. He was awarded Selection Grade in 1984.

Shri Brij Mohan leaves behind his wife, two sons and three daughters.

TIFICATION MARKS

During August 1985, the Institution specified standard marks for three products. Besides, 91 new licences were granted. Particulars of all these, as well as additional varieties of products included in the existing licences and the licences cancelled/lapsed are given in the tables which follow.

STANDARD MARKS

DESIGN OF THE STANDARD MARK	PRODUCT/CLASS OF PRODUCT AND NUMBER OF RELEVANT INDIAN STANDARD	GAZETTE OF INDIA, PART II, SECTION 3 (ii) NOTIFICATION REFERENCE	
		S.O. No. and Date	Gazette Issue Dated
	Cutback bitumen — IS : 217-1961	427 1985-08-11	1985-09-14
	Leaded tin bronze ingots and castings — IS : 318-1981	4518 1985-08-28	1985-09-21
	Non-pressure stoves — IS : 2980-1981	427 1985-08-12	1985-09-14

NEW LICENCES GRANTED

LICENCE NO. AND DATE OF ISSUE	NAME AND ADDRESS OF THE LICENSEE	ARTICLE/PROCESS COVERED BY THE LICENCE AND NUMBER OF THE RELEVANT INDIAN STANDARD
CM/L-1439654 1985-07-27	Sarda Plywood Industries Ltd, P. O. Jaypore, Dist Dibrugarh (Assam) (Office: 9 Parsee Church Street, Calcutta-700001)	Wooden flush door shutters (solid core type) — IS : 2202 (Part 1)-1983
CM/L-1439755 1985-07-27	Amar Spun Pipe Products, Chauri-Chaura, Gorakhpur	Reinforced cement concrete pipe — IS : 458-1971
CM/L-1439856 1985-07-31	Sun Dye Chem, B-35 Mayapuri, Phase I, New Delhi 110064	Carmoisine, food grade — IS : 2923-1974
CM/L-1439957 1985-07-31	do	Sunset yellow FCF, food grade — IS : 1695-1974
CM/L-1440033 1985-07-31	Vidarbha Co-operative Marketing Society Ltd, Krishideo, Factory Division, Badnera Road, P. B. No. 46, Amravati	BHC 50 percent WDP Gamma Isomer 6.5 percent — IS : 562-1978
CM/L-1440134 1985-07-31	Krishi Chemicals (Prop Bengal Pesticides Pvt Ltd), Ekshara, Kona, Benaras Road, Howrah (Office: 10 Clive Road, Calcutta 700001)	BHC 10 percent DP Gamma Isomer 1.3 percent — IS : 561-1978
CM/L-1440235 1985-07-31	Pestchem & Allied Industries, Station Road, Bina (Office: Kumar Sadan, Savarkar Path, Vidisha 464001)	BHC 50 percent WDP Gamma Isomer 6.5 percent — IS : 562-1978
CM/L-1440336 1985-07-31	Posil Rolling Mills Ltd, F-7 MIDC, Navapur Road, Boisar 401506 (Office: Firamal Bhavan, Ganpatio Kadam Marg, Bombay 400013)	Cold worked steel high strength deformed bars for concrete reinforcement — IS : 1786-1979
CM/L-1440437 1985-07-31	Krishna Steel Industries Ltd, Antop Hill, Bombay 400037 (Office: 29-30 Vaswani Mansion, 12, Durgaw Vachha Road, Bombay 400020)	Cold worked steel high strength deformed bars for concrete reinforcement — IS : 1786-1979

LICENCE NO. AND NAME AND ADDRESS OF THE LICENSEE
DATE OF ISSUE

CM/L-1440538 1985-07-31 Bharat Engg Works, 15 Navanandan Industrial Estate, LBS Marg, Mulund (West), Bombay 400080 (Office: Mittal Tower, 'C' Wing, 12th Floor, Vidhan Bhavan, Nariman Point, Bombay 400021)

CM/L-1440639 1985-07-31 do

CM/L-1440740 1985-07-31 Ashok Transmission Wires Pvt Ltd, D-82 A, Road No. 7, Viswakarma Industrial Area, Jaipur 302013

CM/L-1440841 1985-07-31 Bharat Tin & Enamel Company Pvt Ltd, 71/3 Bharab Dutta Lane, Salkia, Howrah (Office: 22A, Robinson Street, Calcutta 700017)

CM/L-1440942 1985-07-31 Sava Engineering Works, Survey No. 566/7, S. Swad, Taluka Purander, Dist Pune

ARTICLE/PROCESS COVERED BY THE LICENCE AND NUMBER OF THE RELEVANT INDIAN STANDARD

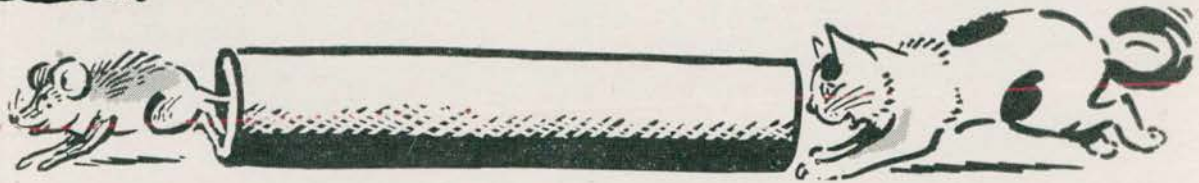
Portable chemical fire extinguisher — IS : 933-1976

Portable chemical fire extinguisher — IS : 34-1976

Aluminium conductors, galvanized steel reinforced for overhead transmission purposes — IS : 398 (Part 2)-1976

15 kg square tins for kharif & edible oil — IS : 10325-1982

Shunt capacitors for power system — IS : 2834-1964



CM/L-1441035 1985-07-31 Bharat Huma Pipe Industries, 8 Kasturba Market, Obra, Dist Mirzapur (UP)

CM/L-1441136 1985-07-31 Shakti Cables, 5-6 C, Industrial Development Area, Phase I, Patancheru 502320, Dist Medak

CM/L-1441237 1985-07-31 Ramkishan Ispat Ltd, C-7, Talaja MIDC, Dist Raigad (Office: 105 Maker Chambers III, Nariman Point, Bombay 400021)

CM/L-1441338 1985-07-31 Hind Galvanizing & Engineering Co Ltd, 11 Goha Road, Howrah 711107

CM/L-1441439 1985-07-31 Kalina Cement Ltd, N. H. 23, Gobara, P. O. Kuarmunda, Dist Sungargarh (Orissa) (Office: ISCON House, 89KharwelaNagar, Bhubaneswar 751001)

CM/L-1441540 1985-07-31 J. J. Spun Pipe Industries, Arsapally, Opp Autonagar, Nizamabad 503001 (AP)

CM/L-1441641 1985-07-31 Horstman India (P) Ltd, 37-40, Nagar Road, Pune 411014 (Office: 401 Jolly Bhawan, No. 2, 7 Near Marine Lines, Bombay 411020)

CM/L-1441742 1985-07-31 Indian Tube and Allied Products, 103 Angappa Naicken Street, Madras 600001

CM/L-1441843 1985-07-31 Sterling Steels, S. No. 155, Mallapuram, FCIL Road, Hyderabad 500040

CM/L-1441944 1985-07-31 BTX Chemicals Pvt Ltd, C 1/B-3 Shed, Nandesari Petro-chemicals Industrial Estate, Nandesari, Dist Vadodara 391340

CM/L-1442037 1985-07-31 Super Fine Paints Corporation, E-50, Gali No. 10, Brahampuri, Delhi 110053 (Office: 1304 Frash Khana, Delhi 110006)

CM/L-1442138 1985-07-31 Marshal Engineering Works, Kailash Nagar, Atkot Road, Jasdan, Dist Rajkot

CM/L-1442239 1985-07-31 Minoo Biscuits Pvt Ltd, 2nd Makhala, T. N. Mukherjee Road, P. O. Raghunathpur, P. S. Uttarpara, Dist Hooghly (WB) (Office: 285/F, B. B. Ganguly Street, Calcutta 700012)

CM/L-1442340 1985-07-31 Cattle & Poultry Feed Processing Unit (A unit of H. P. Agro Industries Corporation), Village Jachh, P.O. Jassur, Dist Kangra (HP)

CM/L-1442441 1985-07-31 Maheshwari Veneer & Saw Mills, P. O. Rupai Siding 786153, Doom Dooma, Dist Dibrugarh (Assam)

Reinforced cement concrete pipes — IS : 458-1971

PVC insulated and PVC sheathed (heavy duty) armoured electric cables with copper conductors for working voltages up to and including 1100 V excluding cables for low temperature applications — IS : 1554 (Part I)-1976

Cast billet ingots and continuously cast billets for rolling into structural steel (ordinary quality) — IS : 6915-1978

Drums, large fixed ends for grade B — IS : 1783 (Part 2)-1983

Ordinary portland cement — IS : 269-1976

Asbestos cement pressure pipes — IS : 1592-1980

Inspection gauge for checking toper threads of gas cylinder valves — IS : 9121-1979

Rigid non-metallic conduits for electrical installations — IS : 2509-1973

Cold-worked steel high strength deformed bars for concrete reinforcement — IS : 1786-1979

Sodium benzoate food grade — IS : 4447-1967

Floor polish, paste — IS : 8541-1977

General and safety requirements for power thresher hammer mill — IS : 9020-1979

Biscuits — IS : 1011-1981

Compounded cattle feed — IS : 2052-1979

Tea chests-plywood — IS : 10 (Part 2)-1976.

LICENCE NO. AND NAME AND ADDRESS OF THE LICENSEE
DATE OF ISSUE

ARTICLE/PROCESS COVERED BY THE LICENCE
NUMBER OF THE RELEVANT INDIAN STANDARD

CM/L-144292 1985-07-31	Root Seal (Madras) Pvt Ltd, 561/1, Vanagaram Road, Athipet, Ambattur, Madras 600058	Self-finished bitumen felt for waterproofing and damp proofing — IS : 1322-1982
CM/L-1442643 1985-07-31	Katwa Cements Company, Village Yadwad, Taluka Gokak, Dist Belgaum (Office: 125 Khade Bazar, Shahapur, Belgaum 590003)	Ordinary Portland cement — IS : 269-1976
CM/L-1442744 1985-07-31	Malhotra Steel Industries, Gujarat Pvt Ltd, Plot No. 112, Village Ranjod, Kalyan-Bhiwandi Road, Kalyan, Dist Thane (Office: Malhotra Road, Odhav, Ahmadabad 382410)	Structural steel (standard quality) — IS : 226-1975
CM/L-1442845 1985-07-31	Kartik Tools, 657/1 Village Narasingampatti, Taluk Melur, Dist Madurai (Office: 159-C, Alagar Koil Road, K. Pudur, Madurai 625007)	Hand hack saw blade — IS : 2594-1977
CM/L-1442946 1985-07-31	Marbo Industrial Corporation, 18 Jayesh Industrial Estate, Ramchandra Lane, Malad (West), Bombay 400064	One way ac switches for domestic and similar purposes — IS : 3854-1966
CM/L-1443039 1985-07-31	do	Three contacts ac socket outlets — IS : 1293-1967
CM/L-1443140 1985-08-05	Pritam Singh & Sons, Village, Kutbi Nangal, Opp 132 kVA Power Station, G.T. Road, Batala (Office: Gandhi Chowk, Batala 143505)	Cast iron steps for manholes, Pattern I — IS : 5455-1969
CM/L-1443241 1985-08-06	Pawan Biscuit Company Pvt Ltd, Toklo Road (Old Ranchi Road), Chakradharpur, Dist Singhbhum	Biscuits — IS : 1011-1981
CM/L-1443342 1985-08-06	Shree Bhagavati Re-rolling Mills, Road No. 6, Vishwakarma Industrial Area, Jaipur 302013	Cold worked steel high strength deformed bars for concrete reinforcement — IS : 1786-1979
CM/L-1443443 1985-08-12	Arvind Industries, F-97, Road No. 6, Vishwakarma Industrial Area, Jaipur 302013	Aluminium conductors galvanized steel reinforced for overhead transmission purposes — IS : 398 (Part 2)-1976
CM/L-1443544 1985-08-12	Doaba Steel Rolling Mills, Amloh Road, Mandi Gobindgarh	Structural steel (ordinary quality) — IS : 1977-1975
CM/L-1443645 1985-08-12	The Indian Hume Pipe Company Ltd, Karari, Jhansi 284003	Reinforced cement concrete pipes — IS : 458-1971
CM/L-1443746 1985-08-12	Jindal Steel Tubes Ltd, Jindal Industrial Estate, Jindal Nagar, 18 km, Gandipet Road, Hyderabad 500008 (Office: II Floor, Alkarin Trade Centre, Mahatma Gandhi Road, Ranigunj, Secunderabad)	Steel tubes for structural purposes black grade — IS : 1161-1979
CM/L-1443847 1985-08-12	Poly Pipes, No. 10 A, Choolai High Road, Madras 600112 (Office: No. 9, Choolai High Road, Madras 600112)	Rigid non-metallic conduits for electrical installations — IS : 2509-1973
CM/L-1443948 1985-08-12	Sri Meenakshi Foundry, 65-A, Aerodrome Road, Singanallur, Coimbatore 641005	Three-phase squirrel cage induction motors for centrifugal pumps for agricultural applications — IS : 7538-1975
CM/L-1444041 1985-08-12	Bharat Lindner Pvt Ltd, C-19 Industrial Estate, Gorwa Road, Vadodara 390016 (Office: C-2/19 Industrial Estate, Gorwa Road, Vadodara 390016)	D-type fuse 500V ac, 50 Hz, 250V dc — IS : 8187-1976
CM/L-1444142 1985-08-12	Friends Industries, Amlah Road, Mandi Gobindgarh	Structural steel (ordinary quality) — IS : 1977-1975
CM/L-1444243 1985-08-12	do	Structural steel (standard quality) — IS : 226-1975
CM/L-1444344 1985-08-12	Protein Products of India Ltd, Sandynalla, Sholur Town Panchayat, Ootacamund 643237	Gelatin — Food grade — IS : 5719-1970
CM/L-1444445 1985-08-12	Kumar Brothers, Baghi, P.O. Suhirdnagar 851112, Dist Begusarai (Bihar)	Paraffin wax — IS : 4654-1974
CM/L-1444546 1985-08-12	Maya Chemicals, 8P Barauni Industrial Area, P. O. Tilrath 851127, Dist Begusarai (Bihar)	do
CM/L-1444647 1985-08-12	Government Milk Scheme, Civil lines, Nagpur 440001	Skimmed milk powder — IS : 1165-1975
CM/L-1444748 1985-08-12	Ghanshyam Magnesia Works, Station Village, Kharaghoda (Nabagram) [Office: P. B. No. 13, Patri 382765, Dist Surendranagar (Gujarat)]	Magnesium chloride — IS : 254-1973
CM/L-1444849 1985-08-12	Indofil Chemicals Ltd, C/o Sujanal Chemo Industries, 69/1A/1B/3, Wanawadi Industrial Area, Kondhwa Road, Pune 411040 (Office: Nirlon House, 1st Annie Besant Road, Bombay 400025)	Zineb WDP (repacking) — IS : 3899-1966
CM/L-1444950 1985-08-14	Jasco Sales India, D'souze compound, Behind Sola Road, Ltd, Kherani Road, Saki Naka, Bombay 400072	Plastic flushing cisterns (valveless siphonic type) for water closets and urinals — IS : 7231-1974

CM/L-1445043
1985-08-17

Aarti Steels (P) Ltd, Sherpur Kalan, Ludhiana
(Office: G. T. Road, Miller Ganj, Ludhiana)

CM/L-1445144
1985-08-17

Zoloto Industries, Kapurthala Road, Jalandhar
144002

CM/L-1445245
1985-08-17

National Wire & Metal Industries, 112 Sonawala
Estate, Sonawala Road, Goregaon (East), Bombay
400063

CM/L-1445346
1985-08-17

Indian Poly Pipes, 14 A, Bibi Bagan Lane,
Calcutta 700015 (Office: 10/2 Marquis Street,
Calcutta 700016)

CM/L-1445447
1985-08-17

Man Industrial Corporation, P. Box No. 131,
Nar Loco, Jaipur 302008

CM/L-1445548
1985-08-20

Indian Miner Shoe Manufacturing Industry, 1/1
Nalband Crossing M.G. Road, Agra 282010 (UP)

CM/L-1445564
1985-08-20

Standard Engg Corporation, 1/268 Ginning
Factory Buildings, Gaushala Lane, Pathwari,
Agra 282004 (UP)

CM/L-1445750
1985-08-22

Trishul Food Colours, Avon House, 37-J,
Doctor's Compound, Chinchpokli, P. B. No.
6044, Bombay 400012

CM/L-1445851
1985-08-22

Sonya Ceramics, 711 Anil Road, Ahmadabad
380025

CM/L-1445952
1985-08-22

Inalsa Pvt Ltd, 69 Rama Road (Nazafgarh Road
Industrial Area, New Delhi (Office: Surya Kiran,
19 Kasturba Gandhi Marg, New Delhi 110001)

CM/L-1446045
1985-08-22

Kerala Co-operative Milk Marketing Federation
Ltd, L&P Feed Factory, Malampuzha, Palghat
678651 (Office: Arkanilayam, Vazhuthacand,
Trivandrum 695014)

CM/L-1446146
1985-08-24

Ajit Cotton Ginning Pressing Dall and Steel
Rolling Mills, G. T. Road, Mandi Gobindgarh
do

CM/L-1446247
1985-08-24

do

CM/L-1446348
1985-08-24

Cielmac Pvt Ltd, 35 Mahal Industrial Estate,
Mahakali Road, Andheri (East), Bombay 400093

CM/L-1446449
1985-08-24

Acromix Chemicals & Coatings Pvt Ltd, 327
Village Jonapur, Mehrauli, New Delhi 110030

CM/L-1446550
1985-08-24

Vimco Industries, 13-F, Industrial Area, Govind-
pura, Bhopal 462023

CM/L-1446651
1985-08-24

Sri Kannapiran Mills Ltd, Sowripalayam,
Coimbatore 641028 (Tamil Nadu)

CM/L-1446752
1985-08-24

Sulekh Ram and Sons Steel Rolling Mills,
Vallabh Nagar, Odhav Road, Ahmadabad 382410

CM/L-1446853
1985-08-24

South India Wire Ropes Ltd, Edathala, P. O.
Alwaye, Dist Ernakulam

CM/L-1446954
1985-08-24

Sirhind Steel (P) Ltd, Malhotra Road, Odhav
Ahmadabad 382410

CM/L-1447047
1985-08-24

Mahesh Udyog, K-18, MIDC Industrial Area,
Hingna Road, Nagpur 440016

CM/L-1447148
1985-08-24

Goldex, 94 Easwaren Koil Street, Tirupur 638604

CM/L-1447249
1985-08-24

Shri Abirami Knittings, 2 E/5 Union Mill Road,
Tirupur 638604

CM/L-1447350
1985-08-24

Dr Paul Lohmann (India) Ltd, 145/1 Jessore
Road, Calcutta 700069 (Office: Chatterjee Inter-
national Centre, 13th Floor, Room No. 9 & 10,
33A, J. L. Nehru Road, Calcutta 700071)

CM/L-1447451
1985-08-24

Anilmaa Associates, 227 Nangli Sakrawati
Najafgarh Road, Delhi 110043

CM/L-1447552
1985-08-24

Brahmavar Chemicals Pvt Ltd, 26 Brahmavar
576213 P.O. South Kanara (Karnataka)

CM/L-1447653
1985-08-24

Caravel Knitwear 1-D, P. N. Road, Tirupur
638602

ARTICLE/PROCESS COVERED BY THE LICENCE AND
NUMBER OF THE RELEVANT INDIAN STANDARD

Cast billet ingots for rolling into structural steel
(standard quality) — IS : 6914-1978

Bib taps and stop-valves (for water services) —
IS : 781-1977

Copper strips for electrical purposes annealed at
normal conditions — IS : 1897-1971

High density polyethylene pipes for potable water
supplies, sewage and industrial effluents — IS : 4984-
1978

Structural steel (ordinary quality) — IS : 1977-1975

Leather safety boots and shoes for miners —
IS : 1989 (Part 1)-1978

Domestic gas stoves for use with LPG, CRA,
CRCA sheet, nickel/chromium plated body, double
burner LPG stove with Nutan burners — IS : 4246-
1984

Coal tar food colour preparation and mixtures
(solid+liquid) — IS : 5346-1975

Salt-glazed stoneware pipes — IS : 651-1980

Top or surface domestic cooking range for use with
LPG with two top burners — IS : 4760-1979

Compounded feeds for cattle — IS : 2052-1979

Structural steel (standard quality) — IS : 226-1975

Structural steel (ordinary quality) — IS : 1977-1975

Flameproof enclosures for electrical apparatus —
IS : 2148-1968

Aluminium paints for general purposes — IS : 2339-
1963

Distemper, dry, colour as required — IS : 427-1965

Cotton yarn, grey for hosiery — IS : 834-1975

Structural steel (ordinary quality) — IS : 1977-1975

Steel wire suspension ropes for lifts, escalators and
hoists — IS : 2365-1977

Structural steel (ordinary quality) — IS : 1977-1975

PVC insulated unsheathed and sheathed cables with
copper or aluminium conductors for working
voltages up to and including 1 100 V excluding cables
for outdoor use and under low temperature condi-
tions — IS : 694-1977

Plain knitted cotton vests — IS : 4964-1980

do

Calcium propionate, food grade — IS : 6031-1971

PVC insulated cables — IS : 694-1977

Integral cement waterproofing compounds —
IS : 2645-1975

Plain knitted cotton vests — IS : 4964-1980

LICENCE NO. AND NAME AND ADDRESS OF THE LICENSEE
DATE OF ISSUE

CM/L-1447754 Spice Garments, 2 Vinayakapuram, Rayapuram
1985-08-24 Extension, Tirupur 638601
CM/L-1447855 Krishna Chemical Industries, Village & P. O.
1985-08-24 Chamrail, National Highway No. 6, Howrah
(Office: 157, Netaji Subhas Road, Calcutta 700001)
CM/L-1447956 Lightex, 1-C (2), 50, Feet Road, Lakshmi Nagar,
1985-08-24 Tirupur 638602
CM/L-1448049 Duraware Pvt Ltd, 21A-24A, Additional MIDC
1985-08-24 Area, Aurangabad Road, Jalna 431203, Dist
Aurangabad (Maharashtra) (Office: Nirlep
House, 1178 G. D. Ambekar Marg, Parel,
Bombay 400012)
CM/L-1448150 Kamrup Steel Industries Betkuchi, Lakhra,
1985-08-24 National Highway, Gauhati (Assam) (Office:
C/o Sarawgi & Sons, Pan Bazar, Gauhati 781001)
CM/L-1448251 Detergents India Ltd, Industrial Development
1985-08-24 Area, Kodur, Dist Cuddapah (AP)
CM/L-1448352 We Two Match Industries, 8/139-C, Elayiram
1985-08-24 Pannai, Via Sattur (Tamil Nadu) (Office: 72
Javlikodai Street, Sivakasi 626123)
CM/L-1448453 Bharat Biscuit Company (P) Ltd, Jayanpur,
1985-08-24 Beral Road, P.O. Dingelpota, P. S. Sonarpur,
Dist 24 Paragnas (WB) (Office: 538 Jodhpur
Park, Calcutta 700068)
CM/L-1448554 Jepika Chemical Industries (India) Pvt Ltd, Plot
1985-08-24 No. 2, Industrial Area, Banmore, Dist Morena
(Office: Jepika House, Jepika Street, Gwalior
474001)
CM/L-1448655 do
1985-08-24

ARTICLE/PROCESS COVERED BY THE LICENCE AND
NUMBER OF THE RELEVANT INDIAN STANDARD

do
Paraffin wax — IS : 4654-1974
Plain knitted cotton vests — IS : 4964-1980
Wrought aluminium utensils, non-stick coated and
anodized — IS : 1660 (Part 1)-1982
Rectangular pressed steel tanks — IS : 804-1967
Household Laundry detergent bars — IS : 180-1976
Safety matches in boxes — IS : 2653-1980
Biscuits — IS : 1011-1981
Distemper, dry flour as required — IS : 427-1965
Distemper, oil emulsion, colour as required —
IS : 428-1969

ADDITIONAL VARIETIES OF PRODUCTS INCLUDED IN THE EXISTING LICENCES

SL No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-1247140	Khaitan Electricals Ltd, Faridabad	IS : 374-1979	New variety of electric ceiling fans and regulators 900, 1050, 1200 and 1400mm sweep size with class A insulation, 200/220 V (rated voltage 210 V) included in the licence with effect from 1985-08-17
2	CM/L-1323938	Shambhavi Gas Gadgets Pvt Ltd, New Delhi	IS : 4246-1984	New variety of domestic gas stoves for use with liquefied petroleum gases, double burner stainless steel body, total gas consumption 332 g/h with big burner 2064 kcal/h, and small burner 1554 kcal/h included in the licence with effect from 1985-07-31
3	CM/L-1387762	Sankla Appliances Pvt Ltd, Faridabad	do	New variety of domestic gas stoves for use with liquefied petroleum gases, double burner stainless steel body, total gas consumption 332 g/h with big burner 2064 kcal/h, and small burner 1554 kcal/h included in the licence with effect from 1985-08-03
4	CM/L-1409342	Padmini Industries, Delhi	do	New variety of domestic gas stoves for use with liquefied petroleum gases, double burner painted cast iron body with cast iron burners and stainless steel sheet trays, total gas consumption 332 g/h with big burner 2064 kcal/h, and small burner 1554 kcal/h included in the licence with effect from 1985-08-17

LICENCE CANCELLED

Sl. No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-1108934	Sunray Chemical Industries, Agra	IS : 2568-1978	Cancelled with effect from 1985-07-01 as the firm is not interested in holding the licence

LICENCE LAPSED

Sl. No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
1	CM/L-0119025	Central Insecticides & Fertilizers, Indore	IS : 562-1972	Renewal was deferred after 1984-08-31; the licence now stands lapsed after that date
2	CM/L-0132825	S. R. P. Tools Limited, Madras	IS : 6257-1971	Renewal was deferred after 1983-09-15; the licence now stands lapsed after that date
3	CM/L-0132926	do	IS : 5444-1978	do
4	CM/L-0139738	Central Insecticides & Fertilizers, Bombay	IS : 1507-1977	Renewal was deferred after 1985-02-28; the licence now stands lapsed after that date
5	CM/L-0186141	Central Insecticides & Fertilizers, Indore	IS : 564-1975	Renewal was deferred after 1984-08-31; the licence now stands lapsed after that date
6	CM/L-0187547	Asian Cable, Thane	IS : 1596-1977	Renewal was deferred after 1980-09-30; the licence now stands lapsed after that date
7	CM/L-0289151	Central Insecticides & Fertilizers, Bombay	IS : 2865-1978	Renewal was deferred after 1985-02-28; the licence now stands lapsed after that date
8	CM/L-0319437	do	IS : 633-1975	do
9	CM/L-0398560	Delhi Iron & Steel Company Ltd, Ghaziabad	IS : 1786-1979	Renewal was deferred after 1984-10-15; the licence now stands lapsed after that date
10	CM/L-0419643	Central Insecticides & Fertilizers, Indore	IS : 2567-1973	Renewal was deferred after 1984-08-31; the licence now stands lapsed after that date
11	CM/L-0422127	do	IS : 633-1975	do
12	CM/L-0487862	Keen Pesticides Pvt Ltd, Cochin	IS : 2865-1978	Renewal was deferred after 1984-12-15; the licence now stands lapsed after that date
13	CM/L-0488864	do	IS : 633-1975	do
14	CM/L-0496964	Promain Cable Industries, Delhi	IS : 694-1977	Renewal was deferred after 1983-01-31; the licence now stands lapsed after that date
15	CM/L-0510932	Hyderabad Iron & Steel Works Ltd, Hyderabad	IS : 10001-1981	Renewal was deferred after 1985-04-15; the licence now stands lapsed after that date
16	CM/L-0571649	Chith Chemicals, Madras	IS : 633-1975	Renewal was deferred after 1984-11-30; the licence now stands lapsed after that date
17	CM/L-0588060	Sri Vijayadurga Pulverising Mills, Bellary	do	Renewal was deferred after 1985-02-15; the licence now stands lapsed after that date
18	CM/L-0590956	Partap Steel Rolling Mills Ltd, Dist Medak	IS : 8057-1976	Renewal was deferred after 1984-02-29; the licence now stands lapsed after that date
19	CM/L-0607745	Kilpest Industries, Bombay	IS : 633-1975	Renewal was deferred after 1985-05-15; the licence now stands lapsed after that date
20	CM/L-0621739	Kissan Agro Chemicals, Muzaffarnagar	IS : 2567-1978	Renewal was deferred after 1985-06-30; the licence now stands lapsed after that date

Sl No.	LICENCE No.	NAME OF THE LICENSEE	NUMBER OF THE RELEVANT INDIAN STANDARD	REMARKS
21	CM/L-060449	Sri Vijayadurga Pulverising Mills, Bellary	IS : 564-1975	Renewal was deferred after 1985-04-15; the licence now stands lapsed after that date
22	CM/L-0707648	Apex Minerals & Chemicals, Khandiv	IS : 633-1975	Lapsed after 1985-06-30
23	CM/L-0710536	Karnataka Agro Chemicals, Bangalore	IS : 2567-1978	Renewal was deferred after 1983-07-31; the licence now stands lapsed after that date
24	CM/L-0712136	do	IS : 4323-1980	Renewal was deferred after 1984-07-31; the licence now stands lapsed after that date
25	CM/L-0718148	Partap Steel Rolling Mills Pvt Ltd, Patancheru	IS : 2255-1977	Renewal was deferred after 1983-05-31; the licence now stands lapsed after that date
26	CM/L-0731443	Shroffs Industrial Chemicals Pvt Limited, Vapi	IS : 2127-1962	Renewal was deferred after 1984-11-15; the licence now stands lapsed after that date
27	CM/L-0741244	Taloja Rolling Mills, Dist Kolaba	IS : 7452-1974	Renewal was deferred after 1984-12-15; the licence now stands lapsed after that date
28	CM/L-0826555	Standard Wires & Cables, Khanna	IS : 694-1977	Renewal was deferred after 1984-12-31; the licence now stands lapsed after that date
29	CM/L-0845963	Pyroflex Industries, Bombay	IS : 1554 (Part 1)-1976	Renewal was deferred after 1982-03-15; the licence now stands lapsed after that date
30	CM/L-0866971	R. Kishore Industries, Rajkot	IS : 10001-1981	Renewal was deferred after 1984-05-15; the licence now stands lapsed after that date
31	CM/L-0890261	Sterling Steel & Wires Ltd, Hoshiarpur	IS : 3975-1979	Lapsed after 1983-08-31
32	CM/L-0924757	Nagarjuna Agro & Steel Corporation, Dist Guntur	IS : 561-1978	Renewal was deferred after 1984-12-31; the licence now stands lapsed after that date
33	CM/L-0934962	Krishna Electrical Industries, Dist Morena	IS : 1596-1977	Renewal was deferred after 1983-01-31; the licence now stands lapsed after that date
34	CM/L-0940957	Sri Kasturi Knitters, Tirupur	IS : 4964-1980	Renewal was deferred after 1984-11-15; the licence now stands lapsed after that date
35	CM/L-0956972	Continental Cables Company Pvt Ltd, Delhi	IS : 1596-1977	Lapsed after 1983-03-31
36	CM/L-0980262	Visvesvaraya Iron & Steel Ltd, Bhadravathi	IS : 1536-1976	Lapsed after 1985-07-15
37	CM/L-1015523	Pearlite Wire Products Ltd, Alleppey	IS : 1856-1977	Renewal was deferred after 1984-12-15; the licence now stands lapsed after that date
38	CM/L-1029635	Tropical Agrosystem Pvt Ltd, Madras	IS : 3899-1981	Renewal was deferred after 1985-03-31; the licence now stands lapsed after that date
39	CM/L-1061025	S. R. P. Tools Limited, Madras	IS : 5445-1978	Renewal was deferred after 1983-03-31; the licence now stands lapsed after that date
40	CM/L-1061126	do	IS : 5446-1978	do
41	CM/L-1061227	do	IS : 5447-1978	do
42	CM/L-1061328	do	IS : 6308-1971	do
43	CM/L-1061429	do	IS : 6352-1971	do
44	CM/L-1061530	do	IS : 6353-1971	do
45	CM/L-1061631	do	IS : 6354-1971	do
46	CM/L-1061732	do	IS : 6388-1971	do
47	CM/L-1068241	Deepak Mechanical Works, Madras	IS : 9020-1979	Renewal was deferred after 1985-04-15; the licence now stands lapsed after that date
48	CM/L-1072535	do Enterprises, Faridabad	IS : 4246-1984	do

IS : 10810 (Part 39)-1984 Methods of test for cables: Part 39 Winding test on galvanized steel strips for armouring. Gr 1

IS : 10810 (Part 49)-1984 Methods of test for cables: Part 49 Heating cycle test. Gr 1

IS : 10810 (Part 50)-1984 Methods of test for cables: Part 50 Bending test. Gr 1

IS : 11221-1984 Recommended test methods for determining the relative resistance of insulating materials to breakdown by surface discharges. Gr 3

MARINE, CARGO MOVEMENT AND PACKAGING DEPARTMENT

IS : 11258-1985 10-and 20-kg square tins for vanaspati ghee and edible oils. Gr 2

MECHANICAL ENGINEERING DEPARTMENT

IS : 11114 (Part 1)-1985 Definitions of dimensions and symbols for earth-moving machinery: Part 1 Reference system. Gr 1

IS : 11115-1985 Human physical dimensions of operators and minimum operator space envelope for earth moving machinery. Gr 3

IS : 11145-1984 Peripheral length checking of thin-walled half bearings. Gr 10

PETROLEUM, COAL AND RELATED PRODUCTS DEPARTMENT

IS : 4336-1985 4-Chloroaniline (first revision). Gr 5

IS : 6092 (Part 1)-1985 Methods of sampling and test for fertilizers: Part 1 Sampling (first revision). Gr 5

IS : 6307-1985 Rigid PVC sheets (first revision). Gr 6

IS : 10998-1984 Bindi (liquid). Gr 2

PUBLICATIONS DEPARTMENT

IS : 3130-1985 Code of practice for handling and storage of microtransparencies (microfilm and microfiche) (silver halide) (second revision). Gr 3

STRUCTURAL AND METAL DEPARTMENT

IS : 2044-1984 Siliceous fire clay refractories (first revision). Gr 2

TEXTILE DEPARTMENT

IS : 1423-1985 Cotton gaberdiene (second revision). Gr 2

IS : 2422-1985 Dyed cotton fabric, water repellent, for caps and rain coats (second revision). Gr 3

IS : 7404 (Part 1)-1984 Jute bags for packing fertilizers: Part 1 Laminated bags manufactured from 407 g/m²; 85 x 39 tarpaulin fabric (first revision). Gr 2

IS : 11217-1984 Ultramarine blue for use in textile industry. Gr 2

IS : 11219-1984 Method for determination of scoring loss of rayon filament yarn. Gr 2

IS : 11220-1984 Method for determination of colour fastness of disperse dyes on polyester cellulosic fabrics to carbonization. Gr 3

IS : 11161-1985 Textiles — seam types — classification and terminology. Gr 15



ISO STANDARDS

AGRICULTURAL FOOD PRODUCTS (TC 34)

ISO 1737-1985 Evaporated milk and sweetened condensed milk — Determination of fat content — Gravimetric method

ISO 6820-1985 Wheat flour and rye flour — General guidance on the drafting of bread-making tests

ISO 7925-1985 Dried oregano (*Origanum vulgare* Linnaeus) — Whole or ground leaves — Specification

AIRCRAFT AND SPACE VEHICLES (TC 20)

ISO 4128-1985 Aircraft — Air mode modular containers

ISO 7320-1985 Aerospace — Fluid

ISO BULLETIN — VOL 37, OCT-DEC 1985

systems port connection, seal and fittings end — Dimensions

BANKING PROCEDURES (TC 68)

ISO 7341-1985 Banking — Nostro accounts reconciliation

COMPUTERS AND INFORMATION PROCESSING (TC 97)

ISO 6522-1985 Programming languages — PL/I — General purpose subset

ISO/TR 7477-1985 Data communication — Arrangements for DTE to DTE physical connection using V.24 and X.24 interchange circuits

ISO 7846-1985 Industrial real-time FORTRAN — Application for the control of industrial processes

CINEMATOGRAPHY (TC 35)

ISO 6038-1985 Cinematography — Splices for use on 70 mm, 65 mm, 35 mm and 16 mm motion-picture films — Dimensions and locations

DENTISTRY (TC 106)

ISO 1797-1985 Dental rotary instruments — Shanks

DOORS AND WINDOWS (TC 102)

ISO 11218-1985 Windows and door height — Mechanical tests

FERROUS METAL PIPES AND METALLIC FITTINGS (TC 5)

ISO 8444-1985 Pipework — Double overlap flexible metal hoses (copper packing, limited tightness, circular section, in protected carbon steel)

ISO 8445-1985 Pipework — Double overlap flexible metal hoses (asbestos packing, leakproof, circular section, in protected carbon steel)

ISO 8446-1985 Pipework — Double overlap flexible metal hoses (asbestos packing, leakproof, circular section, in austenitic stainless steel)

FERTILIZERS AND SOIL CONDITIONERS (TC 134)

ISO 6598-1985 Fertilizers — Determination of phosphorus content — Quinoline phosphomolybdate gravimetric method

FLUID POWER SYSTEM AND COMPONENTS (TC 131)

ISO 3322-1985 Fluid power systems and components — Cylinders — Nominal pressures

ISO 6099-1985 Fluid power systems and components — Cylinders — Identification code for mounting dimensions and mounting types

LABORATORY GLASSWARE AND RELATED APPARATUS (TC 48)

ISO 719-1985 Glass — Hydrolytic resistance of glass grains at 98°C — Method of test and classification

MEASUREMENT OF LIQUID FLOW IN OPEN CHANNELS (TC 113)

ISO 2537-1985 Liquid flow measurement in open channels — Cup-type and propeller-type currentmeters

MECHANICAL TESTING OF METALS (TC 164)

ISO 7799-1985 Metallic materials — Sheet and strip 3 mm thick or less — Reverse bend test

METALLIC AND OTHER NON-ORGANIC COATINGS (TC 107)

ISO 4525-1985 Metallic coatings — Electroplated coatings of nickel plus

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MINING (TC 82)

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PLASTICS (TC 61)

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ISO 7963-1985 Welds in steel — Calibration block No. 2 for ultrasonic of welds

IEC PUBLICATIONS

SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES (TC 61)

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Amendment No. 1 (1984) to IEC Pub 335-2-13 (1982) Safety of household and similar electrical appliances: Part 2 Particular requirements for frying pans, deep fat fryers and similar appliances

SWITCHGEAR AND CONTROLGEAR (TC 17)

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WINDING WIRES (TC 55)

IEC 851-1 (1985) Methods of test for winding wires: Part 1 General

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IEC 851-3 (1985) Methods of test for winding wires: Part 3 Mechanical properties

IEC 851-4 (1985) Methods of test for winding wires: Part 4 Chemical properties

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