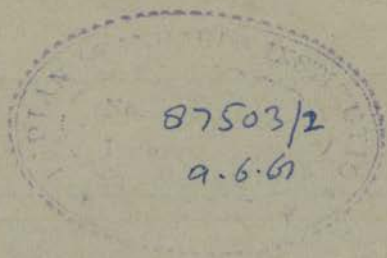


INDIAN STANDARDS INSTITUTION (ISI)

TWELFTH  
ANNUAL REPORT

APRIL 1958—MARCH 1959



MANAK BHAVAN, 9 MATHURA ROAD  
NEW DELHI 1

*Price Rs 2.00*

Free to Members

# INDIAN STANDARDS INSTITUTION

(As on 31 March 1959)

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(Continued on cover page 3)

INDIAN STANDARDS INSTITUTION (ISI)

TWELFTH  
ANNUAL REPORT

APRIL 1958—MARCH 1959



THIS REPORT WILL BE PRESENTED BY THE EXECUTIVE COMMITTEE  
TO THE GENERAL COUNCIL OF ISI AT ITS NEXT ANNUAL MEETING

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DR. LAL C. VERMA, DIRECTOR ISI, THANKS PRIME MINISTER JAWAHARLAL NEHRU ON RECEIVING THE FIRST AWARD OF K. L. MOUDGILL PRIZE, WHILE DR. MOUDGILL LOOKS ON WITH VISIBLE PLEASURE. FACING THE CAMERA IS PROFESSOR M. S. THACKER (see p. 5)



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## ACKNOWLEDGEMENT

Indian Standards Institution records with pleasure, gratitude and pride, its deep appreciation of the financial support and specialized technical assistance, received during the year, from an increasing circle of its members and other individuals and organizations interested in it. ISI believes that this pattern of growing co-operative activity is an index of an all-round realization that through standardization lies the road to industrial and trade efficiency, and that, with the support it receives, ISI is making its vital contribution towards economic advancement of the country. Encouraged by the faith reposed in, and conscious of the expectations from it, ISI looks forward with confidence to the future of its working in progressive partnership with interests representing trade, industry, science, technology and the Government.

**PART I**  
**GENERAL REVIEW**



# TWELFTH ANNUAL REPORT

OF THE  
INDIAN STANDARDS INSTITUTION  
( APRIL 1958 — MARCH 1959 )

## PART I GENERAL REVIEW

THIS ANNUAL REPORT covers the twelfth year of the working of the Indian Standards Institution. It reflects some of the major achievements of the Institution, such as the formulation and publication of a large number of Indian Standards, their wider implementation by purchasing departments in public and private sectors, enhanced membership, growth of Certification Marking, and lastly increasing awareness in the country of the work of the Institution and the nature of service it is rendering to the industry and the consumer. These achievements, it is hoped, would provide a spring-board for launching a vastly expanded programme of action, which ISI will need to undertake, if the growing demand for standards by the industry and trade, and for certified goods by the consumer, is to be met effectively.

**Published Standards** — At the conclusion of the year, the total number of standards published and under print by the Institution reached the figure of 1 219; 196 (*see* Appendix A p. 85) having been sent to press during the year under review as against 160 in the previous year. These standards have been listed in parts in different places in this Report where the work of the Divisions and Sections responsible for their preparation is described. This substantial increase in the number of published standards is largely due to the enhanced activities of ISI committees and sub-committees, the number of which rose from 708 to 791, with a total membership of 8 195.

**Membership** — Consequent to the rapid industrialization in the country and the realization by the industry of the benefits accruing from standardization, the membership of ISI jumped from 1 510 to 1 768, indicating an enrolment of 258 new members against the previous year's figure of 163. This increase in membership resulted not only in greater participation of members in ISI activities, but also raised the revenue, derived from membership subscription, to Rs 3.99 lakhs, registering an increase of Rs 30 000.00 over the previous year's total. This encouraging

rate of growth of ISI membership, during the past 12 years, is reflected in the following table:

<i>On 31 March</i>	<i>Number of Members</i>	<i>Subscription ( lakhs )</i>
1948	356	0.96
1949	475	1.16
1950	563	1.53
1951	684	1.87
1952	758	2.06
1953	814	2.19
1954	894	2.42
1955	1 032	2.69
1956	1 181	3.02
1957	1 347	3.36
1958	1 510	3.69
1959	1 770	3.99

**ISI's Five Year Plans** — Guided by the generally accepted principle of planned economy, ISI had also phased its work according to its own five year plans. In the Second Plan, it was hoped, the Institution would be able to achieve a target of 1 500 standards by the end of plan period ( 1961 ), and also reach an annual production of 200 standards by then. Mainly with the co-operation of members of various technical committees, and also by intensive efforts in the Directorate, ISI has, even this year, almost achieved the plan target of 200 standards a year ( *see* Table I, p. 14 ).

A significant fact which came to light in the working of the Institution according to its Second Five Year Plan, is that, while the plan target for published standards is likely to be exceeded, the demand for ISI services has increased far beyond expectations. This is judged from the fact that the number of subjects approved for standardization, which broadly reflects the demand for standards, has increased by more than 30 percent of the figure anticipated in the Plan. This heavy increase in demand, which can be interpreted as a direct result of increased standards consciousness and rapid pace of industrialization in the country, necessitated further intensification of the current activities in the ISI Directorate, despite the lag during the previous three years in the recruitment of new staff and their training.

**Metric System** — The decision of the Government of India to introduce the metric system of weights and measures throughout the country, which is in accordance with the recommendations made by ISI to the Government, has placed some additional responsibilities on the Institution. The existing standards have to be revised in terms of metric units and the industries — particularly the engineering industry — have to be assisted in solving numerous problems arising out of the conversion from fps to metric system.



During the year under review, the Institution made sustained efforts to introduce metric system in several important fields of engineering, building, textile, etc. The adoption of the international metric screw thread by the engineering industry, and the acceptance of equivalent metric units for all currently used common fps units by several industries indicate some of the achievements in this direction.

Although ISI has already published certain basic standards on the conversion of values from one set of units of measurement to another, the industry has to be helped, on a co-ordinated basis, in changing over to the new system. For this purpose, the Institution is creating a 'Metric Cell' in its own organization for paying more careful attention to the various problems posed by the industry, and also for speeding up metrization of standards.

**Indian Standards Convention 1958**—It was a memorable day indeed, when on 24 November 1958, Prime Minister Jawaharlal Nehru visited Manak Bhavan, the new Headquarters of ISI; inaugurated the fourth Indian Standards Convention at New Delhi; and gave away the first 'K. L. Moudgill Prize' to Dr. Lal C. Verman, Director ISI, who was called in the citation as "scientist, engineer and foremost leader in the field of standardization".

The Convention, held from 24 to 29 November 1958, was an unqualified success. It was attended by a record number of 800 delegates representing Indian industry, trade, Central and State Governments, and professional bodies, research laboratories and technical institutions from all over the country; and the technical quality of papers and the level of discussion were higher than at any other convention.

Inaugurating the Convention, the Prime Minister emphasized the role of standardization in national economy. He said, "Without standardization we cannot progress in industry. If we wish to create confidence about an industry and the sale of our goods, then they should be of high standard." Pointing out that standards are an essential element of planning, he stated, "No nation can export successfully unless she has standards in which people of other nations have faith." Concluding, the Prime Minister said, "It really has become quite essential for the purpose we are working today, for planning, exports, etc, that we should fix standards, adhere to them, and in fact raise them continually."

The successful functioning of the Convention was, in a large measure, due to the tireless efforts of Lala Bharat Ram, Chairman of the Reception Committee, and his very active Secretary, Shri Sri Thandaveshvara. The Reception Committee consisted of representatives of the Punjab and Delhi Chamber of Commerce and some 76 leading firms and industrial undertakings as well as distinguished individuals and co-opted members, who all co-operated whole-heartedly in organizing the inauguration, receptions, technical tours, social functions, etc.



In all, 105 papers were submitted and discussed by the participating delegates. The details of the eight technical sessions and papers, along with brief summaries of the proceedings of the sessions, were covered in the Jan-Feb 1959 issue of the ISI Bulletin, reprints of which are available on request.

**Implementation of Indian Standards and Certification Marking** — The ISI Certification Marking Scheme, which entered its fourth year in August 1958, made considerable headway during the year with the increase in the number of licences to manufacturers of goods conforming to Indian Standards from 75 to 120. There was also an indication that the scheme had come to establish itself and that the consumer demand for certified products would be considerable in the near future.

At the meeting of the General Council held last March, great emphasis was laid on the adoption of Indian Standards both by the public and private sectors. Speaking at the meeting, the President ISI pointed to the duplication of work that would result if Government purchasing departments did not accept goods bearing the ISI Certification Mark without further inspection. He stressed that such an attitude would nullify the work done by ISI. The President also drew attention to the need for the Government of India to take initiative in seeing that Indian Standards and ISI Certification Marks were accepted for all purchases made by Government without exception.

Citing the example of Japan, which had readily agreed to pre-shipment inspection and certification of exports, thus creating a very good atmosphere amongst buyers of their goods in different countries, he regretted that there was not sufficient awareness on the part of Indian industry to accept and adopt similar pre-shipment inspection schemes and certification of exportable goods.

The recommendation of the General Council to the Tariff Commission that the latter should advise the new industries being considered for protection to join the ISI Certification Marking Scheme was a significant development. The General Council also recommended to the Tariff Commission that it should investigate the possibility of making the use of ISI Mark compulsory for those industries which had enjoyed protection for about five years and for whose products, Indian Standards were available. This development should further help in speeding up the use of Certification Marks by the industries concerned.

**Finances** — The total income of ISI from its several sources, such as membership subscription, sale of standards, Certification Marking fees, etc, including the contribution from Government of India, amounted to Rs 1 928 199·95 against the expenditure of Rs 1 939 095·90. The indirect contribution, made by the Government and private organizations by way of expenses incurred by their members on travelling to attend meetings of ISI, within India and abroad, is estimated at Rs 504 858

The growing income of the Institution from its membership subscription, amounting to Rs 3·99 lakhs this year, as mentioned above, indicates

the sustained support of the industry and the trade to the Institution in its work. The sale of Indian and overseas standards, amounting to more than rupees two lakhs and rupees one lakh, respectively, provided a substantial source of income to the Institution. It is encouraging to note that the sale proceeds of Indian Standards over the past many years have been progressively on the increase:

Year	Rs
1948-49	600
1949-50	4 300
1950-51	20 000
1951-52	29 400
1952-53	30 000
1953-54	35 300
1954-55	52 800
1955-56	70 800
1956-57	82 000
1957-58	444 000
1958-59	206 670

Similarly, sale proceeds of overseas standards (including British, American, Japanese, and German publications) amounting to Rs 109 193 show a steady increase over the last year's total of Rs 90 885.

A certified statement of accounts for the year under review appears in Appendix B (*see* p. 92) of this Report.

**Personnel** — Following the creation of ISI service cadre in the previous year to overcome the problem created by the paucity of experienced technical personnel, a second batch of 18 probationer officers was recruited, and their training started. The training, which extends over a period of two years, would give them thorough grounding in different aspects of standardization, both inside the office and in the field. The gradual appreciation among the probationers in regard to their role as standards engineers, and the growing interest which they are taking in equipping themselves fully to deal with the work, are helpful indications of the future of standards engineering as an established profession in India.

During the year under report, 27 new persons joined the ISI staff thereby raising the strength to 363. The staff position is indicated in Appendix C (*see* p. 98).

**Publicity Activities** — Publicity activities of the Institution which are directed towards making people standards conscious and popularizing the ISI Certification Mark, covered a fairly wide field. Consistent with available resources, a comprehensive publicity scheme, using different media of publicity, such as posters and pamphlets, documentary films, exhibitions, radio broadcasts, press advertisement, cinema slides, etc, was implemented during the year. In addition to the large number of press notes, a number



of articles and write-ups on various aspects of standardization appeared in important newspapers and technical journals. At the time of the Fourth Indian Standards Convention, special supplements were brought out and editorials written by several national newspapers commenting on the usefulness of the Convention and indicating its importance among the national activities related to the economic life of the country.

A large number of business houses assisted ISI by donating advertisement space ( worth about Rs 15 000 ) in various newspapers, thus making it possible to publicize the ISI Certification Mark, in some of the major newspapers in the country. Advertisements were also issued in important telephone directories, popular weeklies, and year-books.

A documentary film entitled 'Standards for Industries', produced by the Films Division of the Government of India, on behalf of ISI, was exhibited throughout the country and was reported to be well received. Another documentary film titled 'Made in India' produced by the Ministry of Information and Broadcasting, also focussed attention on the ISI Certification Mark in the context of the formulation of quality standards for various engineering products. Besides, slides advertising ISI Certification Mark were exhibited in cinema theatres in different cities and towns.

The 'India 1958 Exhibition' provided a good opportunity for ISI to set up a stall in which the objects and achievements of the Institution were given very good publicity. Several radio broadcasts featuring standards and their application to various fields of industry were also arranged during the year.

**Library and Information Media** — The Indian and overseas standards and other reference books, maintained in the ISI Library at the headquarters and also in the libraries of branch offices, continued to be in a considerable demand for reference purposes. Approximately 25 000 standards and other publications were either consulted or loaned out to members of ISI and Government departments during the year. The number of standards of various countries, catalogued and indexed in ISI Library, reached the figure of 66 770 on 31 March 1959, while the total number of technical and reference books was approximately 5 000. In addition to the several news bulletins, the number of technical-cum-trade journals received in the library, reached the figure of 275.

The ISI Bulletin continued to grow in volume and coverage, thus providing more and more useful information on standardization movement in India and abroad, and on the activities of the Institution.

The monthly circular 'ISI Standards News' was started with a view to keeping the industry and the purchasing departments as also ISI members posted about the latest publications of ISI. Besides, one 16-page Classified List of Indian Standards was published and four sectional lists of Indian Standards pertaining to textiles; engineering and electro-technical engineering; chemical, and agricultural and food products; and building, and structural and metals, were issued.



**Branch Offices** — The branch offices of ISI, which are functioning at Bombay, Calcutta and Madras, continued to provide useful contacts to the members of the Institution in their respective regions, and act as effective centres for the propagation of benefits from standardization. Other activities of the branch offices included the enrolment of members, the inspection of licensees under the ISI Certification Mark Act, 1952, and the collection and dissemination of information relating to standardization.

The officers at the branch offices continued their efforts to promote the implementation of Indian Standards; to popularize the ISI Certification Mark; and to create standards consciousness, through a series of lectures and talks on standardization in local engineering colleges and at the meetings of professional bodies. Recently, the scope of work of branch offices was enlarged by entrusting them with the technical work pertaining to the formulation of standards.

**Calcutta Members' Conference** — Though Indian Standards Convention provides a common platform to the members of ISI, and also to scientists, technologists and others for the sharing of their knowledge and experience in the relevant fields of their activities; it was felt that members should be provided more occasions to meet one another informally, particularly to raise matters of local and general interest, apart from technical discussions. The Calcutta Branch Office made an attempt in this direction by organizing a conference of the local members of the Institution. The First Conference, held on 15 December 1958, was attended by a large number of Calcutta members and provided a forum for discussing the entire range of local problems. The discussions of the representatives revealed that there was a need for more direct contacts with members. The success of the conference has encouraged the Institution to organize similar conferences at Bombay and Madras.

**National Association of Consumers** — The formation of a National Association of Consumers, NAC, under the distinguished chairmanship of Smt. Raksha Saran, President of All India Women's Conference, as a result of the deliberations at the last Standards Convention, is yet another step towards promoting widespread standards consciousness in the country.

The Association, it is hoped, will be an important instrument in raising the quality level of Indian products and in the formulation and implementation of Indian Standards for consumer goods. With the formation of NAC, which would make the consumer more vocal, the rate of progress of the ISI Certification Marking Scheme is also expected to increase further.

It may be stated here that ISI has accepted the demand for setting up a Women's Advisory Committee to advise the Institution in regard to the formulation and implementation of specifications for consumer goods, specially of the domestic type, and the formation of the Committee was being processed under the chairmanship of Shrimati Rakshia Saran. The need for establishing such an advisory committee had also been voiced at the last Standards Convention.

**International Activities** — As in the past, ISI continued to take active part in the standardization work carried on by the International Organization for Standardization and the International Electrotechnical Commission. These bodies lay down recommendations and standards which are indispensable in the development of dispute-free international trade. In the case of India, in particular, the work is of great importance in view of the need to expand the country's external trade to earn foreign exchange in the implementation of the Second Five Year National Plan.

ISI, which is an elected member of the governing council of ISO and the Committee of Action of IEC, participates in the work of 64 of the 93 technical committees of ISO and holds the secretariat of 3 technical committees and two subcommittees. The fact that the annual group meetings of IEC are going to be held in New Delhi in November 1960 is highly significant. This will be the first time for IEC to meet in an Asian Country since its formation over 50 years ago, and the event indicates that India's contacts and contributions in the international sphere of standardization have been successful in effectively linking the needs of the fast growing electrical industry and installations in the country with experience and knowledge of the specialist electrical authority of the world. It is hoped that following the lead of IEC, the annual meetings of the ISO will also be held in India in the near future.

## PART II DIVISIONAL REPORTS

### 1. SUMMARY OF WORK

**1.0** This part of the Report contains brief summaries of the work of the various Divisions and Sections of the Institution.

**1.1** In all, 191 proposals for the formulation of standards were received during the year. The number of proposals, which were accepted and referred to various committees for further action, totalled 165; this included a few proposals made in the previous year but accepted during the year under report.

**1.2** Judged from the rapid increase in the membership of technical committees, and in the number of committee meetings held, the activities of the Institution have shown a progressive growth, as reflected in Fig. 1.

**1.3** Alongside the increase in the committee membership, the number of Indian Standards published and draft standards circulated showed further progress as shown in Fig. 2.

**1.4** The cumulative record of work, pertaining to the activities of the different technical Divisions and Sections is given in Table I.

### 2. ENGINEERING DIVISION

**2.1** Engineering standards, required in connection with the changeover to the metric system, continued to receive a very high priority. The most important event of the year was the decision of the Engineering Division

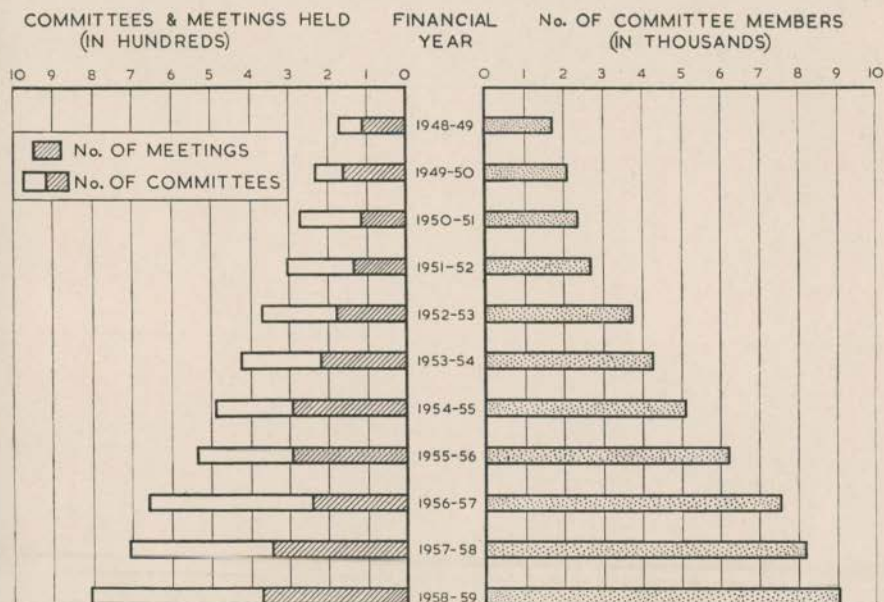


FIG. 1 GROWTH OF ACTIVITIES OF COMMITTEES



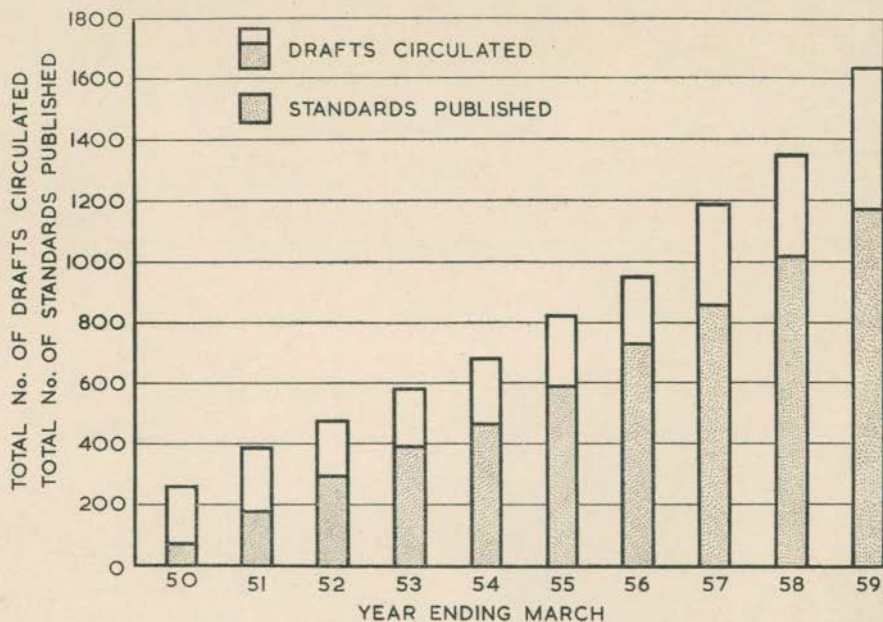


FIG. 2 GROWTH OF STANDARDS

TABLE I RECORD OF WORK OF ISI TECHNICAL DIVISIONS  
(FOR THE YEAR 1958-59)

DIVISION	No. OF DIVISION COUNCILS, SECTIONAL COMMITTEES, SUBCOM- MITTEES AND PANELS	No. OF MEETINGS OF DIVISION COUNCILS, SECTIONAL COM- MITTEES, SUB- COMMITTEES AND PANELS	NEW STANDARDS PUBLISHED AND UNDER PRINT	AMENDMENTS TO STANDARDS	DRAFT STANDARDS CIRCULATED
EDC	101	33	27	1	31
BDC	125	61	46	6	31
TDC	125	57	26	2	42
CDC	210	100	29	14	55
AFDC	60	23	22	5	21
SMDC	101	32	30	—	76
ETDC	72	45	14	5	24
ADMN	5	7	—	—	—
SPECIAL	11	10	2	—	—
TOTAL	810	368	196	33	280

Council, EDC, confirming that only one series of screw threads, namely the ISO metric series of screw threads, should be adopted as the basis of standardization in India. The policy question having been finally settled, appreciable progress was made on standards for screwed fasteners and related items.

**2.2** Realizing the need for initiating work on mining equipment, the production of which was being intensified both in the private and public sectors, a committee was proposed to be set up to deal with mining and similar engineering equipment. Since the Government had decided to give high priority to the development of manufacture of chemical engineering equipment in the country, it was considered opportune to initiate work on such equipment, particularly on pressure vessels. In this connection, it was appreciated that, in the first instance, the position with respect to the statutory responsibility for unfired pressure vessels of the non-portable variety would require to be clarified in consultation with the Chief Inspector of Explosives; the Chief Adviser, Factories; and the Technical Adviser, Boilers Board.

**2.3** A brief review of the progress of work is given below:

**Engineering Standards** — As a part of the endeavour to provide a series of basic engineering standards for guiding the changeover to the metric system, a preliminary draft proposal on equivalent metric units for quantities used in mechanical engineering was under preparation.

**Oil Burning Domestic Appliances** — The Indian Standard Specification for Hurricane Lanterns (IS: 1238-1958) was under print; and a specification for oil pressure stoves was finalized for publication.

#### **Work in Hand**

Lantern Type Oil Pressure Lamps	Blow Lamps
Hanging Type Pressure Lamps	Chimneys for Oil Pressure Lamps
Gas Mantles	

**Machine Tools** — The Indian Standard Recommendations for Limits and Fits, for Engineering, which could be considered as a basic engineering standard, was under print.

The draft Indian Standard Test Charts for Lathes (Up to 800 mm Swing Over Bed), recognizing only one grade of accuracy for lathes, was approved for general circulation.

Noting the work, being done at the ISO level regarding the formulation of an international test code for machine tools, it was agreed that the question of preparing a national standard on the subject should await the finalization of ISO work.

#### **Work in Hand**

Revision of IS: 519-1954 T-Slots, T-Bolts and T-Nuts	Test Charts for: Shaping Machines
Test Charts for: Radial Drilling Machines	Planning Machines
Pillar Type Drilling Machines	Safety Code for Machine Tools
Milling Machines of Different Types	Lathe Chucks and Drill Chucks
Turret and Capstan Lathes	Spindle Noses
	Straight Edges

Test Mandrels with Taper Shanks	Tapers for Tool Shanks
Mandrels Between Centres	Lathe Centres
Squares	Tool Posts
Checking Cylinders	Speeds and Feeds for Machine
Surface Plates	Tools

**Hand Tools** — A draft specification for engineers' steel files, prepared entirely on the metric basis, was approved for circulation; draft revisions of IS: 273-1951 Picks and Beaters and IS: 274-1951 Shovels, and draft standards for swage blocks and stand, screw drivers, chaff cutter blades, wood working chisels and gouges, and powrahs were awaiting finalization.

#### Work in Hand

Smiths Braces	Pliers
Vices	Transplanting Spades and Seprangs

**Abrasives** — Two Indian Standards, one for Coated Abrasives, Glue Bond (IS: 715-1957) and the other for Selection of Grinding Wheels (IS: 1249-1958), were published; while the Indian Standard Specification for Abrasives Specialities (IS: 1262-1958) was under print. Besides, the work on preferred shapes and sizes of grinding wheels and segments, based on the metric system, and also on a safety code for grinding wheels was initiated.

**Internal Combustion Engines** — Four draft codes for rating and type tests of constant speed and variable speed IC engines, and the draft specification for single cylinder fuel injection pumps were awaiting finalization. The draft specification for piston rings, which had also been circulated, could not be finalized because of difficulties involved in rationalizing the sizes. Consequently, it was being re-examined in consultation with manufacturers. Once this is settled, it should be possible to make progress on standards for other components, such as pistons, piston pins, cylinder sleeves, etc.

**Drawings** — The draft Revision of IS: 696-1955 Code of Practice for General Engineering Drawing, on metric basis, was circulated for comments.

**Bicycles** — Information was collected from a number of foreign countries on the question of minimum nickel plating thicknesses required for bicycle components, particularly for rims.

#### Publications

- IS: 960-1958 Bicycle Rim Tapes and Buckles
- IS: 1131 to 1134-1958 Bicycle Bottom Bracket Assembly Components
- IS: 1281-1958 Bicycle Cranks and Chain Wheels
- IS: 1282-1958 Bicycle Cotter Pins, Washers and Nuts
- IS: 1283-1958 Bicycle Free Wheels

#### Work in Hand

Bicycle Front Forks	Revision of:
Bicycle Steering Head Assembly	IS: 626-1955 Bicycle Seat Pillars
Bicycle Tyres	IS: 627-1955 Bicycle Chains
Bicycle Tubes	IS: 628-1955 Bicycle Pedal Assembly
Revision of:	IS: 629-1955 Bicycle Hub Assemblies
IS: 532-1954 Bicycle Tube Valve	IS: 630-1955 Bicycle Spokes (Plain) and Nipples for Spokes
IS: 623-1955 Bicycle Frames	
IS: 624-1955 Bicycle Rims	



**Screw Threads** — An Indian Standard General Plan for Screw Threads with ISO profiles (0.25 to 300 mm) was under print. Draft Revision of IS: 886-1957 Dimensions for Screw Threads (Below 6 mm), and also a draft standard for dimensions of screw threads for general purposes, diameter range 6 to 39 mm, were awaiting finalization. Besides, six draft standards for the more commonly used bolts, nuts and screws were put into general circulation.

**Work in Hand**

Boiler Rivets (12 to 48 mm)	Cheese Head Screw	Countersunk Head Screw
Dimensions of Screw Ends for Bolts and Nuts	Round Head Screw	
Dimensions of Thread-Runout, Thread-Undercut and Thread-Ends	Hexagonal Socket Head Cap Screw	Stud
Technical Supply Conditions for Screw Thread Fastenings		

**Sports Goods** — Draft revisions of tentative standard specifications for shuttle cocks; for cricket and hockey balls; and for foot-balls, volley-balls, basket balls and waterpolo balls, were awaiting finalization.

**Work in Hand**

Tennis Balls

**Cutlery** — Standard specifications for the following were under print:

Butcher's Knives	Carving Knives
Cook's Knives	Bread Knives
Pocket Knives	

**Engineering Hardware and Equipment** — The draft standards for steel wire, for wire ropes, and for wire ropes for winding and haulage purposes, which had been circulated earlier, were under examination in consultation with manufacturers with a view to changing the basis to the metric system.

**Work in Hand**

Revision of IS: 278-1951 Galvanized Steel Barbed Wire for Fencing (Transferred from SMDC)	Stranded Steel Wire
Galvanized Stranded Signal Wire	Galvanized Chain Link Fencing
	Galvanized Stranded Stay Wire for Power Lines

**Pencils** — The draft specification for black lead pencils was finalized for publication.

**Work in Hand**

Copying Pencils	Graphite for Pencil Making
Lead for Propeller Pencils	

**Sewing Machines** — Four draft standards for bobbins, needle bars, pressure foot and pressure bars, were finalized for publication. Work on a glossary of sewing machine parts and on draft standards for shuttles, shuttle race, bobbin case, square sliders and round rollers (big and small) was initiated.



### Publications

IS: 1294-1958 Bobbins for Sewing Machines  
IS: 1296-1958 Pressure Feet for Sewing Machines

### Work in Hand

General Requirements for Sewing Sewing Machine Needles  
Machines (Household Model)

**Pumps** — The draft specification for horizontal spindle pumps for clear, cold, fresh water was finalized for publication; and the draft standard for vertical turbine pumps for clear, cold, fresh water was approved for wide circulation.

**Instruments (Drawing, Optical, Surveying and Mathematical)** — Under print was the Indian Standard General Requirements for Optical Components; while draft specifications for engineers' pattern drawing boards and engineers' pattern tee-squares, as also the draft standard glossary of terms used in optical technology were finalized for publication. Besides, draft standards for optical glass, levelling staves of folding and telescopic types, surveying chains, bubbles and four types of metric scales were circulated.

### Work in Hand

Slide Rules (Linear Type)  
Surveyor's Compass

Prismatic Compass  
Trough and Tubular Compass

**Cargo Marking** — The Cargo Marking Sectional Committee, EDC 37, when it was originally set up, was responsible for the work relating to non-dangerous goods. Similar work on dangerous goods was the responsibility of Classification and Labelling of Dangerous Substances Sectional Committee, CDC 18. In order to handle conveniently the work at the national level, and also to organize properly the secretariat responsibility for ISO/TC 88 Pictorial Marking of Handling Instructions for Goods, it was decided that EDC 37 should also function as the secretariat committee for ISO/TC 88. Consequently, its scope was enlarged to cover both dangerous and non-dangerous goods (see p. 40). In this connection the possibility of calling a meeting of the ISO Technical Committee 88 was being explored.

It was also decided to participate actively in the work of ISO/TC 80/SC 2 Safety Symbols and ISO/TC 85/SC 1 Terminology, Definitions, Units and Symbols for which, in the absence of any other sectional committee at the national level, EDC 37 would act as the national committee.

The Indian Standard Recommendations for Pictorial Marking of Handling Instructions for Non-dangerous Goods, was under print.

**Automotive Vehicles** — The Automotive Vehicles Sectional Committee, EDC 38, emphasized, in its inaugural meeting, the need for a central testing organization for automobile products, particularly in the interest of proper development of ancillary industries.

### Work in Hand

Helical Springs for Automobile Suspension

**Weights and Measures**—The standard for metric steel tape measures was under print, while the draft specification for commercial weighting instruments, was awaiting finalization.

#### **Publications**

- IS: 1057-1958 Metric Carat Weights
- IS: 1059-1958 Commercial Metric Length Measures (Non-Flexible)
- IS: 1269-1958 Metric Woven Metallic Tape Measures

#### **Work in Hand**

- Method for Testing Accuracy of Commercial Measuring Instruments  
Used in Petroleum Trade

**Pulleys and Belts**—Draft Revisions of IS: 529-1954 Solid Woven Impregnated Cotton Belting for Power Transmission, and IS: 530-1954 Solid Woven Impregnated Hair Belting for Power Transmission, and the draft specifications for friction surface rubber transmission belting and belt fasteners were finalized for publication. Draft specifications for vegetable tanned leather belting and leather belting for small machines were circulated, and the draft specification for canvas conveyor and elevator belting was approved for circulation.

#### **Work in Hand**

- Cast Iron and Mild Flat Pulleys
- Code of Practice for Installation and Maintenance of Beltings

### **Small Tools**

#### **Work in Hand**

- Revision of IS: 599-1954 Twist Drills (Tentative)
- Revision of IS: 664-1954 Combined Drills and Countersinks (Centre Drills) (Tentative)
- Single Point Cutting Tools

**Utensils**—This was a new subject undertaken at the instance of certain organized users, such as the Defence Services, the Federation of Hotels and Restaurant Associations of India, and the All-India Women's Central Food Council, who were keen on the thickness and size of circle to be used being specified apart from the quality of material to ensure that the utensils were robustly made. It may be recalled that the quality of aluminium utensils, exported from the country is statutorily regulated through the ISI Certification Marking Scheme. Indian Standards IS: 20-1953 and IS: 21-1952 cover the requirements for cast and wrought aluminium, respectively, being used in the manufacture of utensils.

## **3. BUILDING DIVISION**

**3.1** The work of the Building Division, during the year, was high-lighted by the successful conclusion of a number of important projects, initiated three years ago. The publication of codes on measurement of building works, building bye-laws, electric wiring and fittings in buildings; the completion of standards on testing tar and bitumen; and the recommendations on modular co-ordination of dimensions in the building industry indicate



some of the achievements. Two items of work that evoked great interest, both in India and abroad, were the code on steel bridges and the draft standard on classification and identification of soils for general engineering purposes. The former is expected to pave the way for the adoption of metric units in the design of steel bridges; and the latter to the inclusion of soil survey requirements for engineering purposes in the comprehensive soil survey programme being undertaken by the State agricultural departments. Such a step would make it possible to evolve soil engineering maps for different parts of India in a comprehensive manner.

The Building Construction Practices Sectional Committee and its Zonal Subcommittees embarked upon a series of codes covering all aspects of construction work from foundations to different types of roof terracing. These codes are designed to take note of regional differentiations in practices, such as the mud *phuska* terracing in the Punjab, the composite timber and mud walling in Bengal and Assam, and the stone slab roofing in Rajasthan. In respect of standardization of timber and steel furniture of utility type, a fresh effort was launched. It is intended to cover in this field the furniture supplied in the knocked down condition and in the fully assembled state.

**3.2** The new work undertaken during the year included standards for prestressed concrete poles used for telecommunication purposes, prestressed concrete lighting columns, venetian blinds for windows, glossary of terms relating to bridges, walk-in-coolers, wood wool for general packaging purposes, integral cement water proofing compound and designs for lime kilns; and codes of practice for the use of building lime, manufacture of building lime and electric passenger and goods lifts.

**3.3** A brief account of the work in the several fields is given in the following paragraphs:

**Cement and Concrete** — The Revision of IS: 269-1951 Specification for Ordinary Rapid Hardening and Low Heat Portland Cement, which was finalized for printing, incorporates the research and investigations carried out by the various laboratories in regard to the performance of Indian cement and developments at the international level regarding testing of cement. The revised standard also provides for the use of Indian Standard Sand in place of Leighton Buzzard Sand.

A specification for portland pozzolana cement is actually attempted, but in view of the fact that no portland pozzolana cement is actually produced at present in India, the finalization of specification has been deferred, pending actual production of portland pozzolana cement in the country. In order to promote such manufacture, the Development Wing of the Ministry of Commerce and Industry was requested to encourage the manufacture of portland pozzolana cement according to the provisional specification drafted by the committee.

The Indian Standard Specification for Deformed Mild Steel and Medium Steel Bars (IS: 1139-1959), which was under print, is expected



to help consumers in ordering deformed bars for concrete reinforcement, the manufacture of which has recently been taken up by a number of steel manufacturers in the country.

#### Publications

- IS: 783-1958 Code of Practice for Laying of Concrete Pipes  
IS: 1298-1958 Method of Test for Determination of Free Lime in Portland Cement  
IS: 1332-1958 Reinforced Concrete Street Lighting Columns

#### Work in Hand

- |  |  |
|--|--|
| Methods of Test for Strength of Concrete                               | Asbestos Cement Pressure Pipes                         |
| Methods of Sampling and Analysis of Concrete                           | Steel Pipes Lined and Outcoated with Concrete          |
| Natural and Manufactured Aggregates for Use in Mass Concrete           | Mild Steel Wire Fabric for Concrete Reinforcement      |
| Prestressed Concrete Pipes   | Prestressed Concrete Poles for Telecommunication Lines |
| Prestressed Concrete Code  | Prestressed Concrete Street Lighting Columns           |
| Asbestos Cement Building Pipes and Fittings ( Spigot and Socket Type ) |  |

**Lime and Gypsum** — Following up the establishment of a specification for building lime, work was initiated on a series of codes for the manufacture as well as the use of building lime. Design of lime kiln, burning of lime, hydrating, field slaking, simple field tests, use in masonry mortars, etc, are the several aspects that will be covered by these codes.

Investigations on gypsum wall boards, which the Central Building Research Institute had undertaken, were completed providing for further processing of the draft specification for gypsum wall boards. New investigations that are now being undertaken are expected to pave the way for a series of standards on different gypsum building products, such as partition blocks, wall bricks, tiles, plaster, etc.

**Pozzolanas** — In view of its importance as a pozzolanic ingredient in building mortars and its potentiality in co-ordinating the use of lime and cement with overall economy, an attempt was made to standardize surkhi. Experimental investigations and research, undertaken by the Central Road Research Institute, in regard to the test for pozzolanic materials, specially surkhi, made it possible to finalize the draft specification for surkhi during the year. The standard is expected to pave the way for more extensive use of lime-surkhi mixture as masonry cement in general building construction.

Work was also in progress on a standard on methods of test for pozzolanic materials which would facilitate uniform method of investigation on the several pozzolanic materials available in our country.

**Building Bricks and Stones** — A classification, based on the investigations that were started in regard to the classification of building stones from the point of view of their availability, suitability for specific building uses and durability, was evolved. Investigations were also

undertaken, jointly by the Central Building Research Institute and the Geological Survey of India, to determine the physical and geophysical properties of the different types of stones. The results of the investigations are expected to provide reliable essential data regarding building stones found in the country.

**Timber and Wood Products** — The project on standard sizes of converted timber was completed by the publication of IS: 1331-1958 Specification for Cut Sizes of Timber. This standard paves the way for timber to be converted at the source, seasoned and treated, so that ready sizes of both primary and secondary species of timber can be put on the market; this is likely to result in the maximum utilization of the timber produced by the forests. Bulk sizes of non-coniferous sawn timber, namely hardwoods, were covered by IS: 1326-1958, issued as an adjunct to IS: 190-1953 which covered coniferous sawn timber. The experience gained during the war in using Indian timber for aircraft construction was made use of in drafting a standard for aircraft timber intended for further conversion.

a) *Timber*

**Publication**

IS: 707-1958 Glossary of Terms Applicable to Timber, Plywood and Joinery

**Work in Hand**

Rules for Grading of Cut Sizes of Timber	Logs for Matches
Code of Practice for Sawing of Timber	Methods of Testing Timber
Revision of IS: 287-1951 Recommendations for Maximum Permissible Moisture Content of Timber Used for Different Climatic Zones	Jointed Wood Poles
	Code of Practice for Preservation of Bamboos and Basketware
	Marine Timber

b) *Wood Products* — In the field of wood products, IS: 1328-1958 Specification for Veneered Decorative Plywood, was finalized for publication. The specification, which lays down the grading of decorative plywood used for panelling, railway coach construction, etc, it is expected, would prove a useful standard in obtaining satisfactory supplies of decorative plywood.

**Work in Hand**

Revision of:	Rectangular Solid Wood Packing Cases
IS: 303-1951 Commercial (Common) and Moisture-Proof Plywood	Wood Wool for General Packaging Purposes
IS: 652-1955 Wooden Separators for Lead Acid Storage Batteries for Motor Vehicles	Pressed Hard Building Boards
Extenders for Use in Synthetic Resin Adhesives for Plywood ( Urea Formaldehyde )	Block Boards
	Pencil Slats
	Methods for Testing Plywood

**Tar and Bitumen** — The standards ( IS: 1201- to 1220-1958 ) dealing with the Methods for Testing Tar and Bitumen, unifying and simplifying the current-day testing practices in the country, were published; these



are now guiding the equipping of the different laboratories with the necessary facilities for testing of tar, bitumen and their products.

#### Work in Hand

Revision of:

IS: 73-1950 Asphaltic Bitumen and  
Fluxed Native Asphalt for  
Road-Making Purposes

IS: 212-1950 Crude Coal Tar for  
General Use

IS: 215-1951 Road Tar

IS: 216-1951 Coal Tar Pitch

Revision of:

IS: 217-1951 Cutback Bitumen

IS: 218-1952 Creosote and Anthra-  
cene Oil for Use as Wood Pre-  
servatives

IS: 454-1953 Digboi Type Cutback  
Bitumen

IS: 702-1955 Blown Type Bitumen

**Floor and Roof Coverings** — With the publication of four standards, namely two dealing with mastic asphalt flooring ( IS: 1195-1957 and IS: 1196-1958 ), one for rubber flooring ( IS: 1197-1958 ) and one for linoleum flooring ( IS: 1198-1958 ), and the finalization of specifications for ridge and ceiling tiles and clay flooring tiles, the Committee completed its present programme for preparing standards for different types of floor and roof coverings and the method of their laying and maintenance.

The earlier investigations, conducted on bitumen felts used for water-proofing and damp-proofing, made it possible to finalize the specification for bitumen felts and also codes of practice for water-proofing of roofs using bitumen felts.

#### Work in Hand

Code of Practice for Water-Proofing  
and Damp-Proofing of Buildings

Bitumen ( Plastic ) for Water-Proofing  
Purposes

Bituminous Fibre Fillers for Expan-  
sion Joints

Sealing Compounds

**Building Finishes** — It is hoped that the code on finishing of iron and steel in buildings, which was finalized during the year, will provide a good guide for the painting of iron and steel in buildings. Work on the supplementary part, which is to include point schedules, tools and equipment, etc, is expected to prove useful in selecting the appropriate paints for any specific work as also in the selection of the method of application of the paint.

An item of interest would be the preparation of a specification for mud plaster, which was based upon the investigations carried out by the Central Road Research Institute and the Central Building Research Institute. This specification should prove useful in rural housing, where durable plastering of the mud walls has been one of the difficult problems to solve.

#### Work in Hand

Cement Concrete Flooring Tiles

Code of Practice for:

Laying and Finishing of Cement  
Concrete Flooring Tiles

Applied Wall and Ceiling Finishes:  
Cement Plaster and Cement Lime  
Plaster

Lime Plaster

Colours for Building and Decorative Finishes

Code of Practice for:

Applied Wall and Ceiling Finishes:  
Sand for Plaster

Masons' Tools for Plaster Work

Finishing of Wood and Wood Based  
Materials in Buildings

Finishing of Non-Ferrous Metals



**Building Construction Practices** — The code on measurement of building works was printed; and attempts are now being made by various departments to revise their respective schedules of rates based on this code, introducing metric system and also rationalizing the method of measurement followed in construction works. The adoption of this code should mean a substantial attempt at unification of the measurement practices prevalent in different parts of the country.

Work was initiated on a series of codes of practice for various items of building construction reported below. These codes aim at unifying different practices adopted in different departments; and are expected to give specific guidance for construction procedure in the light of modern developments and experience.

#### **Work in Hand**

Simple Foundations for Load Bearing Structures	Fixing Devices and Methods of Fixing in Cavity Construction
Brick Work	Tiled Roof Coverings
Stone Masonry	Sheet Roof Coverings
Concrete Block Masonry	Madras-Terrace Type Floor
Dense Concrete Construction	Jack Arch Terrace
Light Weight Concrete Construction	Construction of RCC Shell Roofs
Use of Structural Timber in Building (Construction, Erection and Finishing)	Stone Slab and Beam Floor
Design and Construction of Wood Stairs	Hollow-Tile Floor
Timber Balconies	Timber-Plank and Concrete Floor
Timber Walls and Partitions	Flat Roof Finishing
Timber Panelling for Walls and Ceilings	Fixing Roof Lights
Fixing Wall Coverings	Construction of Fire Places, Hearths, Flues and Chimneys for Domestic Appliances
Fixing Ceiling Coverings	Fire Places, Hearths, Flues and Chimneys for Central Heating, and Hot Water System
Fixing Devices and Methods of Fixing in Walls and Ceilings	

**Builders' Hardware** — Methods were considered to bring within the scope of Indian Standard Specifications, a large number of new types of indigenously produced hardware fittings, without limiting the progress in design and performance. Such an effort, it was realized, called for revision of the present standards in regard to specifications for materials and dimensions, and design requirements.

Standards on rainwater pipes, gutters, fittings and accessories, dust bins, wire gauze and cold rolled mild steel butt hinges were finalized for publication.

#### **Work in Hand**

Revision of IS: 204-1950 Mild Steel	Buckles
Brass Door Bolts, Tower and Barrel Types	Buckles Prongless Nickel Plated
Fanlight Pivots	Aldrops
Door Stoppers	Wire Netting for Fencing for General Purposes
Mortice Locks	

## Doors, Windows and Building Furniture

### Work in Hand

Steel Windows for Industrial Buildings	Timber Flush Door Shutters
Code of Practice for Fixing and Glazing of Steel Doors and Windows	Venetian Blinds for Windows
Code of Practice for Fixing and Glazing of Timber Doors and Windows	Wooden Tables and Desks for General Office Purposes
Steel Shelving Racks	Materials for Wooden Furniture Construction and Joinery Work in Furniture

**Terminology, Notations and Drawings** — The code of building terminology as well as the code for architectural and building drawing office practice were reconsidered in the light of the introduction of metric system and finalized for circulation. The schedule of unit weights of building materials, which should prove a useful guide in calculating the design loads in buildings, was also got ready for circulation.

**Modular Co-ordination** — In the field of modular co-ordination, the Committee pursued the application of modular co-ordination into different aspects of building construction, as for example framed structures, masonry structures, preferred dimensions for reinforced concrete members, etc. An attempt was made to expand the work of this committee by formulating a series of codes which would give clear instructions on the method of using modular planning and on facilities which such modular planning could provide both to the supervising engineer as well as to the foreman of the works responsible for laying out the building.

**Functional Requirements of Buildings** — The Committee became aware of the general usefulness of IS: 875-1957 Loading Standards and its extensive application in the country. Certain aspects of IS: 875-1957, namely the design for wind loads and design for seismic forces, it was felt, needed expansion to provide more detailed guidance to the engineer. Hence, the preparation of detailed codes of practices, to cover wind and seismic loads, was undertaken.

The series of codes on fire safety of buildings, which completed wide circulation during the year and are expected to be finalized shortly, will provide useful guides to local bodies in ensuring provision of minimum fire safety precautions, while approving building plans, and to Civil Defence Organization and Fire Brigades in insisting upon proper installation of fire fighting equipment and their maintenance.

### Work in Hand

Structural Safety of Buildings: Foundations and Superstructures	Fire Fighting Equipment and Its Maintenance Including Construction and Installation of Fire Proof Doors
Code of Practice for Fire Safety of Buildings	Code of Practice for Daylight (for Houses and Flats)
General Principles and Fire Grading Materials and Details of Construction	Code of Practice for Orientation of Buildings
Exposure Hazard	Code of Practice for Ventilation of Dwellings
Chimney, Flues, Flue Pipes and Hearths	Code of Practice for Sound Insulation
Electrical Installation	
Personal Hazard	



**Building Regulation and Control** — The publication of the Indian Standard Code of Building Bye-laws (IS: 1256-1958) during the year, which was awaited with great interest by various Local Bodies, is expected to pave the way for revising local building bye-laws and for achieving uniformity in the standards to be enforced in building design and construction in different parts of the country.

The draft code on zoning regulations, based upon a recommendation made by the Institute of Town Planners, India, was being examined for studying its applicability to different parts of the country. Here again, urban surveys that are being conducted by the Planning Commission and the Planning Organizations in Delhi, Bombay and other cities, should prove useful in aligning this code with the conditions actually obtaining in Indian cities and towns.

### **Work in Hand**

Code of Special Building Bye-laws for Central Areas of Cities and Towns

**Library Building, Fittings and Furniture** — Following the recommendation made by the Indian Standards Convention held in Madras in 1957 that basic standards regarding primary elements involved in the design of library buildings, fittings and furniture should be laid down by ISI, a draft code of practice was being evolved. This standard, even at the draft stage, has been found to be very useful by the University Grants Commission and other agencies which are setting up libraries in adopting desirable standards for library buildings. The code will help in channelizing substantial sums of money into erecting library buildings which will not only satisfy the functional requirements but will also be economical and aesthetically satisfying.

### **Water Supply and Sanitation**

#### **Publication**

IS: 771-1958 White Glazed Earthenware Sanitary Appliances

#### **Work in Hand**

Code of Practice for Water Supply and Plumbing	Pillar Taps
Code of Practice for Drainage in Buildings	Mixing Valves for Ablutionary and Domestic Purposes
Code of Practice for Installation of Sanitary Appliances in Bathrooms, WCs, etc	Ball Valves Including Floats for Water Supply Purposes
Sand Cast Brass Screw Down Bib Taps and Stop Taps for Water Services	Ferules
Water Meter Boxes	Self-Closing Taps With or Without Glands
Glazed Earthenware Wall Tiles	Drinking Fountains
Water Meters With Flanged End Connections	Cast Manhole Covers and Frames Intended for Use in Drainage Works
Sluice Valves Above 12 in. Size	Stall Type Urinals
Polythene Pipes for Cold Water Services	Squatting Urinals
	Orissa Type WC Pans
	Laboratory Sinks



**Electrical Installation and Illumination** — The Indian Standard Code of Practice for Electrical Wiring and Fittings in Buildings (IS: 732-1958), which was published during the year, immediately found application in the State Electrical Departments as well as by the Central Ministries. The Government of Uttar Pradesh issued a notification, requiring obligatory compliance to this code in all electrical wiring and fitting work done in that State. Similar action by other States is envisaged.

**Work in Hand**

Code of Practice for Electric Passenger and Goods Lifts	Code of Practice for Interior Lighting
Code of Practice for Street Lighting	Code of Practice for Protection of Buildings Against Lightning

**Refrigeration and Air-Conditioning** — The work relating to standard design conditions for air-conditioning on which the Committee was engaged during the last four years made some headway; but certain difficulties, regarding collection of data, made it difficult to proceed with the work speedily.

**Work in Hand**

Standard Design Conditions for Air-Conditioning in Various Parts of India	Commercial Refrigerators
Guide to the Use of Different Types of Insulating Materials in Cold Storages	Self-Contained Water Coolers
	Room Air-Conditioners
	Domestic Refrigerators
	Ice Cream and Ice Candy Machines
	Walk-in-Coolers

**Bridges**

**Work in Hand**

Code of Practice for Steel Bridges	Code of Practice for Concrete and Masonry Bridges
Glossary of Terms Relating to Steel Bridges	

**Soil Engineering**

**Work in Hand**

Classification and Identification of Soils for General Engineering Purposes	Soil Cement Blocks
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**Fluid Flow Measurement** — The four standards on measurement to flow of water in open channels were got ready for publication; while work on the measurement of liquids in pipes and closed conduits was taken up. It is expected that this work would be of benefit to water supply undertakings, oil companies and gas undertakings.

**Sieves** — In pursuance of its earlier intention to evolve a draft standard method of sieving powders, a draft was got ready for circulation. Simultaneously, in co-operation with M/s Andhra Scientific Co. Ltd., Masulipatam, a sieve shaker was evolved, incorporating in it the essential features necessary for ensuring uniform efficiency and reproducible sieving characteristics.

**Work in Hand**

Industrial Screens

## Fire Fighting Equipment and Appliances

### Publications

- IS: 901-1958 Couplings, Double Male and Double Female, Instantaneous Pattern, for Fire Fighting Purposes
- IS: 902-1958 Suction Hose Couplings for Fire Fighting Purposes
- IS: 903-1958 Fire Hose Delivery Couplings, Branch Pipe, Nozzles and Nozzle Spanner
- IS: 905-1958 Delivery Breechings, Dividing and Collecting, Instantaneous Pattern, for Fire Fighting Purposes
- IS: 906-1958 Branch with Revolving Head for Fire Fighting Purposes
- IS: 908-1958 Fire Hydrant, Stand Post Type
- IS: 909-1958 Underground Hydrant, Sluice-Valve Type
- IS: 910-1958 Combined Key for Hydrant, Hydrant Cover and Lower Valve
- IS: 927-1958 Fire Hooks
- IS: 928-1958 Fire Bell
- IS: 941-1958 Blower and Exhauster for Fire Fighting
- IS: 942-1958 275-l/min ( or 60-gal/min ) Portable Pump Set for Fire Fighting

### Work in Hand

- |   |   |
|---|---|
| 2-Way and 3-Way Suction Collecting Heads for Fire Fighting                      | 1 800-l/min ( or 400-gal/min ) Motor Fire Engine  |
| Suction Strainers, Cylindrical and Shoe Types for Fire Fighting Purposes        | 3 200-l/min ( or 700-gal/min ) Motor Fire Engine  |
| Underground Hydrant, Double Valve Type  | Water Tender with 275-l/min ( or 60-gal/min )   |
| Washers for Water Fittings for Fire Fighting Purposes                           | Portable Pump and 2700-l ( or 600-gal ) Water Tank                                      |
| Fireman's Axe   | Motor Fire Engine with 1 800-l/min ( or 400-gal/min ) 1 800-l ( or 400-gal ) Water Tank |
| Hose Repairing Machine  | Stirrup Pump for Fire Brigade Use   |
| Hose Binding Machine  | Combined Foam and CO <sub>2</sub> Crash Tender  |
| Adapters  |   |
| Dividing and Collecting Breeches ( Hand Controlled )                            | Foam Crash Tender, Large  |
| Hook Spanner, Peg Spanner, Coupling Wrenches and Rebated Slots, Holes and Horns | Foam Crash Tender, Small  |
| Portable Chemical Fire Extinguishers, Foam Type                                 | CO <sub>2</sub> Crash Tender  |
| Portable Chemical Fire Extinguishers, Soda Acid Type                            | Dry Powder Crash Tender   |
| Portable Chemical Fire Extinguishers, Carbon Tetra Chloride Type                | Rescue Tender   |
| Extension Ladders for Fire Fighting   | Control Post Van for Fire Brigade Use   |
| Hook Ladder for Fire Fighting   | Hose Laying Tender  |
| Wheeled Fire Escape   | Crow's Foot Coupling  |
| Fire Extinguishers, CO <sub>2</sub>   | First Aid Box   |
| Fire Extinguishers, Dry Powder Chemical   | Small Fire Engine   |
| Fire Extinguishers, Water Type  | Towing Tender for Trailer Pump for Fire Brigade Use                                     |
| Fire Extinguishers, CBM Type  | Self-Contained Breathing Apparatus for Fire Brigade Use                                 |
| Fire Extinguishers, Bucket Pump Type  | Electric Motor Sirens for Fire Brigade Use  |
| Mechanically Operated Turn-Table Ladder for Fire Brigade Use                    | Firemen's Helmets   |
| 680-l/min ( or 150-gal/min ) Trailer Pump for Fire Brigade Use                  | Oxy-Acetylene Cutting Set Used in Fire Services   |
| 1 800-l/min ( or 400-gal/min ) Trailer Pump for Fire Brigade Use                | Snatch Block Single Sheave for Fire Brigade Use   |
|   | Screw Jacks, 5-Ton for Fire Brigade Use   |
|   | 3-Ton Lifting Tackle  |
|   | Chain Tackle  |
|   | Quick-Closing Clack Valve   |



## 4. TEXTILE DIVISION

4.1 The Textile Division formulated 26 Indian Standards for the various sectors of the textile industry. Among the standards published or under print, mention may be made of the standards on glossary of textile terms used in cotton, wool, jute, silk and man-made fibre industries; sisal ropes; cotton tubular banding; and a series of standards on handloom fabrics.

4.2 The new subjects, which were included in the programme of work, related to umbrella colth; method for determination of whiteness of cotton materials; method for determination of lustre in cotton materials; glossary of terms for describing fibre content of fabrics containing wool; glossary of terms for describing fibre content of fabrics containing silk; blanket, woollen, scarlet; linen braided cordages for aeronautical purposes; and linen sewing thread for aeronautical purposes.

4.3 A brief account of the work accomplished in various fields of the textile industry is given below:

**Physical Methods of Tests** — The following draft Indian Standards were finalized:

Methods for Determination of Ends and Picks per Centimetre of Woven Woollen Fabrics ( IS: 682-1958 )

Method for Determination of Weight per Square Metre and Weight per Linear Metre of Wool Fabrics ( IS: 683-1958 )

Glossary of Textile Terms Relating to Various Types of Fabrics Made From Man-Made Fibres or Filaments ( IS: 1324-1958 )

Glossary of Textile Terms Relating to Man-Made Fibres or Filaments ( IS: 1325-1958 )

Method for Determination of Linear Density or Count of Cotton Yarn in tex Units ( *Revision* of IS: 237-1951 )

Method for Determination of Clean Wool Yield of Raw Wool

Method for Determination of Mean Fibre Length of Raw Wool

Method for Determination of Kemp Content of Raw Wool

Of the standards mentioned above, the first four along with the Indian Standard Glossary of Textile Terms ( IS: 232-1958 ) were under print.

### Work in Hand

Method for Determination of:  
Universal Count of Yarn Removed  
from Cotton Fabric

Tensile Strength of Cotton Fibres  
( Flat Bundle Method )

Breaking Load (Strength) and  
Elongation of Single Thread of  
Cotton Yarn ( by constant-rate-  
of-traverse machine )

Fibre Immaturity Count: Polarizing  
Microscopy Method

Crimp in Wool in the Fleece

Method for Determination of:  
Length and Width of Jute  
Fabrics

Porter and Shots per Inch of Jute  
Fabrics

Weight per Linear Yard ( or Linear  
Metre ) of 40 in. Width and  
Weight per Square Yard ( or  
Square Metre ) of Jute Fabrics

Whiteness of Cotton Materials

Regularity and Evenness of Yarn

Lustre in Cotton Materials



Method for Determination of: Napiness in Cotton Upper Half Mean Length of Cotton Fibres by Fibrograph and by Uster Stapling Apparatus Moisture Content of Worsted and Woollen Yarns	Definitions of Terms Relating to Types of Fabrics Produced by the Jute Industry
Definitions of Terms Relating to Types of Fabrics Produced by the Cotton Industry	Definitions of Terms Relating to Types of Fabrics Produced by the Silk Industry
Definitions of Terms Relating to Types of Fabrics Produced by the Wool Industry	Glossary of Terms for Describing Fibre Content of Fabrics Contain- ing Silk
Method for Determination of: Moisture Content of Worsted and Woollen Yarn	Method for Determination of: Denier (or Melidity in tex) of Silk Yarn
Count (or Yarn Melidity in tex) of Woollen and Worsted Yarn	Ends and Picks in Woven Silk Fabrics
Breaking Load (Strength) and Elongation of Woven Wool Fabri- rics (by constant-rate-of-traverse machine)	Silk Fabric Dimensions Weight per Square Yard and Weight per Linear Yard of Silk Fabrics
Wool Fabric Dimensions	Breaking Load (Strength) and Elongation of Woven Silk Fabrics (by constant-rate-of-traverse machine)
Twist in Woollen and Worsted Yarn	Crimp of Yarn in Cloth
Glossary of Terms for Describing Fibre Content of Fabrics Contain- ing Wool	Weight of Warp and Weft Free from Added Matter per Unit Area of Cloth
Count of Yarn Removed from Fabric Free from Added Matter	Yarn Structure

**Chemical Methods of Tests** — The following draft Indian Standards were finalized:

Methods for Determination of Colour Fastness of Textile Materials to Bleaching with Sodium Chlorite ( IS: 987-1958 )

Method for Determination of Dimensional Change on Washing of Fabrics Woven from Rayon and Synthetic Fibres Not Liable to Felting ( IS: 1299-1958 )

Method for Determining Shrinkage of Knitted Goods Containing Wool ( IS: 1313-1958 )

Detection and Estimation of Damage in Cotton Fabrics Due to Micro-Organisms ( IS: 1316-1958 )

Methods for Testing Cotton Fabrics for Resistance to Attack by Micro-Organisms

Methods for Testing Cotton Cordages for Resistance to Attack by Micro-Organisms

All except the last two standards listed above were under print.

#### **Publications**

IS: 865-1958 Method for Determination of Colour Fastness of Textile Materials to Decatizing

IS: 982-1958 Method for Determination of Colour Fastness of Textile Materials to Carbonizing with Aluminium Chloride

IS: 983-1958 Method for Determination of Colour Fastness of Textile Materials to Alkaline Milling

## Work in Hand

### Methods for:

- Quantitative Estimation of Fibres and Their Mixtures
- Determination of pH Value of Aqueous Extract of Textile Materials
- Determination of Scouring Loss in Grey and Finished Cotton Textile Materials
- Determination of Colour Fastness of Textile Materials to Chlorinated Water
- Determination of Strength of Anthraquinonoid Type Vat Dyes
- Testing Jute Fabrics for Resistance to Attack by Micro-Organisms
- Testing Jute Cordages for Resistance to Attack by Micro-Organisms
- Detection and Estimation of Common Antiseptics
- Estimation of Residual Chlorine in Cotton Materials
- Determination of Barium Activity Number
- Determination of Absorbency

### Methods for:

- Determination of Residual Nitrogenous Matter
- Determination of Colour Fastness of Textile Materials to Washing in Presence of Sodium Hypochlorite
- Determination of Colour Fastness of Textile Materials to Gas Fumes
- Determination of Shrinkage on Washing of Woven Silk Fabrics
- Identification of Water-Proof, Mildew-Proof, Rot-Proof and Fire-Proof Finishes on Textiles
- Assessing Relative Efficiency of Detergents
- Determination of the Amount of Size Left in the Cloth After Desizing
- Measuring Leakage of Water Under Constant Hydrostatic Pressure
- Determination of Resistance of Fabrics and Yarns to Insect Pests

**Cotton Yarn and Fabrics** — Two amendments to IS: 174-1951 and IS: 175-1951 were published during the year.

## Work in Hand

- Amendment No. 1 to IS: 171-1951 Specification for Cotton Yarn, Grey (*Tentative*)
- Amendment No. 1 to IS: 179-1951 Specification for Dosuti (*Tentative*)
- Cotton Duck, Scoured, Dyed or Waterproofed
- Cotton Gaberdine, Bleached
- Cotton Mosquito Netting, Round Mesh, Dyed
- Cotton Canvas, Scoured, Dyed or Waterproofed

- Code for Seaworthy Packaging of Cotton Textiles (Draft *Revision* of IS: 293-1951)
- Code for Inland Packaging of Cotton Textiles
- Cotton Calico, Bleached or Dyed
- Cotton Lining Cloth
- Cotton Sewing Thread
- Tape Newar
- Embroidery Cotton Thread
- Twill Cotton
- Umbrella Cloth

**Textile Materials for Aircraft** — Two draft Indian Standard Specifications were finalized; one for braided cotton cord; and the other for cotton sewing thread for aeronautical purposes.

## Work in Hand

- Flax Webbing for Aeronautical Purposes
- Cotton Webbing for Aircraft Safety Belts
- Jute Webbing for Aeronautical Purposes
- Tape Cotton for Aeronautical Purposes

- Tape Silk for Aeronautical Purposes
- Thread Silk for Aeronautical Purposes
- Thread Linen for Aeronautical Purposes
- Cord Elastic for Aeronautical Purposes

## Jute and Jute Fabrics

### Work in Hand

A-Twill Jute Bags for Packing Sugar      Packing Jute Manufactures in Bales,  
Indian Hessians      Trusses and Bundles

**Woollen and Worsted Fabrics**—Two amendments to IS: 677-1955 and IS: 678-1955 were published during the year.

### Work in Hand

Worsted Lohis	Worsted Suitings ( Special )
Super Shawls	Hand-Woven Woollen Carpets ( South India ) for Export
Woollen Rugs	Woollen Carpets and Woollen Rugs ( Floor Coverings ) such as are Made in Rajasthan, Agra, Gwalior, etc, for Export
Worsted Suitings	Cloth, Baize
Summer Suitings	Felt
Woollen Coating	Cloth, Blanket
Tweed	Serge, Blue Worsted
Union Suitings	Serge, Drab Mixture, Water Resistant
Woollen Flannel for Trousering	
Worsted Shirting	
Blazer Cloth	
Woollen Blankets	
Worsted Suitings ( Piece Dyed )	

## Handloom Fabrics ( Cotton and Wool )

### Publications

IS: 1240-1958 Handloom Cotton Nainsook, Bleached or Dyed  
IS: 1241-1958 Handloom Cotton Calico, Bleached  
IS: 1242-1958 Handloom Cotton Shirting, Bleached, Dyed, Striped, Checked or Printed  
IS: 1243-1958 Handloom Cotton Coating, Bleached, Dyed, Striped or Checked  
IS: 1244-1958 Handloom Cotton Long Cloth, Bleached or Dyed  
IS: 1245-1958 Handloom Cotton Pyjama Cloth, Grey and Striped  
IS: 1246-1958 Handloom Cotton Curtain Cloth, Bleached, Dyed, Striped, Checked or Printed  
IS: 1247-1958 Handloom Cotton Madras Check  
IS: 1265-1958 Handloom Woollen Tweed  
IS: 1266-1958 Handloom Serge  
IS: 1267-1958 Handloom Worsted Raffal Shawls  
IS: 1268-1958 Handloom Worsted Lohis

### Work in Hand

Handloom Cotton Floor Durries	Handloom Cotton Tussore, Bleached or Dyed
Handloom Cotton Bed Durries	Cotton Yarn, Grey for Handlooms
Handloom Cotton Twills, Bleached or Dyed	Handloom Silk Fabrics
Handloom Cotton Drills, Bleached or Dyed	Handloom Rayon Fabrics
Handloom Cotton Poplin, Bleached or Dyed	Handloom Staple Fabrics
	Handloom Furnishing Fabrics
	Handloom Tapestry Cloth

**Coir and Coir Products**—Since the Coir Industry is mostly concentrated in Kerala State, the work pertaining to coir and coir products was transferred to the Madras Branch Office, so that it could be followed up more effectively from there.



### Work in Hand

Anjengo Yarn

Coir Mats

Coir Matting

**Rayon Yarn and Fabrics** — Draft Indian Standards on the following items were circulated for eliciting comments:

Rayon Tafetta  
Rayon Crepe  
Rayon Satin and Sateen  
Rayon Half Crepe Sari Cloth  
Rayon Georgette  
Rayon Voils, Ninons and Chiffons  
Rayon Linen  
Rayon Sari Cloth  
Rayon Half Crepe  
Rayon Crinkle Georgette  
Rayon Jacquard Fabrics  
Rayon Baby Sharkskin  
Rayon Sharkskin



### Work in Hand

Methods for Determination of Such Characteristics as Sulphur Content, Appearance, Milkiness, etc, in Rayon Yarn and Acetate Yarn

Grading of Continuous Filament Rayon Yarn and Acetate Yarn

**Ropes and Cordages** — Indian Standard Specifications for Hawser-Laid, Shroud-Laid and Cable-Laid Sisal Ropes, and Hawser-Laid, Shroud-Laid and Cable-Laid Coir Ropes were finalized for publication.

### Work in Hand

Hemp Ropes and Cordages  
Jute Ropes and Cordages

Cotton Ropes and Cordages

**Textile Sizing and Finishing Materials** — The draft Indian Standard Specification for Tapioca Starch for Use in the Cotton Textile Industry was approved for general circulation.

**Hosiery Yarn and Knitted Garments** — Efforts were continued to resolve the problem of oversized marking of knitted vests through correspondence with technical institutions in the country in order to develop a suitable device for measuring the size of vests.

### Work in Hand

#### *Cotton Hosiery:*

Plain Knit Underwear  
Interlock Underwear  
Interlock Outerwear

#### *Woollen Hosiery:*

Socks  
Jerseys and Pullovers  
Gloves, Knitted  
Vests, Woollen  
Drawers

#### *Woollen Hosiery:*

Comforters  
Stockings  
Hose Tops  
Cardigans  
Mufflers  
Slip-Overs  
Pullovers  
Gents and Ladies Garments  
Scarves

Jerseys, Natural Grey

**Textile Mill Stores** — Further efforts were made to collect dimensional data, particularly for shuttles for plain and calico looms, shuttles for automatic looms, ring rabbeth bobbins, weft pirns flyer bobbins and skewer, and buffer bands for automatic looms.

**Publication**

IS: 1274-1958 Cotton Tubular Banding to Drive Spindles for Cotton Textile Mills

**Work in Hand**

6-in. Lift Varnished and Enamelled Ring Rabbeth Bobbins for Cotton Mills	Cotton Healds for Use in Cotton Looms
Picking Sticks for Cotton Looms	Pitch Bound Wire Reeds for Use in Cotton Looms
Shuttles for Plain Calico Looms	Wire Reeds for Use in Jute Looms
Shuttles for Automatic Looms	Cotton Healds for Use in Jute Looms
Spring Buffers	Fluted Rollers
Pickers	Spindles
Buffer Bands for Automatic Looms	Spindle Tapes

**Textile Machinery**

**Work in Hand**

Plain Calico Looms and Their Component Parts	Hand Driven Socks Knitting Machines
Ring Frame and Its Important Parts	Power Driven Socks Knitting Machines
Carding Engine and Its Component Parts	Power Driven Outer Wear Machines

**Wicks for Oil Burning Domestic Appliances**

**Work in Hand**

Flat Wicks for Hurricane Lanterns	Round Wicks
Circular Wicks	

**Sampling** — Reported under 10.6 (see p. 62).

**5. CHEMICAL DIVISION**

**5.1** The Division gave a very high priority to the formulation of Indian Standards for metal containers in metric sizes and to the adoption of standard temperature for measurement of petroleum and its products. Efforts were also intensified to meet the increasing demand for chemical standards particularly those concerning tariff protected and consumer articles, such as calcium carbide, sheet glass, oleic acid, stearic acid, foot-wears, boot polishes, inks, raw materials for cosmetics, etc. In regard to the work on compilation of suitable alcoholometric tables, it was decided to replace the proof system of expressing strength of alcoholic solutions by the volumetric system based on Gay Lussac Tables, besides adopting a test temperature of 27°C and a reference temperature of 15°C.

**5.2** Among the subjects covered by the published standards, mention may be made of 18-litre square tins, which would replace the 4-Imperial gallon rectangular container of KO type; code of symbols for labelling dangerous goods; rubber-lined woven jacketed hose for fire fighting services; and common salt for animal consumption.



5.3 A brief account of the Division's work is as follows:

**Comparative Study of Terminology, Indicators, Test Procedures, etc, Prescribed in Indian Standards** — With a view to ensuring uniformity in Indian Standards on chemical subjects, a working document, prescribing methods of preparation of volumetric indicators, was prepared and sent to different analytical laboratories for comments. The question of adopting modern methods of test, which are generally more accurate, quick and convenient, and of formulating glossary of terms used in general chemistry, were under consideration.

**Alcohol and Allied Products**—Under discussion was the question of development of suitable indigenous denaturants to replace the imported denaturants, namely pyridine base and light caoutchoucine which were recommended in the draft revision of Indian Standard Specification for Denatured Spirit (IS: 324-1952). In this connection, though the work regarding the utilization of neem seed and oil—first initiated at the Banaras Hindu University and later intensively developed at the National Chemical Laboratory, Poona—was available, it was felt that further investigations, with regard to their suitability as complete denaturants, should be carried out at the Harcourt Butler Technological Institute and by the Chemical Examiner to the Government of Uttar Pradesh.

#### Work in Hand

Revision of IS: 323-1952 Rectified Alcoholometric Tables  
Spirit

**Acids and Fertilizers** — With a view to assisting agriculturists and other consumers in the procurement of suitable quality of fertilizers, as also to give impetus to manufacturers to produce other types of fertilizers, the formulation of specifications on urea, ammonium sulphate-nitrate, calcium ammonium nitrate, etc, were undertaken; a draft specification on urea was also circulated for comments.

In India, the pattern of production of sulphuric acid has been changed, the material now being manufactured mainly by contact process. Accordingly, attempts were made to revise the Indian Standard Specification for Sulphuric Acid (IS: 266-1950) to align it with the changing pattern of production.

#### Publication

IS: 1304-1958 Glossary of Terms Used in Fertilizer Trade

#### Work in Hand

Amendment No. 1 to IS: 798-1955 Orthophosphoric Acid	Ammonium Sulphate-Nitrate (Compound Fertilizer)
Amendment No. 1 to IS: 1022-1956 Kotka Phosphate	Ammonium Sulphate-Phosphate (Mixed Fertilizer)

**Alkalis and Chlorine** — Salt forms an essential ingredient in the food for the cattle. The Estimates Committee of the Lok Sabha, therefore, felt the necessity of laying down Indian Standards for common salt for live stocks. Two specifications, one on Common Salt for Animal



Consumption (IS: 920-1958) and the other on Cattle Licks (Plain and Mineralized) (IS: 1291-1951) were published. It is expected that these standards would help manufacture of an acceptable quality of common salt required as a cattle feed.

A suggestion from the Bengal Glass Manufacturers' Association, proposing that chloride content in IS: 251-1950 Specification for Soda Ash, Technical, should be brought down to the maximum of 0.5 percent, was referred to the Central Glass and Ceramic Research Institute for their expert advice. Further, work on formulation of Indian Standards on dairy salt, table salts and ammonium bicarbonate was taken up.

#### Publications

Amendment No. 2 to IS: 252-1950 Caustic Soda, Technical  
IS: 1314-1958 Anhydrous Calcium Chloride, Technical  
IS: 1334-1958 Calcium Chloride, Technical

#### Work in Hand

Methods of Sampling and Test for Quick Lime and Hydrated Lime	Hydrated Lime for Grease Manufacture
Quick Lime and Hydrated Lime for Chemical Industry	Stannic Chloride Table Salt, Free Flowing

**Fine Chemicals** — In the past few years there has been a pressing demand for the formulation of Indian Standards for electroplating salts, especially after the import of these salts has been restricted. On the basis of experience of the industry as well as of consumers, a proposed draft Indian Standard Specification for Nickel Salts for Electroplating Industry was prepared.

In order to help the production of calcium carbonate on sound lines, specifications for activated calcium carbonate for rubber industry and calcium carbonate for tooth-paste and cosmetic industries were recently finalized and were under print.

#### Work in Hand

Amendment No. 1 to IS: 557-1954 Sodium Acetate, Technical and Photographic	Vegetable Tallow Stabilized Hydrogen Peroxide, Technical
Tricalcium Phosphate for Dentifrice	Benzene, Reagent Grade
Dicalcium Phosphate for Dentifrice	Toluene, Reagent Grade
Precipitated Calcium Carbonate, Grade 2	

**Miscellaneous Chemicals** — Work on some raw materials required by the expanding Indian pyrotechnic and synthetic detergents industry was undertaken. The work being carried out on sampling of gypsum is reported under 10.6 (see p. 62).

#### Publications

IS: 505-1958 China Clay for Rubber Industry  
IS: 1288-1958 Methods of Test for Mineral Gypsum

## Work in Hand

Amendment No. 2 to IS: 261-1950 Copper Sulphate, Technical	Light Magnesium Carbonate for Rubber Industry
Amendment No. 1 to IS: 301-1951 Potassium Nitrate, Technical	Talc for Cosmetic Industry Kaolin for Cosmetic Industry
Amendment No. 1 to IS: 380-1952 French Chalk	Compressed Hydrogen Nitrogen, Technical
Amendment No. 1 to IS: 574-1954 Glossy Sodium Metaphosphate	Gypsum Basic Magnesium Carbonate for Insulation Purposes
Amendment No. 1 to IS: 877-1956 Activated Carbon	Liquid Sulphur Dioxide Iron Powder (Reduction Grade)
Amendment No. 1 to IS: 1109-1957 Borax, Technical	Aluminium Powder, Light and Heavy Magnesium Powder
Revision of IS: 1040-1957 Calcium Carbide, Technical	Sodium Hydrosulphite, Technical

**Rubber Products**—Four draft standards, one on latex foam products and three on raw materials for rubber industry (pigments), namely whiting, red iron oxide, and barytes were put into circulation.

## Publications

IS: 636-1958 Rubber-Lined Woven Jacketed Hose for Use in General Fire Fighting Services
IS: 911-1958 Braided Air Hose, Heavy Duty
IS: 912-1958 Braided Air Hose, Light Duty
IS: 913-1958 Braided Water Hose, High Pressure
IS: 914-1958 Braided Water Hose, Low Pressure

## Work in Hand

Braided Spray Hose, High Pressure for Agricultural Purposes	Delivery Hose, Flax or Cotton Burnettized for Fire Fighting Services
Water Suction Hose	Ebonite
Unlined Flax Water Hose	Titanium Dioxide, Anatase Type
Armoured Suction Hose for Fire Fighting Services	Zinc Oxide, Red Seal Yellow Iron Oxide Hot Water Rubber Bags

**Paints**—The Panel for studying the existing Indian Standards, on paints, which are more than 200 in number, has been holding frequent meetings to examine the standards for their compatibility as to the requirements of composition *vis-a-vis* performance tests and to suggest the necessary changes. To start with, the Panel took up the revision of the series of standards on ready mixed paints. The two Indian Standards, namely (a) on cellulose nitrate, esters soluble, for use in the manufacture of clear and pigmented lacquers, and (b) on glossary of terms relating to paints, were under print.

## Publications

Amendment No. 1 to IS: 102-1950 Ready Mixed Paint, Brushing, Red Lead, Nonsetting, Priming
Amendment No. 1 to IS: 350-1952 Insulating Oil Varnish, Clear, Baking
Amendment No. 1 to IS: 351-1952 Insulating Varnish, Baking, Bitumen Type
Amendment No. 1 to IS: 352-1952 Insulating Spirit Varnish, Clear, Air-Drying
Amendment No. 1 to Insulating Varnish, Non-Alcoholic, Clear, Air-Drying



### Work in Hand

Amendment No. 1 to IS: 57-1950  
Red Lead for Paints and Jointing  
Purposes

Amendment No. 1 to IS: 105-1950  
Ready Mixed Paint, Brushing, Priming,  
for Enamels, for Use on Metals

Amendment No. 1 to IS: 197-1952  
Methods of Test for Varnishes and  
Lacquers

Revision of:

IS: 62-1950 Graphite for Paints  
Thinner for Cellulose Nitrate, Paints and Lacquers

Revision of :

IS: 101-1950 Methods of Test for  
Ready Mixed Paints and Enamels  
IS: 384-1954 Brushes, Paints and  
Varnishes, Flat

Black Japan, Type C

Anti-Corrosive Paint, Brushing, for  
Ships Bottom and Hulls, Red,  
Chocolate or Black as Required

Anti-Fouling Paint, Brushing for Ships  
Bottom and Hulls, Red or Black  
as Required, Type A and Type B

**Glassware** — On the recommendations of the Tariff Commission, the work on sheet glass and glass containers for preserved fruit industry was given priority. Two draft standards, one on transparent sheet glass and the other on glass containers for fruit preserves, were awaiting finalization.

### Publications

IS: 915-1958 One-Mark Graduated Flasks

IS: 1117-1958 One-Mark Pipettes

### Work in Hand

Revision of IS: 489-1954 Glass Ampoules

Glass Filter Funnels

Filter Flasks

Boiling Flasks (Narrow Necked)

Reagent Bottles

Distilling Flasks

Separating Funnels

Petri Dishes

Test Tubes

Weighing Bottles

Beakers

Burettes

Glass Stop Cocks

Floating Dairy Thermometers

Penicillin Vials

Colours for Signal Glassware

Liquid Gold

Tables for Use in the Calibration of  
Volumetric Glassware

Terminology for Glassware

**Essential Oils** — Out of the 15 new subjects taken up last year, thirteen draft standards were approved for circulation, the most important being a draft standard on vetiver oil covering the oil derived from the cultivated plants. Further, it was decided (a) to include carbonyl value in IS: 326-1952, as an index of the aldehyde and ketone content of essential oils, and (b) to introduce in Indian Standards on essential oils and related products a suitable clause pertaining to their odour assessment and a method for olfactory test.

### Work in Hand

Amendment No. 1 to IS: 327-1952

Lemongrass Oil (East Indian

Lemongrass Oil)

Amendment No. 1 to IS: 512-1954

Citronella Oil

*Natural Isolates:*

Citral, Pure

Citral, Technical

*Natural Isolates:*

Citronellol

Geraniol

Ionones

*Essential Oils:*

Bergamot Oil

Celeryseed Oil

Himalayan Cedarwood Oil

Clove Oil



*Essential Oils:*

Dill (*Sowa*) Oil  
Oil of Lavandin  
Oil of Lavender — French  
Oil of Spike Lavender

*Essential Oils:*

Patchouli Oil  
Pine Oil  
Pine Oil, Synthetic  
Rosemary Oil

**Inks and Allied Products** — In view of the Government of India's policy of restricting imports of dyes and chemicals, work on a programme for formulating specifications for dyes and other chemicals required by the ink industry was initiated.

**Publications**

Amendment No. 2 to IS: 220-1950 Fountain Pen Inks, Blue-Black  
Amendment No. 2 to IS: 1331-1958 Ink, Duplicating, All Weather, Black, for Drum Type Machines

**Work in Hand**

Ink, Stencil for Marking Non-Porous Surfaces, Colour as Required  
Ink, Metal Stamp

Ink, Finger Printing  
Carbon Paper for Typewriters

**Coal and Coke**

**Work in Hand**

Methods of Test for Proximate Analysis: Moisture, Volatile Matter, Ash Fixed Carbon, Sulphur and Calorific Value

Methods of Test for Ultimate Analysis: Carbon, Hydrogen and Nitrogen

Methods of Test for Special Impurities: Phosphorus, Chlorine, Carbonate, Forms of Sulphur and Arsenic

Methods of Test for Coal for Carbonization: Caking Index, Swelling Properties, Gray-King Assay Coke Type

Methods of Test for Coke (Special Tests): Shatter, Micum, Haven, Bulk Density, True Specific Gravity, Apparent Specific Gravity and Porosity

Methods of Test of Ash of Coal and Coke: Analysis, Fusibility and Conversion to Mineral Matter

**Paper** — Draft specifications for blotting paper, water-proof packing paper, kraft paper and paper for electrical purposes were finalized for circulation. IS: 1060 (Part I)-1956 Methods of Sampling and Test for Paper and Allied Products, Part I, covers the more common types of tests for paper, but not tests for special purposes. This second group of tests has now been incorporated in a draft document, which was got ready for circulation.

**Work in Hand**

Base Paper for Sensitized Paper  
Paper Board

Paper for Permanent Government Records

**Leather and Leather Goods** — With a view to helping the small-scale industry in producing footwear of dependable quality, the work on the formulation of standards for superior, popular and utility qualities of men's, women's and children's shoes was taken up. These standards, when published, will also give a fillip to the export trade.

The controversy, which had arisen about the desirability of formulating an Indian Standard on East India Tanned Leather, was resolved with the co-operation of industrial units. The draft standard, based on

the leather substance, was ready for circulation. Further, investigation was being conducted to assess the need of formulating Indian Standards for some of the consumer leather goods, such as portfolios, suit cases, shoe laces, holdall straps, etc.

#### Publication

IS: 1273-1958 Leather Pump Buckets Made from Chrome Tanned Leather

#### Work in Hand

Amendment No. 1 to IS: 1017-1957	Cycle Saddle Leather
Chamois Leather	Chrome Waxed Sole Leather
Glossary of Terms Relating to Hides, Skins and Leather	Men's Shoes, Superior Quality
Sizes and Fittings of Footwear	Men's Shoes, Popular Quality
Revision of IS: 582-1954 Methods of Sampling and Test of Chrome Tanned Leathers	Men's Shoes, Utility Quality
	Wax Shoe Polish

**Plastics** — Tests on improved varieties of indigenous phenol-formaldehyde moulding powders and the samples of imported materials were carried out at the National Physical Laboratory, NPL, and the National Chemical Laboratory, NCL, for a comparative study. The mouldings for the tests carried out at NPL were prepared by Shri Ram Institute for Industrial Research, Delhi. In order to arrive at acceptable limits, it was decided that the ISI Directorate should examine the mechanical and electrical characteristics of the test results.

A survey was in hand to determine the desirability of formulating Indian Standards on treated varieties of CNSL. Besides, priority was given to the formulation of a standard on PVC coated fabrics, because of their high export potentiality.

The second part of the Indian Standard Methods of Sampling and Test for Phenolic Moulding Materials [IS: 867 (Part II)-1959] and Indian Standard Specification for Phenol-Formaldehyde Moulding Powder for General Purposes (IS: 1300-1959) were under print.

#### Work in Hand

Methods of Test for Plastic Buttons	Paper Base Thermosetting Synthetic Resin Bonded Laminated Sheets
Plastic Buttons	Fabric Base Thermosetting Synthetic Resin Bonded Laminated Sheets
Cellulose Nitrate for Leather Cloth	Decorative Thermosetting Synthetic Resin Bonded Laminated Sheets
Polystyrene Moulding Material	Unsupported PVC Sheets
Methods of Test for Thermosetting Synthetic Resin Bonded Laminated Sheets	

**Classification and Labelling of Dangerous Goods** — At the international level, ISO had set up a committee on Pictorial Marking of Handling Instructions for Goods, of which the Secretariat was entrusted to India. The work was divided into two broad categories, namely (a) marking of cargo containing dangerous goods, and (b) marking of cargo containing non-dangerous goods. The work concerning (a) has so far been dealt with by the Classification and Labelling of Dangerous Substances Sectional Committee, CDC 18, which evolved an Indian Standard



Code of Symbols for Labelling of Dangerous Goods, IS: 1260-1958. The work on (b) was handled by the Cargo Marking Sectional Committee, EDC 37, under the Engineering Division Council. In view of the international commitments, the work on symbols for 'dangerous' and 'non-dangerous' goods was grouped together and assigned to one Committee, namely EDC 37.

#### Work in Hand

Classification of Dangerous Goods

**Petroleum** — Every effort was made to keep pace with the new and fast developments in the petroleum industry, and to meet the changing pattern of demand of petroleum products in the country. The need for giving priority to the adoption of uniform methods of test for petroleum and its products was keenly felt and the first series of standards covering 10 general methods of test for petroleum and its products was finalized. Besides, draft Indian Standards on kerosine, diesel fuels, measurement of temperature and gauging of petroleum products, and aviation and motor spirits have been approved for wide circulation.

Regarding the adoption of a standard temperature for measurement of petroleum and its products, 15°C was recommended as standard reference temperature for measurement of volume of petroleum and petroleum products for all purposes, such as stock accounting, bulk oil transactions and collection of revenues by the Government, volume measurement of petroleum products for internal trade continuing to be at natural temperatures. It was also recommended that the ASTM-IP Tables be accepted as standard reference tables for all measurements of petroleum and petroleum products. These recommendations were before the Government of India for their consideration.

#### Work in Hand

Oil, Mineral, Colza	Tank Calibration
Furnace Oils	Vaporizing Oil
Special Boiling Point Spirits and Solvents	Aviation Turbine Fuels

**Water** — Hydrological data were collected from various laboratories, municipal corporations and other important organizations. The collected data were being studied with a view to formulating Indian Standards for potable and industrial waters and their treatments. Work was also initiated for the collection of data regarding the cleanliness of river waters and the reduction of polluting effect of the trade wastes and effluents of factories.

#### Work in Hand

Revision of IS: 1070-1957 Distilled Water	Code of Practice for Water for Land Boilers
Methods of Sampling and Test for Industrial Water (Physical and Chemical), Parts I and II	Code of Practice for Water for Marine Boilers
	Methods for Bacteriological Analysis of Potable Water



## Ceramicware

### Work in Hand

Terminology  
Enamelware  
Laboratory and Hospital Porcelain

Stoneware Containers  
Dinnerware  
Ceramic Raw Materials

**Metal Containers** — In view of the Government of India's proposal to introduce the metric system in the vanaspati (hydrogenated vegetable oil) industry from 1 April 1960, top priority was given to the question of formulating an Indian Standard for Round Vanaspati Tins. The draft standard which covers four sizes, 4 kilo, 2 kilo, 1 kilo and 0.5 kilo, was circulated for comments. Besides, four draft standards on drums and kegs, rectangular tins, round tins and glossary of terms relating to metal containers trade, were circulated. The draft standard on drums and kegs, when published as an Indian Standard, would supersede IS: 442-1954 Drums for Paints and IS: 618-1956 Kegs (Open Top Drums) for Paints.

### Publication

IS: 916-1958 18-Litre Square Tins

### Work in Hand

Mild Steel Drums Large (Heavy Duty—Fixed Ends)      Mild Steel Drums Large (Light Duty—Fixed Ends)  
Collapsible Tubes

**Lubricants** — The draft revisions of IS: 311-1951 Steam Cylinder Oils and IS: 317-1951 Automotive Hydraulic Brake Fluid were circulated for comments.

### Publications

IS: 958-1958 Temporary Corrosion Preventive, Grease, Soft Film, Cold Application  
IS: 1012-1958 Steam Turbine Lubricating Oils  
IS: 1276-1958 Grease, S. No. 2  
IS: 1277-1958 Gear Lubricant, Regular

### Work in Hand

Amendment No. 1 to IS: 719-1955 Grease S/L No. 1      Oil, Hydraulic, Mineral, Oil Type Grease Graphited for Leaf Spring  
Sulphurized Cutting Oil      Oil, Lubricating, Axle, Premium  
Quenching Oil      Oil, Lubricating, Axle, Regular  
Temporary Corrosion Preventive, Fluid, Soft Film, Solvent Deposited      Open Gear and Wire Rope Lubricants

**Treated Fabrics** — Efforts were made to expedite formulation of draft standards on tarpaulins and tracing cloth; it was hoped that draft standards would soon be issued for circulation.

### Work in Hand

Cellulose Nitrate Coated Fabrics

**Oils, Fats and Soaps** — A collaborative scheme was instituted for the collection of authentic samples of sardine oil and for testing them at the laboratories of M/s Hindustan Lever Ltd., Bombay; Department of

Fisheries, Government of Bombay; Fisheries Department, Government of Kerala; and the Benaras Hindu University with a view to collecting physico-chemical data.

Further investigations were undertaken with regard to the use of shark liver oil in industries (other than pharmaceutical), especially in leather.

#### Work in Hand

Mutton Tallow	Methods of Test for Crude and Refined Glycerine
Crude and Refined Glycerine	Bleaching Earth of Indian Origin
Oleic and Stearic Acids	

## 6. AGRICULTURAL AND FOOD PRODUCTS DIVISION

6.1 The Division continued its efforts to formulate standards for a number of important subjects relating to foodgrain storage structures; layout for regulated market yards; sugar; edible starches and cereal products; dairy products; yeast; cigarettes; animal feeds; beekeeping equipment; dairy laboratory apparatus and glassware; and pest control products and equipment. Work was also taken up on livestock housing, and meat and meat products.

Accepting the proposals of the Ministry of Food and Agriculture and the Development Commissioner, Small-Scale Industries, regarding the formulation of standards for farm implements and machinery, the Division Council at its meeting held on 26 March 1959, set up a Farm Implements and Machinery Sectional Committee for undertaking the work. On the basis of the investigation carried out in the country, the Council also agreed to undertake the formulation of standards for butter colour and other food colours for which the Food Colours Sectional Committee was set up.

6.2 In all, 45 new subjects were included in the programme of work, and 22 new standards (including 3 revised standards) were either published or under print.

6.3 A brief account of the work done by the Division is given below:

**Layout for Regulated Market Yards and Foodgrain Storage Structures** — The draft Indian Standard Layout for Regulated Market Yards for Agricultural Commodities was approved for circulation, and the code of practice for construction of foodgrain storage structures suitable for trade and government purposes for the *Northern Region* was finalized.

#### Work in Hand

Code of Practice for Construction of Pev Type Underground Rural Foodgrain Storage Structures	Prefabricated Aluminium Foodgrain Storage Bins
Code of Practice for Construction of Foodgrain Storage Structures Suitable for Trade and Government Purposes for the <i>Central Region</i>	Prefabricated Aluminium Seed Grain Storage Bins

**Sugar** — Three draft Indian Standards, namely for cube sugar, cane molasses and sugar for use in Fruit Processing Industry, were considered

for finalization, but the draft standard for sugar for use in Fruit Processing Industry could not be finalized as some additional information had to be collected.

#### **Publications**

- IS: 499-1958 Methods of Test for Vacuum Pan Sugar ( Plantation White )
- IS: 1151-1958 Refined Sugar
- IS: 1162-1958 Cane Molasses

#### **Work in Hand**

- Amendment No. 1 to IS: 498-1953 Grading for Vacuum Pan Sugar

### **Confectionery, Edible Starches, Cereal Products, Yeast, etc**

#### **Publications**

- IS: 1163-1958 Covering Chocolate
- IS: 1164-1958 Cocoa-Powder
- IS: 1263-1958 Cocoa-Butter
- IS: 1317-1958 Edible Tapioca Chips
- IS: 1318-1958 Edible Tapioca Flour
- IS: 1319-1958 Edible Tapioca Starch
- IS: 1320-1958 Baker's Yeast

#### **Work in Hand**

- |  |   |
|--|---|
| Milk Toffees, Cream Toffees, Butter<br>Toffees | Bread Loaf<br>Lozenges                  |
| Rolled Oats                                    | Amendment No. 1 to IS: 1010-1957        |
| Groundnut Cake Flour                           | <i>Suji</i> or <i>Rava</i> ( Semolina ) |
| Macaroni                                       |   |

**Apiary** — Two draft Indian Standards, namely one for beewax and the other for beehives, were circulated to elicit comments for their improvement.

#### **Work in Hand**

- Beehives and Honey Equipment

**Dairy** — At the instance of the Central Committee for Food Standards, Ministry of Health, the important subject of infant foods was included within the scope of work of the Sectional Committee.

Two Indian Standards, one for tinned mild steel milk cans and the other for lactose ( commercial ), were finalized. A draft Indian Standard Methods of Rapid Examination for Purity of Milk ( Part I ) was approved and circulated to elicit comments. Work was also continued on dairy products, equipment and laboratory apparatus.

#### **Publications**

- IS: 1223-1958 Apparatus for the Determination of Fat in Whole Milk, Evaporated ( Unsweetened ) Milk, Separated Milk, Skim Milk, Buttermilk and Cream by the Gerber Method
- IS: 1224-1958 Determination of Fat in Whole Milk, Evaporated ( Unsweetened ) Milk, Separated Milk, Skim Milk, Buttermilk and Cream by the Gerber Method



### Work in Hand

Cylindrical Glass Milk Bottles  
Milk Bottle Crates  
Aluminium Milk Cans  
Stainless Steel Milk Cans  
Aluminium Foils for Capping of Milk  
Bottles  
Milking Pails

Milk Strainers  
Method of Chemical Analysis of Milk  
Method of Bacteriological Examination  
of Milk  
Dispensing Cans  
One Piece Milk Cans

**Animal Feeds** — A draft Indian Standard on poultry feeds was circulated to elicit comments.

### Work in Hand

Tapioca Chips and Flour for Animal  
Feed  
Mineral Mixtures for Animals

Groundnut Cake  
Rice Bran

**Pest Control Products** — Two draft Indian Standards, namely one for 2, 4-D sodium and the other for copper oxychloride, technical, were circulated. Besides, the scope of work of the Sectional Committee was enlarged to cover the pest control equipment.

### Publications

IS: 561-1958 BHC Dusting Powders (*Revised*)  
IS: 562-1958 BHC Water Dispersible Powder Concentrates (*Revised*)  
IS: 632-1958 BHC Emulsifiable Concentrates (*Revised*)  
IS: 1306-1958 Aldrin, Technical  
IS: 1307-1958 Aldrin Emulsifiable Concentrates  
IS: 1308-1958 Aldrin Dusting Powders  
IS: 1309-1958 Endrin, Technical  
IS: 1310-1958 Endrin Emulsifiable Concentrates  
IS: 1311-1958 Ethylene Dibromide  
IS: 1312-1958 Methyl Bromide  
Amendment No. 1 to IS: 560-1955 BHC, Technical  
Amendment No. 1 to IS: 565-1955 DDT Water Dispersible Powder Concentrates  
Amendment No. 1 to IS: 881-1956 BHC, Refined  
Amendment No. 1 to IS: 882-1956 *gamma*-BHC (Lindane)  
Amendment No. 1 to IS: 1053-1957 Dieldrin Water Dispersible Powder Concentrates

### Work in Hand

Amendment No. 1 to IS: 564-1955  
DDT Dusting Powders  
Amendment No. 2 to IS: 565-1955  
DDT Water Dispersible Powder  
Concentrates  
Amendment No. 1 to IS: 1052-1957  
Dieldrin, Technical  
Amendment No. 2 to IS: 1053-1957  
Dieldrin Water Dispersible Powder  
Concentrates  
Amendment No. 1 to IS: 1054-1957  
Dieldrin Emulsifiable Concentrates

Household Insecticidal Sprays  
Cuprous Oxide and Its Formulations  
BHC Smoke Generators  
Copper Oxychloride and Its Formulations  
Endrin Formulations  
Pest Control Equipment like Sprayers  
and Dusting Machines of Various  
Types

## 7. STRUCTURAL AND METALS DIVISION

7.1 The Division completed a number of important projects which were earlier taken up as a part of the Steel Economy Programme. The standards finalized under this Programme included the Handbook of Structural

Steel Sections, code of practice for use of cold formed light gauge steel structural members in general building construction, specification for steel tubes for structural purposes and the specification for light gauge structural quality hot rolled carbon steel sheet and strip. In particular, the Handbook of Structural Steel Sections, which gives valuable design data in metric units based on the Indian Standards on hot rolled sections, is expected to be of great assistance to architects, engineers, designers and steel fabricators. In this connection, it may be mentioned that considerable interest has been shown by the ECAFE countries in ISI's work, pertaining to the Steel Economy Programme. It is possible that co-ordination among the ECAFE countries may be established with regard to the iron and steel, engineering and other metal industries.

Another important item, on which tangible progress was made, relates to the rationalization of carbon and alloy steels. After considerable work, five draft schedules giving rationalized list of various categories of carbon and alloy steels were prepared. With the completion of this project, the multiplicity of steel specifications, now existing in the country, would be greatly reduced; and would, thus, facilitate plans for the production of many of these steels indigenously.

Among other standards, special mention could be made of a number of draft specifications for refractories and of the first two published standards for foundry materials, namely foundry moulding boxes and graphite for use as foundry facing material. Since the major production of refractories in India is consumed by the steel plants, and because a good proportion of the present requirements is being imported, the Indian Standards on the subject would go a long way in helping the indigenous production of refractories of good quality.

**7.2** The new items undertaken by the Division covered methods of chemical analysis of printing metal, white metal, ferro alloys, sampling of non-ferrous metals, steel required for boiler construction, aluminium and aluminium alloys, lead cable alloy, coal dust for use with green sand, iron castings with spheroidal or nodular graphite and copper and copper alloys.

**7.3** A brief review of the activities in the various fields is given below:

**Metal Standards** — The three basic dimensional standards, which were finalized last year, were re-discussed in view of certain observations received from the Railways and other organizations. The drafts were modified and two standards relating to (a) preferred sizes for wrought metal products (IS: 1136-1958), and (b) sizes of metal strip, sheet and bar, flats and plate (IS: 1138-1958) were under print. The draft on thicknesses of sheet and diameters of wire was re-circulated for comments in view of the considerable importance attached to the sizes of wire included in this draft. It is expected that this standard will be printed during the coming year.

Eight draft standards on glossary of terms relating to iron and steel were issued for eliciting comments. These standards would facilitate the correct usage and uniform interpretation of technical terms by manufacturers, designers and consumers.



## Work in Hand

- Thicknesses of Sheet and Diameters of Wire
- General Requirements for Supply of Metals and Metal Products
- Classification, Designation and Coding for Steels
- Code of Practice for Classification of Non-Ferrous Scrap Metals and Residues
- Colour Coding for Identification of Metallic Materials
- Corrosion Protection of Light Gauge Steel Construction
- Performance Tests for Protective Schemes Used in Corrosion Protection of Light Gauge Steel
- Corrosion Protection of Steel Transmission Towers and Steel-Work in Foundations

**Methods of Chemical Analysis** — The draft standard on methods of chemical analysis of manganese ore was re-discussed in the light of several comments received and finalized for publication. Among the other drafts finalized for printing include methods of chemical analysis of (a) tin coating on the plate, (b) soft solder, (c) white metal, (d) brazing solder and (e) iron ore, and the specification for certified samples for metallurgical analysis.

A draft standard for methods of determination of arsenic was held up at finalization stage, because of the uncertainty of the applicability and reproducibility of methods laid down in the draft for copper and its alloys and lead. Consequently, a panel was appointed to investigate the methods thoroughly.

Preliminary draft standards were prepared with regard to methods of chemical analysis of (a) printing metal, (b) ferro silicon, (c) ferro chromium, and (d) ferro-manganese and spiegeleisen.

## Work in Hand

Revision of:

IS: 228-1952 Methods of Chemical Analysis of Pig Iron, Cast Iron and Plain Carbon and Low-Alloy Steels

IS: 403-1952 Method of Chemical Analysis of Lead

IS: 406-1953 Methods of Chemical Analysis of Slab Zinc and Zinc Base Alloys

IS: 504-1954 Methods of Chemical Analysis of Aluminium and Its Alloys

Methods of Chemical Analysis of:

Printing Metal

Ferro Silicon

Ferro-Manganese and Spiegeleisen

Methods of Chemical Analysis of:

Ferro Chromium

Ferro Phosphorus

Ferro Titanium

Ferro Vanadium

Ferro Tungsten

Ferro Molybdenum

Silico Manganese

Tin Ingot

Methods for Determination of Arsenic

Methods of Sampling and Chemical Analysis of Refractory Materials

Recommended Methods for Polarographic and Spectrographic Analysis of High Purity Zinc and Zinc Alloys for Die Casting

## Methods of Physical Tests

### Work in Hand

Tensile Testing of Steel

Tensile Testing of Steel Sheet and Strip (Less than 3 mm and not Less than 0.5 mm Thick)

Tensile Testing of Steel Wire

Bend Test for Steel

Simple Bend Testing of Steel Sheet and Strip (Less than 3 mm Thick)

Reverse Bend Testing of Steel Sheet and Strip (Less than 3 mm Thick)



Brinell Hardness Test for Steel  
Rockwell Hardness Test (B & C)  
Scales for Steel

Vickers Hardness Test for Steel  
Charpy Impact Test (U Notch) for Steel  
Izod Impact Test for Steel

**Methods of Sampling**—For details of work done in this field, please see under 10.6, p. 62.

**Steel**—Two draft standards, one relating to rivet bars for boilers, and the other relating to wrought steel for boilers, plain carbon, were finalized for printing. Besides, a draft standard on mild steel wire suitable for manufacture of wood screws was circulated for eliciting comments. Further, on the basis of suggestions received from the Boiler Construction Materials Subcommittee, EDC 40: 1, it was agreed to take up work on steel bars for stays, carbon steel forgings, molybdenum steel forgings and plates for pressure vessels.

#### Publications

- IS: 226-1958 Structural Steel (*Second Revision*)
- IS: 963-1958 Chrome Molybdenum Steel Bars and Rods for Aircraft Purposes
- IS: 1079-1958 Light Gauge Structural Quality Hot Rolled Carbon Steel Sheet and Strip
- IS: 1161-1958 Steel Tubes for Structural Purposes
- IS: 1239-1958 Mild Steel Tubes and Tubulars
- IS: 1279-1958 Electrically Welded Mild Steel Boiler and Superheater Tubes [For Design Steam Temperatures not Exceeding 455°C (or 850°F)]

#### Work in Hand

Revision of:

- IS: 277-1951 Galvanized Steel Sheets (Plain & Corrugated)
- IS: 279-1951 Galvanized Iron and Steel Wire for Telegraph and Telephone Purposes
- IS: 280-1951 Mild Steel Wire
- IS: 412-1954 Expanded Metal (Steel) for General Purposes
- IS: 513-1954 Special Qualities of Steel Sheets
- IS: 597-1955 Black Plate for Tinning, and Tin-Plate Boiler and Superheater Tubes
- Steel Wire Suitable for the Manufacture of Machine Screws

Tubular Steel Transmission Poles  
Carbon Steel Bars, Billets, Blooms and Slabs for Forgings  
Steel Bars for Production of Machined Parts and for General Engineering Purposes  
Steel Tubes for Automobile Purposes  
Steel Tubes for General Engineering Purposes  
Steel Pipes for Hydraulic Purposes  
Steel Tubes for Cycle and Motor Cycle Purposes  
Stainless Steel for Use in the Manufacture of Utensils

### Structurals

#### Publications

- ISI Handbook for Structural Engineers: 1. Structural Steel Sections
- IS: 1252-1958 Rolled Steel Sections, Bulb Gangles

#### Work in Hand

- Rolling and Cutting Tolerances for Hot Rolled Steel Products
- Cold Formed Light Gauge Steel Structural Sections
- Roller Steel Piling Sections
- Structural Sections in Aluminium and Aluminium Alloys
- Special Steel Sections

**Structural Engineering**—Two handbooks on (a) steel columns and struts, and (b) steel beams and plate girders were finalized for publication.

These handbooks, it is expected, will assist the structural engineers in designing the respective structural members in steel construction, according to the provisions contained in IS: 800-1956 Code of Practice for Use of Structural Steel in General Building Construction.

#### Publications

- IS: 801-1958 Code of Practice for Use of Cold Formed Light Gauge Steel Structural Members in General Building Construction  
IS: 804-1958 Specification for Rectangular Pressed Steel Tanks

#### Work in Hand

- |   |   |
|---|---|
| Code of Practice for:<br>Design of Cranes and Hoists<br>Design of Vertical Mild Steel Cylindrical Welded Oil Storage Tanks<br>Use of Steel in Gravity Water Tanks<br>Use of Steel in Gas Storage Tanks<br>Use of Steel in Overhead Transmission Line Towers<br>Use of Steel in Radio Masts<br>High Strength Bolting in Structures<br>Light Weight Open Web Steel Joist Construction<br>Use of Steel in Temporary Construction<br>Use of Aluminium Sections in Structures<br>Guide for Application of Plastic Theory in the Design of Steel Structures | Handbooks for Structural Engineers, Typical Designs and Drawings:<br>Economy of Steel Through Choice of Fabrication Methods<br>Roof Trusses in Steel<br>Designing and Detailing Welded Joints and Connections<br>Single Storey Industrial and Mill Type Buildings in Steel<br>Multistorey Steel Framed Structures for Offices and Residences<br>Steel Transmission Towers<br>Steel Work in Cranes and Hoists<br>Large Span Shed Type Buildings in Steel<br>Structural Use of Light Gauge Sections<br>Structural Use of Tubular Sections<br>High Strength Bolting in Steel Structures<br>Light Weight Open Web Steel Joist Construction<br>Design of Rigid Frame Structures in Steel |
| Handbooks for Structural Engineers, Typical Designs and Drawings:<br>Functions of Good Design in Steel Economy<br>Application of Plastic Theory in Design of Steel Structures   |   |

**Pig Iron and Ferro Alloys** — Six drafts relating to ferro vanadium, ferro tungsten, ferro titanium, ferro molybdenum, ferro phosphorus and silico manganese were issued for comments.

#### Publication

- IS: 224-1958 Pig Iron (Coke) (*Revised*)

#### Work in Hand

- |  |  |
|--|--|
| Amendment No. 1 to IS: 225-1957<br>Pig Iron (Charcoal) ( <i>Revised</i> )<br>Amendment No. 1 to IS: 1110-1957<br>Ferro Silicon<br>Electrolytic Manganese<br>Metallic Manganese | Metallic Silicon<br>Metallic Chromium<br>Silico Chromium<br>Calcium Silicide<br>Ferro Nickel<br>Foundry Nickel |
|--|--|

**Cast Iron and Malleable Cast Iron** — Three draft specifications relating to (a) centrifugally cast (spun) iron pressure pipes, (b) cast iron fittings for pressure pipes, and (c) vertically cast iron pressure pipes for water, gas and sewage, which were prepared last year on the basis of the



ISO Recommendation No. R 13 Cast Iron Pipes, Special Castings and Cast Iron Parts for Pressure Main Lines, were taken up for finalization. These drafts, after certain modifications, were again circulated, on a restricted scale, to manufacturers for their further comments. Although these standards cover metric sizes only, it was decided to include information regarding practical interchangeability, which exists for certain metric sizes of pipes and fittings with those being produced in the country according to the British Standards.

#### Work in Hand

Revision of:

IS: 210-1950 Grey Iron Castings

IS: 227-1954 Malleable Iron Castings

Malleable Cast Iron Pipe Fittings

Iron Castings with Spheroidal or Nodular Graphite

Cast Iron Spigot and Socket Soil Waste and Ventilating Pipes and Fittings

### Aluminium and Aluminium Alloys

#### Publications

IS: 1253-1958 Aluminium Shot for Use in Iron and Steel Manufacture

IS: 1254-1958 Corrugated Aluminium Sheet

IS: 1284-1958 Wrought Aluminium Alloys, Bolt and Screw Stock (for General Engineering Purposes)

IS: 1285-1958 Wrought Aluminium Alloys, Extruded Round Tube and Hollow Sections (for General Engineering Purposes)

#### Work in Hand

Revision of:

IS: 20-1953 Cast Aluminium for Utensils (*Revised*)

IS: 21-1953 Wrought Aluminium for Utensils (*Revised*)

IS: 23-1950 99 Percent Aluminium Notched Bars and Ingots for Remelting for Aircraft Purposes

IS: 202-1950 Aluminium Alloy Ingots and Castings for Aircraft Purposes

IS: 617-1955 Aluminium and Aluminium Alloy Ingots and Castings for General Engineering Purposes

Anodized Aluminium

Aluminium Master Alloys

Rolled Aluminium Rods (Electrical Conductor Grade) for Electrical Purposes

Recommendations for the Selection of Structural Aluminium Alloys

Code of Practice for Die Casting Aluminium Alloys

99.7 Percent Primary Aluminium Notched Bars and Ingots for Remelting Aluminium for Electrical Purposes

Inspection and Testing Procedure for Aluminium and Aluminium Alloys for Aircraft

Inspection and Testing Procedure for Aluminium Ingots, Aluminium Alloy Ingots and Castings, Magnesium Ingots, Magnesium Alloy Ingots and Castings for Aircraft

**Copper and Copper Alloys** — A number of existing standards on copper and copper alloys were taken up for revision. Out of these, the revision IS: 191-1958 Copper (*Revised*) has been published and the revisions of IS: 28-1950 Phosphor Bronze Ingots and Castings and IS: 410-1953 Rolled Brass Plate, Sheet, Strip and Foil are under print. Further, draft revisions of IS: 288-1951 Copper Rods for Boiler Stays and IS: 306-1951 Tin Bronze Ingots and Castings were circulated for comments.

Draft specifications for (a) phosphor bronze rods and bars, sheet and strip, and wire, and (b) leaded brass strips used in the manufacture of parts for instruments were finalized and were expected to be published shortly.



## Publications

- IS: 422-1959 Brass Sheet and Strip for Manufacture of Utensils  
IS: 1264-1958 Brass Ingots for Gravity Die Castings and Brass Gravity Die Castings (Including Naval Brass)

## Work in Hand

Revision of:

- IS: 291-1951 Naval Brass Rods, Bars and Sections  
IS: 292-1951 Brass Ingots and Castings  
IS: 304-1952 High Tensile Brass Ingots and Castings  
IS: 305-1952 Aluminium Bronze Ingots and Castings  
IS: 318-1952 Leaded Tin Bronze Ingots and Castings  
IS: 319-1951 Free Cutting Brass Rods and Bars (for Use in Screw Machines)  
IS: 320-1951 High Strength Brass Rods, Bars and Sections  
IS: 407-1953 Brass Tubes for General Purposes

- Copper Sheet and Strip for Manufacture of Utensils and General Purposes  
Railway Bronze Ingots and Castings  
Solid Drawn Copper and Copper Alloy Tubes  
Recommended Procedure for Inspection of Copper Base Alloy Sand Castings  
Copper Sheet and Strip for Electrical Purposes  
Copper Sheet and Strip for General Industrial Purposes  
Copper Tubes for Refrigeration Purposes  
Brass Tubes for Condensers  
Silicon Bronze Rods for Welding  
Code of Practice for Tinning of Brassware  
Deoxidized Copper

**Lead, Zinc, Tin, Antimony and Their Alloys** — Three draft standards relating to (a) printing metal, (b) lead cable alloy, and (c) code of practice for protective coating of zinc base alloys, and a draft amendment to IS: 193-1956 Soft Solder (*Revised*) were finalized for publication.

## Publication

- IS: 211-1958 Antimony (*Revised*)

## Work in Hand

Revision of:

- IS: 25-1950 Antifriction Bearing Alloys  
IS: 404-1952 Lead Pipes for Other Than Chemical Purposes  
IS: 405-1952 Lead Sheets for General Purposes  
Code of Practice for the Manufacture of Zinc Alloy Pressure Die Castings

- Chemical Lead and Lead Sheets and Pipes for Chemical Purposes  
Antimonial Lead Alloys  
Nickel and Nickel Alloys and Nickel Shot  
Tin for Tin Plates and Tin Sticks for Tinning  
Code of Practice for Hot Dip Galvanizing and Zinc Impregnation

**Precious Metals** — A draft specification for gold and gold alloys was finalized for publication. This specification, which lays down the minimum gold content in fine gold as well as gold alloys, provides a basis of transaction and also is expected to help the industry, trade and technologists. It is expected to go a long way in the hall marking of fine gold articles.

## Work in Hand

- Silver and Silver Alloys  
Fine Gold in the Form of Sheet, Bar, Wire and Grain  
Fine Silver in the Form of Sheet, Bar, Wire and Grain

- Platinum in the Form of Plate, Sheet, Wire and Tube  
Solder for Use with Goldwares

## Welding General

### Publications

IS: 812-1957 Glossary of Terms Relating to Welding and Cutting of Metals  
IS: 1278-1958 Filler Rods and Wires for Gas Welding

### Work in Hand

Hose Connections for Welding and Cutting Appliances	Code of Practice for Inspection of Welds
$\frac{1}{2}$ Percent Molybdenum Steel Covered Electrodes for Metal Arc Welding	Welding Rods and Electrodes for Surfacing Work
Covered Electrodes for the Metal Arc Welding of High Tensile Structural Steel	Code of Practice for Argon Arc Welding of Aluminium and Stainless Steel
Valve Fittings for Compressed Gas Cylinders	Assessment of Welds by Radiographic Examination
Spot Welding Electrodes	Code of Practice for Welding of Pressure Vessels
Filler Rods and Wires for Inert Gas Arc Welding	Code of Practice for Use of Welding in Weldments (Built Up Sections for Use in Place of Steel Castings)
Code of Practice for Training and Testing of Oxy-Acetylene Welders	Handbook for Welding Inspectors and Welding Supervisors
Procedure Code for Electric Arc Welding	

**Structural Welding**—Two draft standards relating to (a) seam welding in mild steel, and (b) oxy-acetylene welding for structural work in mild steel were finalized for publication.

### Work in Hand

Code of Practice for: Use of Welding in Structures Subject to Dynamic Loading—Bridges	Qualification Tests for Welders Engaged in Welding of Boilers
Use of Welding in Tubular Construction	Qualification Tests for Welders Engaged in Welding of Steampipes
Class I Metal Arc Welding of Steel Pipelines and Pipe Assemblies for Carrying Fluids	Handbook for Welders
	Welding Handbook for Use of Welding Engineers

## Ores and Raw Materials

### Work in Hand

Revision of IS: 372-1952 Manganese Ore, Battery Grade	Revision of IS: 373-1952 Manganese Ore, Metallurgical Grade
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Iron Ore

## Foundry

### Publications

IS: 1280-1958 Foundry Moulding Boxes  
IS: 1305-1958 Graphite for Use as Foundry Facing Material

### Work in Hand

Wooden Pattern Equipment for Foundries	Recommended Methods of Testing of Binding Materials:
Bentonite for Use in Steel Foundry	a) Testing of Clays
Basic Characteristics for Sands for Different Moulding Purposes	b) Testing of Liquid Binders
Recommended Methods of Testing of Foundry Sands	c) Testing of Synthetic Binders
Recommended Characteristics for Binding Materials	Silica Sands
	Coal Dust for Use with Green Sands

**Refractories** — The Indian Standard Method for the Direct Determination of Alumina in Refractory Materials (*Tentative*) (IS: 1335-1959) was under print.

#### Publications

- IS: 6-1958 Moderate Heat Duty Fireclay Refractories, Group 'A' (*Second Revision*)
- IS: 7-1958 Moderate Heat Duty Fireclay Refractories, Group 'B' (*Second Revision*)
- IS: 8-1958 High Heat Duty Fireclay Refractories (*Second Revision*)
- IS: 484-1958 Silica Refractories for General Purposes (*Revised*)
- IS: 1292-1958 Mortar for Laying Silica Bricks

#### Work in Hand

- |   |   |
|---|---|
| Revision of:  | Amendment No. 1 to IS: 484-1958                             |
| IS: 483-1953 Fireclay Refractories for Oil Fired Boiler Furnaces of Naval Ships | Silica Refractories for General Purposes ( <i>Revised</i> ) |
| IS: 485-1953 Methods for Sampling and Testing of Refractory Materials           | Insulating Firebricks                                       |
| Ladle Refractories for Steel Plants   | Casting Pit Refractories                                    |
| Sizes for Firebricks  | Classification of Clays for Ceramic Industry                |
| Bottom Pouring Refractories for Steel Plants                                    | Blast Furnace Refractories                                  |
| Sleeves for Steel Plants  | Dimensional Standardization of Refractories                 |
| Fireclay Refractories for Glass Melting Tank Furnaces                           | Graphite Crucibles  |
|   | Sillimanite Ore Blocks                                      |

**Alloy Steels and Special Steels** — As a part of the work on co-ordination and rationalization of carbon and alloy steel specifications, the following five draft schedules were got ready for circulation:

- Schedule I: Steels With Standard Tensile Strength Ranges Without Detailed Chemical Composition
- Schedule II: Carbon Steels, Including Tool Steels — Chemical Composition
- Schedule III: Free Cutting Steels
- Schedule IV: Alloy Steels, Other Than Stainless and Tool Steels — Chemical Composition
- Schedule V: High Alloy Steels (Other Than Tool Steels) With Specified Chemical Composition

## 8. ELECTROTECHNICAL DIVISION

**8.1** This Division, which was inaugurated in 1957, entered the second year of its activities. In the formulation of Indian Standard Specifications for electrical items, particular emphasis was laid on the safety aspect. Further, at the instance of the Tariff Commission, and to assist the bayonet lampholders industry, which has been enjoying tariff protection, an Indian Standard Specification for Bayonet Lampholders was published. Another standard that was issued during this period for an item which was enjoying tariff protection was IS: 985-1958 Lead-Acid Storage Batteries (Heavy Duty) for Motor Vehicles.



8.2 It may be recalled that at the invitation of ISI, the IEC annual group meetings are scheduled to be held in India from 31 October 1960 to 13 November 1960. To assist the Institution in making the necessary arrangements for the meetings, and also to collect funds from the electrical and allied industries, an All-India Reception Committee was formed under the Presidentship of Shri M. Hayath (Chairman ETDC). Three zonal committees were also set up, namely for Bombay zone with Shri M. L. Gauba of Radio Lamp Works Ltd., as Convener; for Calcutta zone with Shri T. R. Gupta of Jay Engineering Works as Convener; and for the Southern zone with Shri Jagdeesh Prasad or Shri N. V. Shenoi of Indian Telephone Industries as Convener.

During this period, 14 new subjects were taken up for the formulation of Indian Standards. A brief account of the Division's work is given below:

**General Electrical Standards**—As a result of the adoption of 240 volts single-phase and 240/415 volts three-phase as Indian Standard voltages, in place of 230 volts single-phase and 230/400 volts three-phase, Amendment No. 1 to IS: 585-1954 Recommended Voltages and Frequency for AC Transmission and Distribution Systems was under print.

#### Work in Hand

Electrotechnical Vocabulary Part I —  
Fundamental Definitions

Electrotechnical Vocabulary Part II—  
Machines and Transformers

**Electrical Conductors and Accessories**—Two specifications, one for flexible cables for use in quarries and metalliferous mines (IS: 1026) and the other for rubber insulated flexible trailing cables for use in coal mines (IS: 691) were finalized.

#### Work in Hand

Revision of:

IS: 282-1951 Hard-Drawn Copper Solid and Stranded Circular Conductors for Overhead Power Transmission Purposes (*Tentative*)

IS: 396-1953 Bare Annealed Copper Wire for Electrical Machinery and Apparatus (*Tentative*)

IS: 398-1953 Hard-Drawn Stranded Aluminium and Steel-Cored Aluminium Conductors for Overhead Power Transmission Purposes (*Tentative*)

IS: 434-1953 Rubber Insulated Cables and Flexible Cords for Electric Power and Lighting (for Working Voltages up to and Including 11 kV)

IS: 482-1953 Reels for Covered, Solid, Round Electrical Winding Wires Trolley and Contact Wires for Electric Traction

Hard-Drawn Cadmium Copper Solid and Stranded Circular Conductors

Hardware Items for Transmission Lines

Enamelled High Conductivity Annealed Round Copper Wire (Synthetic Enamel)

Paper Covered Rectangular Copper Conductors for Transformer Windings

Polythene Insulated and PVC Sheathed Cables up to 250 Volts

PVC Insulated (Heavy Duty) Cables for Electricity Supply and Control Purposes for Working Voltages up to and Including 11 kV

Standard Metric Sizes of Wires, Cables, and Conductors for Electrical Purposes

PVC Electrical Insulating Sleeving and Tapes

Aluminium Conductors in Insulated Cables

Braided Cables with Copper Conductors for Overhead Transmission Lines

Vulcanized Rubber Insulation and Sheath for Electric Cables  
PVC Insulation and Sheath for Electric Cables  
Paper-Insulated Lead-Sheathed Cables for Use in Mines

Amendment No. 1 to IS: 692-1957  
Paper-Insulated Lead-Sheathed Cables for Electricity Supply  
Amendment No. 1 to IS: 693-1955  
Varnished Cambric Insulated Cables for Electricity Supply (*Tentative*)

**Insulators and Accessories**—Three draft standards, namely insulator stalks for telegraph and telephone lines; porcelain insulators for overhead lines with a nominal voltage below 1 000 volts, and porcelain insulators for telegraph and telephone lines (Revision of IS: 283-1951) were finalized.

#### Work in Hand

Overhead Line Wire Material, Non-ferrous for Telegraph and Telephone Purposes  
Hardware Fittings for LT Insulators

Hardware Fittings for Pin-Insulators up to 33 kV  
Pins for Insulators  
Code of Practice for Selection and Installation of Insulators

**Electrical Plant and Switchgear**—Specification for three-phase induction motors (Revision of IS: 325-1956), general requirements for electrical equipment of machine tools, and recommendations for the colour of push-buttons were finalized; while a specification for small AC and universal electric motors with Class 'A' insulation was being got ready for publication.

#### Publications

IS: 1231-1958 Dimensions of Three-Phase Induction Motors  
IS: 1271-1958 Recommendations for Classification of Insulating Materials for Electrical Machinery and Apparatus in Relation to Their Thermal Stability in Service

#### Work in Hand

HRC Fuses  
Low Voltage Fuse-Gear (Heavy Duty)  
Outdoor Air-Break Isolating Switches for Use on 3.3 kV to 132 kV  
Circuit Breakers up to 11 kV  
Bus-Bars and Bus-Bar Connections in Air, Oil or Compound  
Loom Motors  
Card Motors  
Ring Frame Motors  
Flame-Proof Motors  
High Torque Motors  
Variable Speed Motors  
Flange Motors  
Motors for Domestic Appliances

Transformers Above 100 kVA 11 kV  
Recommendations on Tropic Proofing of Electrical Equipment  
Motor Controlgear  
Code of Practice for Installation and Maintenance of Transformers  
Code of Practice for Installation and Maintenance of Switchgear  
Code of Practice for Earth Leakage Protection in Mines and Similar Other Locations  
Recommendations for Insulation Co-ordination  
Carbon Brushes for Electrical Machinery  
Electrical Welding Equipment

**Electric Fans**—The following three documents were sent to the IEC for the consideration of the IEC/TC 43 Electric Fans at the Madrid Meeting (1959):

- a) 43 (Secretariat) 1 Introduction to Secretariat Proposals on Electric Ceiling Fans and Table Type Electric Fans



- b) 43( Secretariat ) 2 Draft International Standard Specification for AC Capacitor Type Electric Ceiling Fans and Regulators
- c) 43( Secretariat ) 3 Draft International Standard Specification for AC Capacitor Type Electric Table Fans

#### Work in Hand

Condensers for Fans	Revision of IS: 555-1955 Table Type
Air Circulator Type Fans	Electric Fans
Fans for Navy	Blowers
Revision of IS: 374-1951 Electric	Exhaust Fans
Ceiling Fans	Ventilating Fans

### Electrical Instruments and Meters

#### Publication

IS: 722 ( Part III )-1958 AC Electricity Meters — Polyphase Whole-Current and Transformer-Operated Meters and Single-Phase Two-Wire Transformer-Operated Meters

#### Work in Hand

Maximum Demand Meters (Kilowatt)	Galvanometers
Time Switches	Thermocouple Type Pyrometers with
Shunts, Resistors and Instrument Transformers	Indicators
Laboratory Type Electrical Apparatus Mainly Comprising Resistances	Potentiometers

### Electrical Accessories

#### Publications

IS: 897-1958 Tungsten Filament Electric Lamps for Railway Rolling Stock

IS: 959-1958 Soldering Irons

IS: 1258-1958 Bayonet Lampholders

IS: 1287-1958 Electric Toasters

IS: 1293-1958 Three Pin Plugs and Socket Outlets

#### Work in Hand

Electric Call Bells and Buzzers	Dial Lamps
Extra Low Voltage Transformers	Special Types of Lamps Used by the
Bed Switches	Indian Navy
Composite Units of Switches and Fuses for Use in Domestic Circuits and Industrial Systems	Steel Conduits for Electrical Wiring
Wall Brackets	Fittings and Accessories for Wiring
Fuzes	Electric Hand Lamp
Ballasts for Fluorescent Lamps	Table Lamps
	Automobile Lamps

### Radio Equipment

#### Publications

Amendment No. 3 to IS: 705-1955 Dry Battery-Operated Community Radio Receivers

Amendment No. 3 to IS: 706-1955 AC Mains-Operated Community Radio Receivers

Amendment No. 1 to IS: 1036-1957 6-Volt Accumulator-Operated Community Radio Receivers

IS: 1301-1958 Code of Safety Requirements for Mains-Operated Audio Amplifiers

IS: 1302-1958 Methods of Measurements on Audio Amplifiers



## Work in Hand

- Mica Dielectric Capacitors
- Wire-Wound Resistors
- Aerial Wires — Insulated and Bare Copper
- Hook-up Wires for Radio Equipment
- Ceramic Condensers
- Shielded Wires for Radio Equipment
- Electrolytic Condensers
- Wave Band Switches
- Carbon Resistors
- Plugs for Receivers
- Mechanical Parts Used in Receivers
- Potentiometers (Volume Controls)
- Revision of:
  - IS: 589-1954 Procedures for Basic Climatic Tests for Electronic Components
  - IS: 615-1954 Recommendations for Minimum Electrical Performance Requirements of Domestic Radio Receivers
  - IS: 705-1955 Dry Battery-Operated Community Radio Receivers
  - IS: 706-1955 AC Mains-Operated Community Radio Receivers
  - IS: 1036-1957 6-Volt Accumulator-Operated Community Radio Receivers
- Prototype Community Radio Receivers
- Transistorized Amplifiers
- Receivers for School Broadcasting
- Communication Receivers
- TV Receivers
- Transistor Receivers
- FM Receivers
- Code on Installation of Receivers
- Microphone Transformers
- Interference Suppression Devices
- Tests and General Requirements for Intermediate Frequency Transformers and Radio Frequency Coils
- Transformers Used in Vibrator Power Supplies
- Interstage Transformers
- Climatic Tests for Complete Electronic Equipment
- Mechanical Durability Tests for Components
- Code of Practice for Indoor Installation of Amplifier Systems
- Code of Practice for Outdoor Installation of Amplifier Systems
- Minimum Performance Requirements for Mains-Operated Public Address Amplifiers
- Acoustical Terminology
- Microphones
- General Requirements for Audio Amplifiers
- Tape Recorders

**Mica** — The Indian Standard Methods of Grading and Classification of Muscovite Mica Blocks, Thins and Films (IS: 1174-1957) was published, incorporating changes resulting from the Harrogate Meeting of the ISO/TC 56 (see ISO/TC 56 Mica under 1.6 of Part III, p. 69).

## Work in Hand

- Grading and Classification of Muscovite Mica Splittings
- Further Processing of the Following ISO Subjects:
  - Visual Classification of Muscovite Mica
  - Grading of Muscovite Mica Splittings
- Further Processing of the Following ISO Subjects:
  - Grading of Phlogopite Mica
  - Thermal Classification of Phlogopite Mica Splittings
  - Master Standard Samples
  - The Effect of Metric System on Size Grading of Mica

## Primary Cells and Batteries

### Publications

- IS: 203-1958 Leclanché Type Dry Batteries for Flash Lights (*Revised*)
- IS: 267-1958 Leclanché Type Inert Cells (*Revised*)

### Work in Hand

- Revision of IS: 268-1951 Leclanché Type Sack Cells
- Revision of IS: 556-1954 Leclanché Type Dry Batteries for Radio Receivers
- Revision of IS: 586-1955 Leclanché Type Dry Cells for Telecommunication, Signalling and General Purposes

## Secondary Cells and Batteries

### Publication

IS: 985-1958 Lead-Acid Storage Batteries ( Heavy Duty ) for Motor Vehicles

### Work in Hand

Hard Rubber Containers for Lead-Acid Accumulators

Lead-Acid Storage Batteries for Aircraft ( Aerobatic and Non-aerobatic )

Revision of IS: 395-1952 Lead-Acid Storage Batteries for Motor Vehicles, Light Duty

Revision of IS: 541-1954 Stationary Accumulators, Lead-Acid Type

## Electroplating

### Publications

IS: 1067-1958 Commercial Silver Plating

IS: 1068-1958 Copper, Nickel and Chromium Electroplated Coatings

### Work in Hand

Zinc Plating

Cadmium Plating

Lead Plating

Anodizing

Industrial Silver Plating

Copper Finishes

Gold and Silver Threads

Hard Chromium Plating on Steel

Electro-Tin Plating

## Illumination Engineering

### Work in Hand

Industrial Lighting Fittings

Commercial Lighting Fittings

Decorative Lighting Fittings

Street Lighting Fittings

Flood Lighting Fittings

Aerodrome Lighting Fittings

**Automobile Electrical Equipment**—No development to report.

## 9. CERTIFICATION MARKS AND IMPLEMENTATION DIVISION

9.1 The Institution, as is known, has been empowered under an Act of Parliament—ISI Certification Marks Act, 1952—to grant licences to manufacturers allowing them application of its Certification Mark on their products conforming to relevant Indian Standards. By conveying to consumers third-party guarantee of quality, the Mark increases sales appeal and protects manufacturers of certified goods from unfair competition from low-priced sub-standard goods. The Mark also assists the country in increasing the export trade by winning the confidence of foreign buyers in the capacity of India to produce goods according to prescribed national standards.

During the period under report, which was the fourth year of the operation of the ISI Certification Marks Act, the number of licensees rose to 120 from 75 in the previous year. The number of enquiries from the industry concerning ISI Certification Marking also rose to 289 as compared with 140 in the previous year. The rise indicated that the industry was growing more and more conscious of the need for manufacturing goods conforming to Indian Standards.



The Institution continued its efforts to get recognition and preferential treatment for ISI certified goods, at least for Government purchases. The Inspection Wing of DGS&D agreed in principle that the intensity of inspection in case of ISI certified goods could be reduced after DGS&D had gained some experience about goods bearing ISI Mark.

In regard to the implementation of Indian Standards, both the industry and the purchasing departments of the Government of India and State Governments adopted many more Indian Standards. The DGS&D, the main purchasing organ of the Union Government adopted 56 standards, thereby raising their total adoptions up to the end of the year to 858.

It may be recalled that the Government of India had imposed a ban on the export of aluminium utensils not bearing ISI Mark. In view of the fact that utensils made from scrap of unknown and doubtful quality aluminium constitute a hazard to the health of people, the Union Government advised the various State Governments to exercise stricter control in respect of aluminium utensils meant for home consumption, and to see that such utensils conform to the relevant Indian Standards.

Orders were passed by the Chief Controller of Imports and Exports, exempting copper alloys bearing ISI Certification Mark from further tests by the Customs Department, and allowing the shipment of such alloys against valid licences. In respect of exportable goods, negotiations were made with a number of Export Promotion Councils, for example, those for druggets, sports goods, leather, engineering, electrical goods, etc, to ensure that the exportable products were manufactured in conformity to Indian Standards, and that the products were covered, wherever possible, by the ISI Certification Mark.

A number of States have decided to operate 'Q' Marking Schemes for various products, being produced in their States, particularly by the small-scale and cottage industries. Efforts were made with some of these State Governments for applying the ISI Mark, either alongside or in replacement of their 'Q' Mark; as a result of which the Government of Uttar Pradesh agreed to apply the ISI Mark alongside 'Q' Mark on the following commodities, produced in UP in conformity with the relevant Indian Standard:

- a) Handloom fabrics
- b) Agra footwear — covering, for the present, ammunition boots and Peshawar chappis only, because standards for other types of Agra footwear have not as yet been formulated by ISI
- c) Aligarh locks
- d) Meerut scissors
- e) Meerut sports goods
- f) Mirzapur carpets

To explore the possibility of ISI Certification Marking in the steel industry, a meeting was convened by Shri S. Ranganathan, Secretary to the Government of India, Ministry of Commerce & Industry, on 31 March 1959, wherein representatives of the steel industry, both from private and public sectors, DGS&D, and the Iron and Steel Controller were present. While it was generally agreed that steel plants could be authorized to



apply the ISI Certification Mark themselves, with a supervisory control by the DGS&D in the capacity of a competent authority, under the ISI Certification Marks Act, it was decided that, before such a scheme could be put into operation, it was necessary first to obtain the consent of the consumer organization of the Government of India to the effect that they would be willing to accept goods bearing the ISI Mark without the need for further inspection by DGS&D.

The Ministry of Works, Housing and Supply has already agreed to the appointment of DGS&D as a competent authority in respect of picks and beaters manufactured by M/s Tata Agrico.

**9.2 The Certification Marks Advisory Committee, CMAC** — The membership of CMAC was enlarged by appointing on it more Directors of Industries of States who had shown their willingness to be members of CMAC and also the representatives of two more consumer interests, namely the Indian Conference of Social Work and the All-India Women's Conference. As reported last year, CMAC had recommended to the General Council of ISI early last year that:

'The Tariff Commission should:

- a) advise the new industries being considered for protection to join the Certification Marks Scheme, and
- b) investigate the possibility of making the use of ISI Certification Mark compulsory for such industries, particularly the consumer goods industries, which have enjoyed protection for a predetermined period of time, say about five years, and for whose products Indian Standards are available.'

The General Council considered the above recommendations and decided that these recommendations be referred to the Government of India for their consideration (*see also* p. 6).

**9.3** A brief account of the work done by the Division is given below:

- a) *Enquiries for Certification Marks* — In all 149 firms made enquiries about ISI certification marks, and many ultimately sent their applications for the grant of licences. The fields of activity of the various firms which made enquiries were as follows:

Engineering	21
Building	42
Textile	5
Chemical	22
Agricultural & Food Products	15
Structural and Metals	12
Electrotechnical	32
	32

Total 149

- b) *Applications for the Grant of Licences* — Ninetyone new applications were received for the grant of licences for the use of ISI Certification Mark, thus raising the total number of applications to 302. These applications cover engineering, chemical, metallurgical,

agricultural, electrotechnical and building materials. The final disposal of these applications was as follows:

Licences granted	120
Action deferred at the request of applicants	21
Applications withdrawn	43
Applications under consideration	118
Total	302

c) *Licences*

- 1) *Licences granted* — Fortyfive new licences for the use of ISI Certification Mark on goods conforming to relevant Indian Standards, were granted; the names of licensees, the products covered by these licences and the rates of marking fee are given in Appendix D (see p. 100).
- 2) *Licences renewed* — Under Regulation 8(2) of the ISI Certification Marks Rules, 1955, 64 licences were renewed.
- 3) *Action on other applications* — Out of 35 applications, action on which was deferred earlier, at the request of the applicants, 21 remained deferred; of these 14 were either withdrawn or processed further. Thirtyeight applications were withdrawn by applicants, bringing the total number of withdrawals to 43; the reasons given for withdrawals being the lack of testing facilities, the difficulty in procurement of raw material, non-acceptance of the rate of marking fee and frequency of tests, etc. Of the remaining 118 applications under consideration, preliminary inspection of most of them was carried out and further action taken.
- d) *Standard Mark* — Standard marks in respect of articles covered by twelve Indian Standards, listed in Appendix E (see p. 107), were specified and published in the Gazette of India, Part II, Section III, Sub-Section (ii).
- e) *Implementation of Indian Standards* — Voluntary implementation of Indian Standards by manufacturers and consumers showed further progress. During the year under review, as many as 118 Indian Standards were formally adopted by one or more of the purchasing organizations of the Central Government.

The total adoptions number 948 against 1 219 printed standards, which accounts for 77 percent of the printed standards. Further, steps were intensified by the Institution for promoting the adoption of Indian Standards by the industry, consuming departments and purchasing organizations of the Government in their manufacturing and purchase programmes.

## 10. STATISTICAL SECTION

10.0 Introducing statistical quality control concepts in Indian Standards; formulating standards on sampling and conversion factors and tables;



undertaking sampling investigations and analysis of data; and suggesting routine sampling inspection schemes for the implementation of Certification Mark Schemes may be cited, among others, as the major activities of the Statistical Section.

**10.1 Introduction of SQC Concepts in Standards** — As in the past, the draft standards sent out for circulation were scrutinized with the object of introducing SQC concepts in them, wherever possible. In particular, the sampling clauses, which form an essential part of the material specifications for determining conformance of material to specified requirements, were carefully examined. Suitable sampling schemes were recommended in 93 cases; and in most cases, the suggested schemes were accepted. In this connection, special mention may be made of Indian Standards on acetic anhydride (IS: 1235-1958); coal tar solvent naphtha, light, Grade 2 (IS: 1272-1958); and leather pump buckets made from chrome tanned leather (IS: 1273-1958).

**10.2 Collaboration with Other Scientific Bodies** — The Policy Advisory Committee, set up by the Government of India, under the chairmanship of Shri C. D. Deshmukh, for propagation of SQC techniques in Indian industries, felt that considerable scope existed for active collaboration between ISI and the SQC Units of the Indian Statistical Institute. The two organizations have since chalked out a programme of active collaboration, as suggested by the Committee.

**10.3 Certification Marking** — The Section prepared 45 schemes of routine inspection for the issue of licences under the ISI Certification Marks Act, 1952. Also, the routine inspection data, collected by the licensees on the basis of these, were examined statistically with a view to finding out whether the certified goods conformed to the relevant Indian Standards.

**10.4 Standard on Conversion Factors and Tables** — For the use and easy reference of students of technical institutions, scientists and technologists, the preparation of Handbook of Quantities, Conversion Factors, Formulas and Tables was undertaken by the Section. The preliminary draft was got ready and is being processed further. Besides, the layout and design of 'Slide Tables for Inter-Conversion of Values' in accordance with IS: 786-1956 was finalized. It may be recalled that the preparation of slide tables was undertaken last year.

**10.5 Standard on Rounding Off Numerical Values** — For the general guidance of various technical committees of ISI, the revision of IS: 2-1949 Rules for Rounding Off Numerical Values and the preparation of the draft Indian Standard on methods for determination of procession of test methods were undertaken. The preliminary drafts of the two standards were got ready for further processing.

**10.6** A brief account of the committee work done by the Section is given below:

**The Methods of Sampling Sectional Committee, SMDC 4** — Two draft standards on sampling methods pertaining to the subjects dealt with by various committees under SMDC, namely manual on basic



principles of lot sampling and methods of sampling ferro-alloys, were circulated for comments. The former draft, giving the basic principles of sampling and the procedure to formulate sampling clauses in specifications, is expected to be of considerable use in making the statistical concepts, underlying a sampling scheme, widely known. Besides, the investigation undertaken in connection with the preparation of the Indian Standard Method of Sampling Manganese Ores was completed. Work by a panel set up by the Committee to scrutinize the sampling procedures, which were given in individual specifications formulated by the committees under SMDC, was initiated.

#### **Work in Hand**

Sampling of Foundry Sands  
Sampling of Iron Ores

Sampling of Non-Ferrous Metals  
Sampling of Manganese Ores

**The Sampling Methods Sectional Committee, TDC 33** — The preparation of a standard manual on sampling for textiles, for the guidance of the textile industry in general and the various sectional committees of TDC in particular, was undertaken.

**The Sampling Subcommittee, CDC 14:1** — Feeling that the sampling procedures, as given in the two Indian Standards on coal and coke, namely, IS: 436-1953 and IS: 437-1956, could be improved upon, it was decided to conduct some more investigations before undertaking the revision of the two standards.

With a view to evolving an objective procedure for sampling of gypsum, representatives of the Sindri Fertilizers and Chemicals (Private) Ltd., the Bikaner Gypsums Ltd., the Associated Cement Companies Ltd., the General Superintendence Co. (India) Private Ltd., and the ISI Directorate visited Jamsar Gypsum Mines, and carried out an investigation on-the-spot. Based on the results, a draft report was prepared and circulated for comments. The results showed that the method of increment sampling, suggested by ISI, held possibilities. According to this method, samples would be drawn from the wagon(s), at the time of loading or unloading, by taking the necessary numbers of increments (panful of material), the increments being distributed evenly over the whole period of loading or unloading.

## **11. RESEARCH AND INVESTIGATIONS**

**11.1** In the process of formulation of standards, problems often arise requiring investigation and research in the light of prevalent conditions in our country. The committees, formulating various standards, entrust such research and investigations to different National, State and private laboratories, testing organizations and research institutions.

It is gratifying to record that collaboration and assistance on a fairly extensive scale were available to the Institution from all such organizations concerned with different fields of industry and technology.

**11.2** Research with which the Building Division was concerned included such problems as: testing of wall tiles to ascertain test pressure and

duration; investigations on surkhi-lime mixture as masonry cement; testing of natural building stones; testing of jointed wood poles; investigations on gypsum and gypsum building products; tests on fire ladders; quantity of water to be used in the compressive strength test for concrete; water-cement ratio and strength of mortar and concrete; variation in bulk density of aggregates measured with different sizes of containers; strength of concrete at different temperatures and ages; survey on noise levels and noise comfort conditions; and tests on samples of building limes available in the respective regions to ascertain their chemical composition, strength values of building stones.

**11.3** The research and testing work of the Textile Division related to raw silk, yarn, linen braided cord, cotton calico, proofed cotton fabrics, cotton velvet corduroy, shoddy woollen melton cloth and shoddy woollen blankets, bed durries, handloom silk fabrics, picking bands, cotton spindle tapes, and flat cotton wicks.

**11.4** The Chemical Division arranged for the infra-red spectrographic examination of vetiver oils, both of the cultivated variety and that obtained from wild roots. Research and testing were also carried out on the complexometric determination of constituents of common salts; durability of black japan; composition of rosha oils; physico-chemical properties of clove oils and orange oil; methods of determination of volatile matter in coal; paper pulp; mould resistance of vegetable and chrome tanned leather; cycle-saddle leather; indigenous dinnerware; graphited grease; and resistance to oxidation of lubricating oils for internal combustion engines.

**11.5** The Agricultural and Food Products Division was concerned with research and testing on sugar, beeswax, dairy utensils, poultry feeds and insecticides.

**11.6** Various experimental researches initiated by the Structural and Metals Division, under the Steel Economy Programme, and already reported in the Eleventh Report, continued to be under the investigation of various laboratories. The research was, however, completed on two problems, namely the sampling of manganese ore and the effect of sizes and shape of tensile test specimens on the yield stress values of chrome molybdenum steel bars. Besides, work was taken up (a) for analysing samples of aluminium and aluminium alloys for determining the silicon content, and (b) in connection with the development of corrosion protection for light gauge steel sections.

**11.7** The Electrotechnical Division initiated tests for collecting data on the performance of moderately priced domestic radio receivers, of the class covered by IS: 615-1954 and currently available in the market. Tests were also conducted on loudspeaker units, for collection of data on some of the performance requirements, and on a variety of electronic components and air circulator fans. The report on comparative persulphate tests for the determination of efficiency of tinning of copper conductors was completed.

**PART III**

**STANDARDIZATION**  
**AT**  
**INTERNATIONAL LEVEL**



## PART III STANDARDIZATION AT INTERNATIONAL LEVEL

### 1. INTERNATIONAL ORGANIZATION FOR STANDARDIZATION, ISO

**1.1 ISO General Assembly, 1958** — The Fourth General Assembly of ISO met on 19 and 20 June 1958 at Harrogate, England, with Sir Roger Duncalfe, President, ISO in the Chair. The Assembly elected Professor Wegelius of Finland as its new President for a term of three years. It had been the practice that the triennial meeting of the General Assembly was held in the country of the then reigning President. Feeling that the present President of ISO might not be able to invite the session to Finland, and realizing that there was hardly any possibility of electing an ISO President from India in the near future, efforts were being made to invite the 1961 Session of the ISO General Assembly to India.

**1.2 ISO/Council** — The annual meeting of the ISO Council, held at Harrogate, just prior to the meeting of the General Assembly, elected Vice-Admiral G. F. Hussey of USA as Vice-President of ISO for a term of three years in succession to Dr. Carlo of Italy.

Consequent to the decision, taken at the last meeting of the General Assembly, for examining a proposal for increasing the membership, an Ad-hoc Committee was formed, comprising representatives of France, India, UK, USA and USSR. As a result of their suggestions, ISO Council's membership was increased from 11 to 14.

**1.3 ISO Planning Committee, PLACO** — As usual, the meeting of PLACO was held at Harrogate, along with the Council meeting. In the absence of the Chairman, Dr. Lal C. Verman, Director, ISI, Mr. H. A. R. Binney, Director, British Standards Institution presided over the meeting. The meeting considered, among other things, the use of metric and inch units of measurements in ISO Recommendations; and recommended to the Council, as a general policy, to make efforts, as far as possible, to seek an agreement on a single series of linear measurements in ISO Recommendations. The meeting also recognized that, in exceptional cases, it would be necessary to provide for two series. This policy was subsequently endorsed in the meeting of the ISO Council.

Another recommendation of PLACO, which was to set up a co-ordinating committee on the Mechanical Testing of Metals, METSCO, was also approved by the Council. Some of the studies that came to final conclusion in the later part of the year, resulted in the setting up of the following three committees:

ISO/TC 91 Surface Active Agents

ISO/TC 92 Fire Tests on Building Materials and Structures

ISO/TC 93 Methods of Analysis and Examination in the Field of Starch, its Derivatives and Bye-products

Besides, the attention of PLACO was drawn to two other subjects, on pallet loaders and parquet flooring, that were put forward by outside organizations of international standing, namely the European Mechanical Handling Confederation, FEM, and the European Federation of Parquet Manufacturers' Union, FESFP, respectively, in accordance with Resolution 26 of Council 1957. It may be recalled here, that this Resolution of the Council deals with the process of adopting standards, brought out by organizations of international importance, as ISO Recommendations. The PLACO, after examining the proposal on pallet loaders, recommended that existing ISO/TC 51 Pallets for Unit Load Method of Materials Handling might take up this draft for further processing. In regard to the other proposal on parquet flooring by FESFP, it was recommended that the Committee on Building Construction, ISO/TC 59, be requested to examine the subject as a new proposal.

Another important issue, that was under the consideration of PLACO, arising out of Resolution 7 of Council 1958, related to the re-organization of the existing ISO technical committees on a more rational basis. After exchanging preliminary views, members were inclined to think that this subject could profitably be discussed in the next meeting of PLACO.

Somewhat as a prelude to this re-organization, PLACO recommended amalgamation of two related committees on Shipbuilding Details for Sea Navigation, ISO/TC 8, and Shipbuilding Details for Inland Navigation, ISO/TC 9, into one single committee at the suggestion of the Netherlands Body which holds Secretariat of both the committees.

Another issue, submitted for examination of PLACO, related to overlapping of the scope of work of ISO/TC 80, 85 and 88 ( Secretariats: Netherlands, France and India, respectively ), involving symbols and colours for radiation protection.

**1.4 Standing Committee for the Study of Scientific Principles of Standardization, STACO** — The last meeting of STACO was held at Amsterdam during 25-28 June 1958. For this meeting, Dr. Lal C. Verman, Director, ISI, an expert member of the Committee, had contributed a basic document on 'Aims of Standardization'. Dr. Verman, however, could not attend the meeting, with the result that the subject could not be discussed fully, and was deferred to the next meeting. Another Indian document on functional interchangeability was also circulated for consideration in the next meeting of STACO, planned to be held in Bucarest in June 1959. This document, contained proposals which, if adopted, would establish better co-ordination between inch and metric systems of measurements.

**1.5 ISO/ECAFE Liaison** — Dr. Lal C. Verman, Director, ISI continued to act as the liaison officer of ISO for ECAFE. The benefits of standardization and the importance of its early introduction in different fields of activity of trade and industry in the ECAFE region were receiving increasing importance, as evidenced from the annual report of ECAFE, adopted by the Commission at its last meeting.



Three ECAFE subcommittees, entrusted with the work pertaining to specific fields, namely iron and steel, mineral resources development and electric power, considered, among other things, the formulation and adoption of standards for steel sections, on the lines of the Steel Economy Programme of ISI; for classification and utilization of coal; and for rational utilization of wood poles, respectively. In the meeting of the Subcommittee on Electric Power, mentioned in the last report, stress was laid on the need to maintain close liaison with the activities of the International Electrotechnical Commission regarding its work on electrical plant and equipment, which aspect was further taken up with IEC by Dr. Lal C. Verman, as Liaison Officer on behalf of ISO.

Aspects of standardization in regard to export promotion and classification of inland waterways, which were being studied by other ECAFE committees, were also watched with keen interest.

**1.6 ISO Committee Meetings** — Meetings of 31 ISO technical committees and 20 subcommittees were held during 1958-59. A brief report on their work and on other important developments, of interest to India, is given below:

**ISO/TC 1 Screw Threads** (Sectt: Sweden) — The meeting of the Committee was held at Harrogate from 16 to 19 June 1958. The work of this committee is of direct interest to India, since ISI's Screw Threads Sectional Committee is actively engaged on the formulation of Indian Standards for screw threads, which are urgently required in connection with the changeover to the metric system. Agreement could not be reached on a unitary world standard for screw threads; and for the present, it was decided to adopt two parallel series, one for the inch threads and the other for the metric threads. The basic profile for the two thread series, however, remains unchanged.

**ISO/TC 4 Ball Bearings** (Sectt: Sweden) — The Committee met at Naples from 3 to 7 June 1958. Certain minor amendments to ISO Recommendation R 15, Ball and Roller Bearings were accepted. It was also agreed to initiate work to expand the range covered by the Recommendation.

Draft ISO Recommendations covering the following subjects were approved:

- a) Methods of Evaluating Static Load Ratings
- b) Boundary Dimensions (of Intermediate Sizes)
- c) Accessories
- d) Tolerances

Besides, draft ISO proposals on the following subjects were accepted for circulation to ISO Member Bodies as draft ISO Recommendations:

- a) Tapered Roller Bearings
- b) Airframe Bearings
- c) Identification Code



- d) Dynamic Load Ratings
- e) Instrument Bearings

A noteworthy feature of the meeting was the decision to recognize parallel series of inch and metric sizes for tapered roller bearings, airframe bearings and instrument bearings; though for the general purpose bearings, that is those covered by ISO R 15, only one unitary series was adopted.

**ISO/TC 17 Steel** (Sectt: UK) — In the meeting of the Committee held at Harrogate, England from 9 to 13 June 1958, two proposals for undertaking work on (a) the redesign and standardization of hot rolled structural steel sections, and (b) the rationalization of carbon and alloy steels, submitted by India, were discussed. For the first proposal, it was agreed that the Secretariat should obtain all available information for consideration; the decision on the second proposal was deferred until its next plenary meeting.

**ISO/TC 21 Fire Fighting Equipment** (Sectt: Austria) — India's comments on the first draft proposal for connectors for fire hose coupling of ships and those of the ports were forwarded to the Secretariat.

**ISO/TC 24 Sieves** (Sectt: Germany) — Two subcommittees met at Frankfurt from 11 to 16 November 1957. The first subcommittee dealt with the establishment of an international test sieve standard, providing for the specification of a series of aperture widths of wire cloth for test sieves. The second subcommittee, which felt that their work required prior development of a uniform terminology of sieving, appointed a working group for the purpose.

**ISO/TC 25 Cast Iron** (Sectt: UK) — The Committee in its meeting held from 16 to 18 June 1958 at Harrogate, England, considered the following items:

- a) Grey Cast Iron
- b) Brinell Hardness Test
- c) Malleable Cast Iron
- d) Spheroidal Graphite Cast Iron

**ISO/TC 26 Copper and Copper Alloys** (Sectt: USA) — No development to report.

**ISO/TC 30 Measurement of Fluid Flow** (Sectt: France) — There are three working groups under this Committee, namely WG 1 Classical Venturi, WG 2 Reduction and WG 3 Installation. WG 3 was proposing to meet in March or April 1959 in Germany for the purpose of studying a document on installation conditions of standard pressure difference devices. WG 2 was considering the third draft proposal of the International Standard for Measurement of Fluid Flow by means of Orifice Plates, Nozzles and Venturi Tubes.

**ISO/TC 30/SC 1 Liquid Flow Measurement in Open Channels** (Sectt: India) — This Subcommittee held its second meeting in London from 8 to 13 December 1958. While considering the item on the dilution

method in the agenda, it was decided to constitute the Working Group 4 Measurement of Liquid Flow in Open Channels by Dilution Method. The Chairmen of Working Groups 1, 2 and 3 were advised to complete the drafts in the light of discussions at the London meeting, and to circulate them to the members of their Working Groups. On receipt of comments, the Chairmen were to submit the amended drafts to the Secretariat of the Subcommittee.

**ISO/TC 33 Refractories** (Sectt: UK) — The items dealt with by the Committee covered (a) definitions and (b) methods of tests for refractoriness and refractoriness-under-load.

**ISO/TC 34 Agricultural Products** (Sectt: Hungary) — At the first plenary meeting, held in Budapest from 22 to 26 April 1958, the following seven Subcommittees were set up:

- ISO/TC 34/SC 1 Propagation Materials
- „ SC 2 Oilseeds and Vegetable Oils
- „ SC 3 Fruits and Vegetables
- „ SC 4 Cereals and Pulses
- „ SC 5 Milk and Dairy Products
- „ SC 6 Meat and Meat Products
- „ SC 7 Spices and Condiments

India has been entrusted with the Secretariat responsibility for SC 7 Spices and Condiments. To deal with the work of SC 7 at the national level, AFDC has already set up a new Sectional Committee.

**ISO/TC 39 Machine Tools** (Sectt: France) — A draft proposal for test code for machine tools was adopted as a draft ISO Recommendation, as also the draft proposals concerning tapers for tool shanks; lathe centres, tool posts, and speeds and feeds for machine tools. Further, the Committee issued certain instructions for processing the proposals relating to lathe spindle noses, T-slots, direction of rotation of controls and indicator plates.

**ISO/TC 39/WG 3 Elements of Machines** — The Working Group discussed preliminary draft proposals for a number of machine tool elements and also for certain aspects of machine tools, such as direction of rotation of controls, symbols for indicator plates of machine tools, speeds and feeds for machine tools. A significant feature of the proposals on machine tool elements was that, though they covered the inch and metric series separately, the dimensions had been so chosen as to ensure interchangeability of components, made to either of the two systems. Details of design which did not directly affect interchangeability, were left free. A suggestion, made by India, for specifying the tolerance for the width of T-slots, so that the same could be used both as a locating and a fixing device, was accepted; consequently, certain modifications were made in the relevant proposal.

The question of mounting dimensions for grinding wheels, was discussed in a joint meeting of ISO/TC 39/WG 3 Elements of Machines and ISO/TC 29/WG 5 Grinding Wheels, the former being responsible for the



spindles on which the wheels are to be mounted and the latter being concerned with the bore dimension of the wheels. A compromise solution on the permissible tolerances for the spindle diameter and the wheel bore was accepted. The agreement reached at the ISO level on the question of tolerances would assist the work of ISI's Abrasives Sectional Committee as well, which has, at the moment, under examination the question of preferred shapes and sizes of grinding wheels on the metric basis.

On the question of formulating recommendations for the safe use of grinding wheels, it was agreed that the two Working Groups should formulate preliminary proposals with respect to their fields of application, and then examine them jointly. This work is also of interest to ISI's Committee, as it is, at present, engaged on the preparation of a safety code for grinding wheels.

**ISO/TC 43 Acoustics** (Sectt: UK) — The meeting of the Committee was held from 14 to 18 July 1958 at Stockholm. The subjects on the agenda were concerning architectural acoustics, normal threshold of hearing by telephone listening, assessment of loudness from objective analysis, preferred frequencies for acoustical measurements and limiting levels for specific noises.

**ISO/TC 44 Welding** (Sectt: France) — No meeting of the Committee was held; however, 10 draft ISO Recommendations, prepared and circulated by the Committee, were approved by the Indian Committee.

**ISO/TC 50 Lac** (Sectt: India) — The following three International Recommendations, which were evolved by the Committee, were expected to be published by the General Secretariat of the ISO:

ISO/R 55 Specification for Seedlac

ISO/R 56 Specification for Shellac

ISO/R 57 Specification for Bleached Lac

Further, co-operative research on improving test methods for seedlac, shellac and bleached lac was in progress on an international scale, in which India, France, UK and USA were participating, with India acting as the central clearing house for the supply of samples and collation of results.

**ISO/TC 52 Hermetically Sealed Metal Food Containers** (Sectt: UK) — The Committee held its session at Harrogate from 9 to 11 June 1958. After careful consideration of the recommendations of the Working Groups, dealing with milk cans and food cans, it finally accepted a list of 11 sizes of capacities and diameters for milk and milk products containers, and 18 sizes of capacities and diameters for round open top cans for fruit, vegetable, meat and soup. In this connection, it may not be out of place to mention that most of the sizes of milk and milk products containers and round open top cans, produced in India, will be covered by the sizes accepted at this meeting.

An interesting unofficial document on standardization of can sizes was submitted by Mr. H. Wyss (Switzerland), which held the view that fixing of can capacities was neither scientific nor accurate, and advocated



instead standardization of can diameters. He further elaborated his theory of standardization of can sizes in a geometrical and logical progression. While appreciating his ideas on the subject, it was felt that it was practicable to implement them, at the present stage; so it was agreed that the document submitted by Mr. Wyss be taken into account in the future study of work.

**ISO/TC 53 Packages for Frozen Foods** (Sectt: Norway) — India, in her capacity as a member of ISO Council, was approached to ratify the following scope adopted by ISO/TC 53:

- a) Dimensions of Unit (Consumer) Packs, Outer Shipping Containers and Bulk Packs (Industrial)
- b) Internal Dimensions of Conservators

In the absence of an appropriate ISI Committee to deal with the subject, the matter was referred to the various interests in the country. A suggestion was made by the Directorate of Marketing and Inspection that the following may be included in the scope:

- ' c) Varieties and Quality of Material Used for Packages '

Accordingly, the ISO Secretariat was informed that, while India agreed to items (a) and (b) of the scope, the ISO/TC 53 may consider the addition of item (c) in the scope.

**ISO/TC 54 Essential Oils** (Sectt: Portugal) — A number of documents was considered at the meeting held at Paris from 24 September to 1 October 1958, and passed on to national committees for comments.

**ISO/TC 55 Resinous Lumber** (Sectt: USSR) — This Committee has under its purview the following items:

- a) Coniferous Sawn Timber — Sizes
- b) Coniferous Sawn Timber — Defects

India's approval of the draft proposal on coniferous sawn timber sizes, which is being submitted to the ISO General Secretariat as a draft ISO Recommendation, was conveyed to the Secretariat of the Committee.

**ISO/TC 56 Mica** (Sectt: India) — The Committee met from 9 to 11 June 1958 at Harrogate (UK) during the triennial General Assembly Session. The draft ISO Recommendation on Size Grading of Muscovite Mica Blocks, Thins and Films, which was finalized by the Committee, was accepted for publication as ISO Recommendation No. R 67.

Draft ISO Recommendation on Visual Classification of Muscovite Mica was also discussed; in the light of comments, a new draft is being prepared by the Secretariat for further consideration. A preliminary document on grading of phlogopite mica splittings, though on the agenda, was not discussed, since it was decided that further investigational work on the temperature limits should be undertaken before attempting the classification. A proposal for the establishment of master samples was discussed but it was decided to remit the question for further study, by

member bodies, on the lines already undertaken by USA, so that based on these studies, a Working Group may be established to process the matter.

The Secretariat was also asked to submit a report, after investigating the effect on the size grading of mica resulting from the changeover to metric system in India, for use in the other countries.

**ISO/TC 59 Building Construction** (Sectt: France) — The first draft ISO Recommendation on General Regulations Governing Modular Co-ordination, which was circulated by the Secretariat, is under examination by the Indian Committee.

**ISO/TC 59/SC 1 Modular Co-ordination** — India has decided to be a 'P' member of the following three Working Groups, set up by this Subcommittee:

- a) ISO/TC 59/SC 1/WG 1 Terminology for Modular Co-ordination
- b) ISO/TC 59/SC 1/WG 2 'Modular Co-ordination' — Tolerances and Adjustments — Methods of Application
- c) ISO/TC 59/SC 1/WG 3 'Modular Co-ordination' — Methods of Selection of the Dimensions

The Constitution and Terms of Reference of WG 1 and the first draft proposal on terminology for modular co-ordination in building were received and India's comments forwarded. The Indian Standard Recommendations for Modular Co-ordination of Dimensions in the Building Industry (IS: 1233-1958), which includes a terminology on Modular Co-ordination, was circulated to members of this Working Group.

**ISO/TC 61 Plastics** (Sectt: USA) — The eight working groups, functioning under the Committee considered over 35 items, listed on the programme of work.

A draft ISO Recommendation, giving a list of nearly 800 equivalent terms relating to plastics terminology in English, French and Russian, was revised in accordance with comments received from ISO member bodies. The draft awaits publication as an ISO Recommendation.

Besides, five more draft ISO Recommendations were approved on the following items for further processing:

- a) Standard Atmospheres for Conditioning and Testing Plastics Materials
- b) Melt Flow Index of Polyethylene and of Polyethylene Compounds
- c) Recommended Practice for Compression Moulding Test Specimens of Thermoplastic Materials
- d) Recommended Practice for Compression Moulding Test Specimens of Thermosetting Materials
- e) Recommended Practice for Injection Moulding Test Specimens of Thermoplastic Materials

Further, the Co-ordinating Committee on Atmospheric Conditioning for Testing (ISO/ATCO) was requested to prepare a document on methods



of measurement and control of relative humidity in large and small enclosures.

**ISO/TC 65 Manganese Ore** (Sectt: USSR) — The Committee completed work on fifteen draft ISO Recommendations relating to methods of sampling manganese ores (Part I. Ore Loaded in Freight Cars) and methods of chemical analysis of manganese ores in regard to the determination of hygroscopic water, silicon dioxide, active oxygen (manganese dioxide), total iron content, carbon dioxide, nickel, cobalt, arsenic, aluminium oxide, total manganese, sulphur, phosphorus, copper and lead.

India's approval pertaining to eleven of these draft ISO Recommendations have been forwarded to the ISO General Secretariat. The draft ISO Recommendations on determination of silicon dioxide, nickel, phosphorus and lead, having not been approved on the basis of the views expressed by Methods of Chemical Analysis Sectional Committee, SMDC 2, India's comments giving reasons for not approving these drafts were forwarded to ISO.

**ISO/TC 71 Concrete and Reinforced Concrete** (Sectt: Austria) — The following draft proposals were being studied by the Secretariat:

- a) Terminology
- b) Measurements and Making of Concrete Specimens

The revised versions of these drafts, based on the resolutions adopted at the Vienna meeting of the Committee, were awaited.

**ISO/TC 72/SC 3 Weaving Machinery (Working Groups B & C)** (Sectt: Switzerland) — No development to report.

**ISO/TC 74 Hydraulic Binders** (Sectt: Belgium) — No development to report.

**ISO/TC 76 Transfusion Equipment for Medical Use** (Sectt: UK) — In the meeting, held on 28-29 August 1958 in London, the main discussion took place on (a) draft ISO proposal for re-usable transfusion equipment for medical use, (b) draft British and Swedish Standards for disposable transfusion equipment, (c) labels for blood groups, and (d) plastic containers.

Regarding the draft proposal on re-usable transfusion equipment, a revised draft was being prepared in the light of comments received, by the Secretariat for consideration at the next plenary meeting of the Committee. The recommendations on disposable transfusion equipment would also be discussed at its next meeting. It was noted that many countries were following various colour schemes to denote particular blood groups. It was recommended that, while each country may follow its own scheme internally, black lettering on a white background should be adopted, when blood was sent from one country to another.

In this meeting, the USA delegation reported that a working group was about to be formed in their country to study the development of standards for plastic containers for blood, and suggested that the proposed

working group might become a working group of ISO/TC 76, USA providing the Secretariat. It was felt that formal approval for the proposal could be obtained from participating countries, after USA had made an offer in writing.

**ISO/TC 77 Products in Asbestos Cement** (Sectt: Switzerland) — No development to report.

**ISO/TC 79 Light Metals and Their Alloys** (Sectt: France) — A meeting of the Subcommittee ISO/TC 79/SC 1 Methods of Chemical Analysis, held at Milan, from 28 to 29 May 1958, discussed the following two subjects:

- a) Methods for the Determination of Silicon in Aluminium and Its Alloys
- b) Methods for the Determination of Iron in Aluminium and Its Alloys

On the basis of the decisions taken by the Subcommittee, analysis was carried out in India, at four different laboratories, on the samples of aluminium alloys, furnished to various participating members by the Secretariat (Italy), regarding the determination of silicon content based on the methods proposed by the Subcommittee.

**ISO/TC 86 Refrigeration** (Sectt: UK) — The Committee set up the following Working Group and Subcommittees:

- Working Group 1 Designation of Refrigerants (Sectt: USA)
- Subcommittee 1 Safety (Sectt: Germany)
- Subcommittee 2 Terminology, Definitions and Symbols (Sectt: Italy)
- Subcommittee 3 Testing of Refrigerating Systems (Sectt: Belgium)
- Subcommittee 4 Testing of Refrigerant Compressors (Sectt: UK)
- Subcommittee 5 Construction and Testing of Household Refrigerators (Sectt: France)
- Subcommittee 6 Testing of Factory Assembled Air Conditioning Units (Sectt: USA)

**ISO/TC 87 Cork** (Sectt: Portugal) — The first meeting of the Committee, held on 29 to 31 October 1958 in Lisbon, adopted the following scope:

'Co-ordination of Standards concerning Cork issued by national standards bodies, taking into account both the raw material and products manufactured and prepared from cork'.

These products will be studied under the following three heads:

- a) Terminology
- b) Specifications
- c) Methods of Test

Accordingly, the programme of work relating to terminology, raw cork, and manufactured cork, was approved.



**ISO/TC 89 Fibre Building Board** ( Sectt: Germany ) — No development to report.

**ISO/TC 92 Fire Tests on Building Materials and Structures** ( Sectt: UK ) — The ISO Council accepted the proposal made by BSI, and set up a new technical committee with its scope as follows:

‘ Tests for determining the properties of building materials and structures in relation to protection against fire, of the buildings in which they are used ’.

The Secretariat of this Committee was allocated to UK.

ISO also proposed, at the suggestion of Portugal, the setting up of a new Technical Committee for formulation of International Standards on wood (characteristics and nomenclature). India's comments on this proposal were forwarded to ISO.

## **2. INTERNATIONAL ELECTROTECHNICAL COMMISSION, IEC**

**2.1** The 1958 general meeting of IEC was held in Stockholm (Sweden) from 8 to 17 July 1958. It was preceded by some meetings in Copenhagen, from 30 June to 5 July 1958; a few technical committees also met during the same week in Ludvika and Vasteras in Sweden. Some of the other committees met at Paris, Constance, the Hague and Essen.

**2.2 IEC Council** — In a short formal session of the IEC Council, held on 17 July 1958 and attended by delegates from 26 out of the 33 member countries, including the newly admitted People's Republic of China, Dr. I Herlitz, President of the Swedish National Committee, was unanimously elected as the new IEC President for a term of three years. By a secret ballot, USA, USSR and Spain were elected to the Committee of Action, replacing UK, Belgium and Netherlands who retired by rotation.

Besides endorsing the various recommendations of the Committee of Action, the Council considered a proposal for increasing the membership subscriptions, and it was agreed to call a special meeting of the Council in 1959 to discuss the proposal again. Meanwhile the member countries were examining the proposal.

**2.3 Committee of Action** — The Committee met on 10 and 17 July 1958 to deal with administrative and technical problems of co-ordination of the IEC work, and to endorse recommendations of the different technical committees that met during the year. Besides the approval of documents and the appointment of chairmen of some technical committees, the following important decisions of the Committee of Action deserve special mention:

- a) Acceptance of the invitation from Spain to hold the 1959 General Meeting in Madrid in June/July 1959 was confirmed.
- b) The invitation from India for the 1960 General Meeting to be held in New Delhi in 1960 was accepted. (The IEC group meetings

are scheduled to be held in New Delhi from 31 Oct to 13 Nov 1960.)

- c) Technical Committee No. 34 (Lamps and Lamp Accessories) was authorized to undertake the administration of a designation code for photographic projection lamps on the lines of the ASA scheme already in vogue in USA.
- d) Considering a suggestion from the ECAFE Secretariat, the Committee agreed to send, free of charge, one copy each of published IEC Recommendations to such of the countries in the ECAFE region, who were not yet members of the IEC.
- e) A proposal from Poland to start work on climatic and durability tests for electrical equipment and rotating machinery, on the lines of the IEC Recommendation for Basic Climatic and Durability Testing Procedures for Electronic Components, was referred to the President's Preparatory Committee for further examination.
- f) The scope of TC 13 (Measuring Instruments) was enlarged to cover electronic measuring and associated instruments to enable it to deal with signal generators and similar instruments.
- g) The Committee approved of the creation of a new Technical Committee (TC 45) to deal with electrical measuring instruments used in application of radio-isotopes and personal protection, and allotted the Secretariat to Germany.
- h) A proposal for the creation of a new technical committee to deal with a complimentary range of cables, wires and waveguides, peculiar to telecommunications, was accepted in principle; and further action was deferred until the scope of work was clearly defined.
- j) Approval was given, in principle, to a revised document proposed by TC 40 concerning international recommendations for standard temperatures and conditions for testing, based on the original ISO/ATCO proposal.

**2.4** During the year, 58 IEC committees, including subcommittees, working groups and expert committees, had met. A brief account of their activities and of developments, which are of special interest to India, is recorded below:

**IEC/TC 1 Nomenclature** (Sectt: France) — Arrangements for the preparation of the third edition of the vocabulary were discussed, and agreement was reached on a set of rules to be followed in this work. Agreement with ISO on the question of terminology in nuclear field was also reported.

**IEC/TC 3 Graphical Symbols** (Sectt: Switzerland) — Two documents were approved for publication, namely second list of graphical symbols, resistances and windings; and symbols for machines and transformers. Preliminary documents on subjects like valves, tubes and rectifiers; switchgear and accessories; measuring instruments; transmission lines and accessories; magnetic transducers; and primary cells and accumulators, were discussed and approved for circulation.



**IEC/TC 7 Aluminium** (Sectt: Canada) — The scope of the Committee was expanded to cover aluminium conductors for overhead transmission lines. Further, two documents dealing with aluminium alloys of the Al-Mg-Si type for busbars and annealed aluminium electrical conductors wire larger than 0.1 mm in diameter, were approved for circulation.

**IEC/TC 8 Standard Voltages, Current Ratings and Frequencies** (Sectt: Italy) — A revised table of standard frequencies was approved for circulation; and standardization of high voltages for DC systems, above 420 kV, was transferred to TC 30 (Extra High Voltages).

**IEC/TC 12 Radio-Communication** (Sectt: Netherlands) — The Committee met on 1 April 1958 in Paris. Two documents were approved for publication, relating to methods of tests for TV receivers and radiation measurements on different types of receivers. A new Subcommittee (SC 12-7), to deal with climatic and durability testing of radio communication equipment, was set up.

**IEC/SC 12-2 Safety (Radio-Communication)** — The Subcommittee meeting was of interest to India, as the agenda included an item on 'safety testing of radio receivers under tropical conditions', which has also been under active consideration of the corresponding ISI Committee. The third principal point, on which India voiced some objection in the Committee's discussions on a draft revision of the corresponding IEC Publication, related to (a) maximum leakage currents permissible to define a live point to be protected, and (b) maximum permissible temperature permitted on component materials. India's views on these points, based on experience and practical investigations, were stressed at the meeting.

**IEC/TC 13 Measuring Instruments** (Sectt: Hungary) — The three Subcommittees, namely SC 13 A (Integrating Meters), SC 13 B (Indicating Instruments) and SC 13 C (Electronic Measuring Instruments), and the main Technical Committee approved a number of amendments to the finalized draft recommendation for watt-hour meters for AC electrical energy, besides processing preliminary drafts on indicating instruments. Of particular interest was the first meeting of Subcommittee 13 C, at which a preliminary draft recommendation on signal generators was discussed in a general manner and passed on to a working group for further study in consultation with a representative of TC 12 (Radio-Communication).

**IEC/TC 14 Power Transformers** (Sectt: UK) — The Committee extended its scope of work to include on-load tap-changers, and processed further work on the revision of the first edition of IEC Pub 76 Power Transformers.

**IEC/TC 17 Switchgear and Controlgear** (Sectt: Sweden) — A document containing rules for isolators and earthing switches was approved for circulation to National Committees. The Secretariat (High Voltage Switchgear and Controlgear) was authorized to prepare proposals relating to rules for rating and testing circuit-breakers with respect to the switching

of line charging current; rules for cable switching, and asymmetrical rating of circuit-breakers; and rules for load switches.

**IEC/TC 18 Electrical Installations in Ships** (Sectt: Netherlands) — The Technical Committee, at its meeting on 2-7 June 1958 at Constance, made progress with the work of revising Publication 92 Electrical Installations in Ships.

**IEC/TC 20 Electric Cables** (Sectt: UK) — Some progress was made on the first draft recommendation for specifying tests on gas pressure cables for voltages up to 275 kV, and a decision was taken to prepare separate documents for internal and external gas pressure cables.

**IEC/TC 22 Static Power Converters** (Sectt: Switzerland) — The following revised scope of work was approved by the Committee:

'To prepare international recommendations regarding equipments and their components (including mechanical rectifiers) for static power conversion, i.e. rectification, inversion, frequency changing or d.c. voltage transformation'.

**IEC/TC 23 Electrical Accessories** (Sectt: Belgium) — Two documents, dealing with domestic fuses and links for miniature fuses, were approved for circulation.

**IEC/TC 24 Electric and Magnetic Magnitudes and Units** (Sectt: France) — It was decided to establish closer collaboration with ISO in this field. For this purpose, the formation of a Steering Committee, consisting of representatives of ISO/TC 12 (Quantities, Units and Symbols) and of IEC/TC 24, was recommended and later approved by the Committee of Action.

**IEC/TC 25 Letter Symbols and Signs** (Sectt: USA) — To accelerate work on the fourth edition of Publication 27 International Letter Symbols Used in Connection with Electricity Quantity Symbols — Alphabets and Letter Type, an expert committee and two working groups were formed to deal with symbols and signs relating to electronics and communication (including semi-conductors) and power converting equipment, respectively.

**IEC/TC 28 Insulation Co-ordination** (Sectt: France) — A document, containing amendments to the second edition of Publication 71 Recommendations for Insulation Co-ordination, was approved for circulation.

**IEC/TC 29 Electro-Acoustics** (Sectt: Netherlands) — The Committee approved for circulation six documents, three of which pertained to magnetic recording systems, and the others to recommendations on loudspeakers (leading dimensions and impedances), coupler for hearing aid calibration and specification for sound level meters, respectively. The two documents finalized for publication were an amendment to IEC Recommendations for Magnetic Tape Recording and Reproducing Systems — Dimensions and Characteristics, and Methods of Measurement of Electro-Acoustic Characteristics of Hearing Aids.

Of special interest to India was a meeting of Working Group 5 (Loudspeakers), as the agenda included a discussion of the published Indian



Standards on loudspeakers and loudspeaker systems, in connection with the preliminary work of IEC on the measurement of loudspeakers characteristics. India was co-opted on the Working Group, and the Indian Committee was asked to take up the responsibility of preparing the preliminary IEC document on the subject, based on the Indian Standard and on the discussions held at the meeting.

The preliminary IEC document, prepared by the Indian representative (Dr. Panchaly of NPL), was discussed at the Working Group meeting held in March 1959 at the Hague. In the light of the comments received, the revised draft is being processed further.

**IEC/SC 31 C Increased Safety Apparatus** (Sectt: UK) — The Subcommittee met on 16-18 September 1958 at Essen and discussed the second draft recommendations for electrical machines, transformers and apparatus for use on hazardous locations, with the type of protection 'Increased Safety'.

**IEC/TC 35 Primary Cells and Batteries** (Sectt: France) — A document containing additions to Publication 86 Primary Cells and Batteries was discussed and approved for re-circulation.

**IEC/TC 38 Instrument Transformers** (Sectt: UK) — An agreement was reached between the Chairman of this Committee and that of TC 33 (Power Capacitors) that the work on capacitor voltage transformers should be carried out by TC 38. Progress was also made in the revision of Publication 44 Instrument Transformers.

**IEC/TC 39 Electronic Tubes and Valves and Similar Semi-Conducting Devices** (Sectt: Netherlands) — Four documents were approved for circulation. These included an amendment to Publication 67, Part II Dimensions of Electronic Tubes and Valves, and specifications for sockets for electronic tubes and valves.

**IEC/TC 40 Electronic Components** (Sectt: Netherlands) — Four documents, including a part revision of Publication 68 Basic Climatic and Durability Testing Procedures for Components, were circulated and recommended for final publication. A revised basic document, dealing with standard temperatures and conditions of testing, was recommended to the Committee of Action.

Of special interest to India was the meeting of SC 40-5 (Basic Testing Procedures). The Indian Delegation had many comments to make on some of the basic methods in the revision of Publication 68, particularly those relating to damp heat (long term) tests and storage tests. Besides, a good amount of additional information and test data, that would be useful to the corresponding ISI Committee, were gathered.

**IEC/TC 42 High Voltage Testing Techniques** (Sectt: Sweden) — Further progress was made in the preparation of an international code of high voltage testing techniques. A document on voltage measurement by means of sphere gaps (with one sphere earthed) was approved for circulation to all National Committees for comments.

PART IV  
APPENDICES



# PART IV APPENDICES

## APPENDIX A

(See page 3)

### INDIAN STANDARDS PUBLISHED AND IN PRESS DURING 1958-59

(This list gives the new Indian Standards published during 1958-59 and those which were under print on 31-3-59. It does not include standards which were under print on 31-3-58 and were printed during the year under report. The latter were included in a similar list published as Appendix 4.1 in last year's Annual Report.)

Sl No.		Rs
<b>EC</b>		
1.	IS: 1250-1959 Proof Corrections for Printers and Authors ...	...
2.	IS: 1275-1958 Rules for Making Alphabetical Indexes ...	...
<b>EDC</b>		
3.	IS: 919-1958 Recommendations for Limits and Fits for Engineering	
4.	IS: 921-1959 Butcher's Knives ... ..	1-50
5.	IS: 922-1958 Cook's Knives ... ..	1-00
6.	IS: 923-1958 Carving Knives ... ..	1-00
7.	IS: 924-1959 Bread Knives ... ..	1-50
8.	IS: 925-1958 Pocket Knives ... ..	1-00
9.	IS: 960-1958 Bicycle Rim Tapes and Buckles ...	1-00
10.	IS: 988-1959 General Requirements for Optical Components ...	3-00
11.	IS: 1057-1958 Commercial Metric Carat Weights ...	1-50
12.	IS: 1059-1958 Commercial Metric Length Measures (Non-Flexible) ...	1-00
13.	IS: 1131-1958	} Bicycle Bottom Bracket Assembly Components ... 2-00
to	to	
16.	IS: 1134-1958	
17.	IS: 1238-1958 Hurricane Lanterns ... ..	2-00
18.	IS: 1262-1958 Abrasive Specialities ... ..	1-50
19.	IS: 1269-1958 Metric, Woven Metallic Tape Measures ...	1-50
20.	IS: 1270-1959 Metric Steel Tape Measures (Winding Type) ...	1-00
21.	IS: 1281-1958 Bicycle Cranks and Chain Wheels ...	1-00
22.	IS: 1282-1958 Bicycle Cotter Pins, Washers and Nuts ...	1-00

APPENDIX A — Indian Standards Published and in Press — *Contd*

Sl. No.		Rs
23.	IS: 1283-1958 Bicycle Free-Wheels ... ..	1-00
24.	IS: 1286-1958 Pictorial Markings for Handling Instructions for Non-Dangerous Goods ... ..	1-50
25.	IS: 1294-1958 Bobbins for Sewing Machines ... ..	1-00
26.	IS: 1295-1959 Needle Bars for Sewing Machines ... ..	1-00
27.	IS: 1296-1958 Pressure Feet for Sewing Machines ... ..	1-00
28.	IS: 1297-1959 Pressure Bars for Sewing Machines ... ..	1-00
29.	IS: 1330-1958 General Plan for Metric Screw Threads with ISO Profile (Diameter Range 0.25 to 300 mm) ... ..	1-50

**BDC**

30.	IS: 707-1958 Glossary of Terms Applicable to Timber, Plywood and Joinery ... ..	2-50	
31.	IS: 771-1958 White Glazed Earthenware Sanitary Appliances ... ..	5-50	
32.	IS: 783-1959 Code of Practice for Laying of Concrete Pipes ... ..		
33.	IS: 901-1958 Couplings, Double Male and Female, Instantaneous Pattern, for Fire Fighting Purposes ... ..	1-00	
34.	IS: 902-1959 Suction Hose Couplings for Fire Fighting Purposes ... ..	1-50	
35.	IS: 903-1959 Fire Hose Delivery Couplings, Branch Pipe, Nozzles and Nozzle Spanner ... ..	1-50	
36.	IS: 905-1958 Delivery Breechings, Dividing and Collecting, Instantaneous Pattern, for Fire Fighting Purposes ... ..	1-50	
37.	IS: 906-1958 Branch with Revolving Head for Fire Fighting Purposes ... ..	1-50	
38.	IS: 908-1958 Hydrant, Stand Post Type ... ..	1-50	
39.	IS: 909-1958 Underground Hydrant, Sluice-Valve Type ... ..	1-50	
40.	IS: 910-1958 Combined Key for Hydrant, Hydrant Cover and Lower Valve ... ..	1-00	
41.	IS: 927-1958 Fire Hooks ... ..	1-00	
42.	IS: 928-1958 Fire Bell ... ..	1-00	
43.	IS: 941-1958 Blower and Exhauster for Fire Fighting ... ..	1-00	
44.	IS: 942-1958 275-l/min (or 60-gal/min) Portable Pump Set for Fire Fighting ... ..	1-00	
45.	IS: 1195-1958 Mastic Asphalt for Flooring ... ..	1-50	
46.	IS: 1196-1958 Code of Practice for Laying Mastic Asphalt Flooring ... ..	1-50	
47.	IS: 1197-1958 Code of Practice for Laying of Rubber Floors ... ..	1-50	
48.	IS: 1198-1958 Code of Practice for Laying and Maintenance of Linoleum Floors ... ..	1-50	
49.	IS: 1201-1958	} Methods for Testing Tar and Bitumen ... ..	5-50
68.	IS: 1220-1958		
69.	IS: 1256-1958 Code of Building Byelaws ... ..	5-00	
70.	IS: 1298-1958 Methods of Test for Determination of Free Lime in Portland Cement ... ..	1-50	



APPENDIX A — Indian Standards Published and in Press — *Contd*

Sl No.		Rs
71.	IS: 1322-1959 Bitumen Felts for Water Proofing and Damp Proofing	
72.	IS: 1326-1958 Non-Coniferous Sawn Timber for Further Conversion	1-50
73.	IS: 1328-1958 Veneered Decorative Plywood ... ..	1-50
74.	IS: 1329-1958 Aircraft Timber Intended for Further Conversion ...	1-50
75.	IS: 1331-1958 Cut Sizes of Timber ... ..	1-00

TDC

76.	IS: 232-1958 Glossary of Textile Terms ( <i>Tentative</i> ) ... ..	
77.	IS: 682-1958 Method for Determination of Ends and Picks per Centimetre in Woven Wool Fabrics ... ..	1-00
78.	IS: 683-1958 Methods for Determination of Weight per Square Metre and Weight per Linear Metre of Wool Fabrics ... ..	1-00
79.	IS: 865-1958 Method for Determination of Colour Fastness of Textile Materials to Decatizing ... ..	1-00
80.	IS: 982-1958 Method for Determination of Colour Fastness of Textile Materials to Carbonizing with Aluminium Chloride ... ..	1-00
81.	IS: 983-1958 Method for Determination of Colour Fastness of Textile Materials to Alkaline Milling ... ..	1-00
82.	IS: 987-1958 Methods for Determination of Colour Fastness of Textile Materials to Bleaching with Sodium Chlorite ... ..	1-00
83.	IS: 1240-1958 Handloom Cotton Nainsook, Bleached or Dyed ...	1-50
84.	IS: 1241-1958 Handloom Cotton Calico, Bleached or Dyed ...	1-00
85.	IS: 1242-1958 Handloom Cotton Shirting, Bleached, Dyed, Striped, Checked or Printed ... ..	1-50
86.	IS: 1243-1958 Handloom Cotton Coating, Bleached, Dyed, Striped or Checked ... ..	1-50
87.	IS: 1244-1958 Handloom Cotton Long Cloth, Bleached or Dyed ...	1-50
88.	IS: 1245-1958 Handloom Cotton Pyjama Cloth, Grey, with Stripes ...	1-50
89.	IS: 1246-1958 Handloom Cotton Curtain Cloth, Bleached, Dyed, Striped, Checked or Printed ... ..	1-50
90.	IS: 1247-1958 Handloom Cotton Madras Check ... ..	1-00
91.	IS: 1265-1958 Handloom Woollen Tweed ... ..	1-50
92.	IS: 1266-1958 Handloom Serge ... ..	1-50
93.	IS: 1267-1958 Handloom Worsted Raffal Shawls ... ..	1-00
94.	IS: 1268-1958 Handloom Worsted Lohis ... ..	1-50
95.	IS: 1274-1958 Cotton Tubular Banding to Drive Spindles ( For Cotton Textile Mills ) ... ..	1-50
96.	IS: 1299-1958 Method for Determination of Dimensional Changes on Washing of Fabrics Woven from Rayon and Synthetic Fibres Not Liable to Felting ... ..	1-50
97.	IS: 1313-1958 Method for Determining Shrinkage of Knitted Goods Containing Wool ... ..	4-00
98.	IS: 1316-1958 Method for Detection and Estimation of Damage in Cotton Fabrics Due to Micro-Organisms ... ..	2-00

**APPENDIX A — Indian Standards Published and in Press — Contd**

Sl No.		Rs
99.	IS: 1321-1958 Hawser-Laid Sisal Rope ... ..	2-50
100.	IS: 1324-1958 Glossary of Textile Terms Relating to Fabrics Made from Man-Made Fibres or Filaments ... ..	1-50
101.	IS: 1325-1958 Glossary of Textile Terms Relating to Man-Made Fibres or Filaments ... ..	2-00
<b>CDC</b>		
102.	IS: 505-1958 China Clay for Rubber Industry ... ..	2-00
103.	IS: 636-1958 Rubber-Lined, Woven-Jacketed Hose For Use in General Fire Fighting Service ... ..	1-50
104.	IS: 867 ( Part II )-1959 Methods of Sampling and Test for Phenolic Moulding Materials — Part II ... ..	
105.	IS: 911-1958 Braided Air Hose, Heavy Duty ... ..	1-50
106.	IS: 912-1958 Braided Air Hose, Light Duty ... ..	1-50
107.	IS: 913-1958 Braided Water Hose, High Pressure ... ..	1-50
108.	IS: 914-1958 Braided Water Hose, Low Pressure ... ..	1-50
109.	IS: 915-1958 One-Mark Graduated Flasks ... ..	1-50
110.	IS: 916-1958 18-Litre Square Tins ... ..	1-50
111.	IS: 917-1958 Activated Calcium Carbonate ... ..	2-00
112.	IS: 918-1958 Precipitated Calcium Carbonate for the Cosmetic and Tooth-Paste Industries ... ..	2-50
113.	IS: 920-1958 Common Salt for Animal Consumption ... ..	1-00
114.	IS: 958-1958 Temporary Corrosion Preventive, Grease, Soft Film, Cold Application ... ..	1-50
115.	IS: 1012-1958 Steam Turbine Lubricating Oils ... ..	3-00
116.	IS: 1091-1958 Cellulose Nitrate, Ester Soluble, for Use in the Manufacture of Clear and Pigmented Lacquers ... ..	
117.	IS: 1117-1958 One-Mark Pipettes ... ..	2-00
118.	IS: 1260-1958 Code of Symbols for Labelling of Dangerous Goods ... ..	1-50
119.	IS: 1272-1958 Coal Tar Solvent Naphtha, Light Grade 2 ... ..	1-50
120.	IS: 1273-1958 Leather Pump Buckets Made from Chrome Tanned Leather ... ..	1-50
121.	IS: 1276-1958 Grease, S. No. 2 ... ..	1-50
122.	IS: 1277-1958 Gear Lubricant, Regular ... ..	1-00
123.	IS: 1288-1958 Methods of Test for Mineral Gypsum ... ..	3-00
124.	IS: 1291-1958 Cattle Licks ( Plain and Mineralized ) ... ..	1-50
125.	IS: 1300-1959 Phenol-Formaldehyde Moulding Powder ( for General Purpose Mouldings ) ... ..	1-50
126.	IS: 1303-1958 Glossary of Terms Relating to Paints ... ..	3-00
127.	IS: 1304-1958 Glossary of Terms Used in Fertilizer Trade and Industry ... ..	1-50
128.	IS: 1314-1958 Anhydrous Calcium Chloride, Technical ... ..	1-00



APPENDIX A — Indian Standards Published and in Press — *Contd*

Sl. No.		Rs
129.	IS: 1333-1958 Ink, Duplicating, All Weather, Black, for Drum Type Machines	1-00
130.	IS: 1334-1958 Calcium Chloride, Technical	1-50

AFDC

131.	IS: 499-1958 Methods of Test for Vacuum Pan Sugar (Plantation White)	3-00
132.	IS: 561-1958 BHC Dusting Powders ( <i>Revised</i> )	2-50
133.	IS: 562-1958 BHC Water Dispersible Powder Concentrates ( <i>Revised</i> )	2-50
134.	IS: 632-1958 BHC Emulsifiable Concentrates ( <i>Revised</i> )	3-00
135.	IS: 1151-1958 Refined Sugar	1-50
136.	IS: 1162-1958 Cane Molasses	2-00
137.	IS: 1163-1958 Covering Chocolate	2-50
138.	IS: 1164-1958 Cocoa-Powder	1-50
139.	IS: 1223-1958 Apparatus for the Determination of Fat in Whole Milk, Evaporated (Unsweetened) Milk, Separated Milk, Skim Milk, Buttermilk and Cream by the Gerber Method	2-00
140.	IS: 1224-1958 Determination of Fat in Whole Milk, Evaporated (Unsweetened) Milk, Separated Milk, Skim Milk, Buttermilk and Cream by the Gerber Method	1-50
141.	IS: 1263-1958 Cocoa-Butter	2-00
142.	IS: 1306-1958 Aldrin, Technical	...
143.	IS: 1307-1958 Aldrin Emulsifiable Concentrates	...
144.	IS: 1308-1958 Aldrin Dusting Powders	...
145.	IS: 1309-1958 Endrin, Technical	2-00
146.	IS: 1310-1958 Endrin Emulsifiable Concentrates	...
147.	IS: 1311-1958 Ethylene Dibromide	2-00
148.	IS: 1312-1958 Methyl Bromide	1-50
149.	IS: 1317-1958 Edible Tapioca Chips	2-00
150.	IS: 1318-1958 Edible Tapioca Flour	1-50
151.	IS: 1319-1958 Edible Tapioca Starch	2-00
152.	IS: 1320-1958 Baker's Yeast	2-50

SMDC

153.	IS: 6-1958 Moderate Heat Duty Fireclay Refractories, Group 'A' ( <i>Second Revision</i> )	1-50
154.	IS: 7-1958 Moderate Heat Duty Fireclay Refractories, Group 'B' ( <i>Second Revision</i> )	1-00
155.	IS: 8-1958 High Heat Duty Fireclay Refractories ( <i>Second Revision</i> )	1-00
156.	IS: 28-1958 Phosphor Bronze Ingots and Castings ( <i>Revised</i> )	1-50
157.	IS: 191-1958 Copper ( <i>Revised</i> )	1-50

APPENDIX A — Indian Standards Published and in Press — *Contd*

Sl No.		Rs
158.	IS: 211-1958 Antimony ( <i>Revised</i> ) ... ..	1-00
159.	IS: 224-1958 Pig Iron (Coke) ( <i>Revised</i> ) ... ..	1-50
160.	IS: 226-1958 Structural Steel ( <i>Second Revision</i> ) ... ..	1-50
161.	IS: 410-1959 Rolled Brass Plate, Sheet, Strip and Foil ( <i>Revised</i> ) ... ..	
162.	IS: 422-1959 Brass Sheet and Strip for the Manufacture of Utensils	
163.	IS: 484-1958 Silica Refractories for General Purposes ( <i>Revised</i> ) ... ..	1-00
164.	IS: 801-1958 Code of Practice for Use of Cold Formed Light Gauge Steel Structural Members in General Building Construction ... ..	4-00
165.	IS: 804-1958 Rectangular Pressed Steel Tanks ... ..	2-00
166.	IS: 963-1958 Chrome-Molybdenum Steel Bars and Rods for Aircraft Purposes ... ..	1-50
167.	IS: 1079-1958 Light Gauge Structural Quality Hot Rolled Carbon Steel Sheet and Strip ... ..	1-50
168.	IS: 1136-1958 Preferred Sizes for Wrought Metal Products ... ..	1-00
169.	IS: 1138-1958 Sizes of Metal Strip, Sheet, Bars (Round and Square), Flats and Plate (for Structural and General Engineering Purposes)	1-00
170.	IS: 1161-1958 Steel Tubes for Structural Purposes ... ..	3-00
171.	IS: 1239-1958 Mild Steel Tubes and Tubulars ... ..	
172.	IS: 1253-1958 Aluminium Shot for Use in Iron and Steel Manufacture	1-00
173.	IS: 1254-1958 Corrugated Aluminium Sheet ... ..	1-50
174.	IS: 1264-1958 Brass Ingots for Gravity Die Castings and Brass Gravity Die Castings (Including Naval Brass) ... ..	1-00
175.	IS: 1278-1958 Filler Rods and Wires for Gas Welding ... ..	2-00
176.	IS: 1280-1958 Foundry Moulding Boxes ... ..	1-50
177.	IS: 1284-1958 Wrought Aluminium Alloys, Bolt and Screw Stock (for General Engineering Purposes) ... ..	2-00
178.	IS: 1285-1958 Wrought Aluminium and Aluminium Alloys, Extruded Round Tube and Hollow Sections (for General Engineering Purposes)	3-00
179.	IS: 1292-1958 Mortar for Laying Silica Bricks ... ..	1-00
180.	IS: 1297-1959 Pressure Bars for Sewing Machines ... ..	1-00
181.	IS: 1305-1958 Graphite for Use as Foundry Facing Material ... ..	1-50
182.	IS: 1335-1959 Method for the Direct Determination of Alumina in Refractory Materials ( <i>Tentative</i> ) ... ..	2-50

ETDC

183.	IS: 203-1958 Leclanché Type Dry Batteries for Flashlights ( <i>Revised</i> )	1-50
184.	IS: 267-1958 Leclanché Type Inert Cells ( <i>Revised</i> ) ... ..	1-50
185.	IS: 722 (Part III)-1958 AC Electricity Meters — Part III ... ..	
186.	IS: 959-1958 Electric Soldering Irons ... ..	1-50
187.	IS: 985-1958 Lead-Acid Storage Batteries (Heavy Duty) for Motor Vehicles ... ..	2-00
188.	IS: 1067-1958 Commercial Silver-Plating ... ..	1-50



**APPENDIX A — Indian Standards Published and in Press — Contd**

Sl No.		Rs
189.	IS: 1068-1958 Copper, Nickel and Chromium Electroplated Coatings	2-00
190.	IS: 1231-1958 Dimensions of Three-Phase Induction Motors ...	1-50
191.	IS: 1255-1958 Code of Practice for Installation, Operation and Maintenance of Impregnated Paper-Insulated Solid Type Lead-Sheathed Power Cables Up to and Including 33 kV ...	10-00
192.	IS: 1271-1958 Classification of Insulating Materials for Electrical Machinery and Apparatus in Relation to Their Thermal Stability in Service ...	2-00
193.	IS: 1287-1958 Electric Toasters ...	1-50
194.	IS: 1293-1958 Three-Pin Plugs and Socket-Outlets ...	2-00
195.	IS: 1301-1958 Code of Safety Requirements for Electric Mains-Operated Audio Amplifiers ...	
196.	IS: 1302-1958 Methods of Measurements on Audio Amplifiers ...	





# DIX B

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THE YEAR ENDED 31 MARCH 1959

## PAYMENTS

Sl No.	HEADS OF EXPENDITURE	AMOUNT
		Rs
1.	Pay of Officers	436 444-18
2.	Allowances of Officers	74 456-25
3.	Provident Fund Contribution for Officers: i) Interest	11 927-00
	ii) Contribution	37 017-00
4.	T.A. for: i) Officers	105 587-01
	ii) Committee Members	20 849-53
5.	Pay of Establishment	311 164-80
6.	Allowances of Establishment	248 303-92
7.	Provident Fund Contribution for Staff: i) Interest	8 135-00
	ii) Contribution	30 485-00
8.	T.A. for Staff	11 937-41
9.	Subscription for ISO & IEC	19 531-53
10.	Printing	156 641-93
11.	Other Charges: i) Stationery	89 870-93
	ii) Postage & Telegrams	63 550-74
	iii) Library: a) Publications	12 312-55
	b) Other Expenses	3 389-76
	iv) Telephones	32 128-99
	v) a) Furniture	19 728-51
	b) Office Equipment	15 419-65
	vi) Rent	27 463-22
	vii) Electric & Water Charges	14 762-61
	viii) Miscellaneous	44 563-46
	ix) Advertisement	11 773-71
	x) Audit Charges	—
	xi) Maintenance of Building	461-22
	xii) Medical Relief	22 813-38
	xiii) Maintenance of Staff Car	4 832-05
12.	Conferences: i) National	9 508-95
	ii) International	—
13.	Exhibition	26 590-61
14.	Testing & Research: i) Research & Consultation	799-27
	ii) Certification Testing	4 464-70
15.	Publicity	9 629-23
		<u>1 886 544-10</u>
16.	Miscellaneous Remittances	139 866-47
17.	ISI Building (Manak Bhavan)	574 852-36
18.	Closing Balances: i) Deposite	370 000-00
	ii) Cash & Bank Balances	512 736-66
		<u>3 483 999-59</u>
	TOTAL	

## INCOME AND EXPENDITURE ACCOUNT FOR

## EXPENDITURE

SL No.	HEADS OF EXPENDITURE	AMOUNT
		Rs
1.	Pay of Officers	436 671-06
2.	Allowances of Officers	74 478-93
3.	Provident Fund Contribution for Officers: i) Interest	11 927-00
	ii) Contribution	37 017-00
4.	T.A. for: i) Officers	112 958-39
	ii) Committee Members	21 180-86
5.	Pay of Establishment	311 236-19
6.	Allowances of Establishment	248 342-77
7.	Provident Fund Contribution for Staff: i) Interest	8 135-00
	ii) Contribution	30 485-00
8.	T.A. for Staff	12 977-41
9.	Subscription for ISO & IEC	19 531-53
10.	Printing	150 497-91
11.	Other Charges: i) Stationery	93 678-75
	ii) Postage & Telegrams	64 147-77
	iii) Library: a) Cost of Books (Below Rs 500-00)	12 805-55
	b) Other Expenses	3 460-25
	iv) Telephones	32 128-99
	v) a) Furniture	16 766-43
	b) Office Equipment	4 643-99
	vi) Rent	29 112-34
	vii) Electric & Water Charges	14 762-61
	viii) Miscellaneous	45 182-79
	ix) Advertisement	11 773-71
	x) Audit Charges	1 400-00
	xi) Maintenance of Building	461-22
	xii) Medical Relief	22 813-38
	xiii) Maintenance of Staff Car	4 832-05
	xiv) Depreciation	15 140-12
12.	Conferences: i) National	9 508-95
	ii) International	—
13.	Exhibition	26 590-61
14.	Testing & Research: i) Research & Consultation	799-27
	ii) Certification Testing	4 464-70
15.	a) Publicity	9 827-50
	b) Pre-Paid Expenses (NPL)	10 837-74
	Excess of Income over Expenditure	1 910 577-86
		17 622-05
	TOTAL	1 928 199-95

# DIX B—Contd

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THE YEAR ENDED 31 MARCH 1959

## INCOME

Sl No.	HEADS OF INCOME	Rs	AMOUNT Rs
1.	Income Other than Government Grant:		
	i) Subscription:		
	a) Collection during 1957-58	239 988-00	
	b) Collection during 1958-59	<u>158 836-00</u>	398 824-00
	ii) Sale proceeds of ISI Publications ( Net )		192 515-32
	iii) Commission on Sale of Publications Other than ISI Publications ( Net ):		
	a) BSI	34 020-16	
	b) IRS & ISD	403-01	
	c) ASTM	2 026-74	
	d) IEC	1 220-50	
	e) ISO	93-18	
	f) SAA	23-29	
	g) JIS	767-09	
	h) CE	28-99	
	j) Miscellaneous	<u>1 513-75</u>	40 096-71
	iv) Certification Marks Fees & Inspection Charges		77 234-44
	v) Contribution by ISI Employees to CHSS		5 394-25
	vi) Interest on Investment		6 312-49
	vii) Miscellaneous Receipts		14 705-14
	viii) Advertisement in ISI Bulletin		<u>30 117-60</u>
			765 199-95
2.	a) Government Grant for Recurring Expenditure		1 113 000-00
	b) Amount transferred from Balance Sheet 1957-58 (Liability to the Ministry for Documentary Film )		50 000-00
		TOTAL	<u><u>1 928 199-95</u></u>



**APPENDIX**  
( See )  
**BALANCE SHEET AS AT 31-3-58**

Sl. No.	<b>LIABILITIES</b>	Rs	AMOUNT Rs
1. a)	Advance Subscription for 1959		273 724-51
b)	Delegation Fee for Annual Group Meeting of IEC during 1960-61		25 000-00
2.	Contributory Provident Fund:		
i)	Opening Balance	512 710-00	
ii)	Add Subscription less Withdrawals	83 252-00	
iii)	Add Contribution ( less Refunds ) by ISI during the year	63 346-00	
iv)	Add Interest	19 939-00	679 247-00
3.	Sundry Creditors:		
i)	Inland	94 112-47	
ii)	Abroad	117 073-58	211 186-05
4.	ISI Building Fund:		
i)	Collection up to 31-3-58	1 788 390-01	
ii)	Collection during 1958-59	22 427-57	
iii)	Government of India Grant	270 000-00	2 080 817-58
5.	' K. L. Moudgill Prize ' Fund:		
i)	Collection up to 31-3-58	11 136-53	
ii)	Collection during the year	375-41	11 511-94
6.	Capital Account:		
i)	Balance Brought Forward	686 704-85	
ii)	Add Excess of Income over Expenditure during the year	17 622-09	
		704 326-94	
iii)	Less Cost of Assets ( Below Rs 500-00 ) reversed	221 131-18	483 195-76
		<b>TOTAL</b>	<b>3 764 682-8</b>

I certify that I have obtained all the information and explanations that I required and that subject to the remarks in the Audit Report, the balance sheet exhibits, in my opinion, the true financial position of ISI according to the best of my information and the explanation given to me and as shown by the books of ISI.

Sd. S. C. NANDA  
Local Audit Officer

*Food, Rehabilitation, Supplies, Commerce, Steel & Mines, New Delhi*

# DIX B — Contd

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AT 31 MARCH 1959

ASSETS		Rs	AMOUNT Rs
SL No.			
1. Cash:	i) At the Banks:		
	a) State Bank of India, Delhi/Calcutta/Madras	500 824.11	
	b) Bank of Baroda, Bombay	10 639.57	
	ii) In Office (Including Imprest): Delhi/ Bombay/Calcutta/Madras	1 272.98	
	iii) Postage Stamps	4 774.47	
		<u>517 511.13</u>	
2. Investments:	i) Fixed Deposits	370 000.00	
	ii) 'K. L. Moudgill Prize' Fund (Shares of Jay Eng Works)	11 400.00	
	iii) Contributory Provident Fund:		
	a) National Savings Certificates	570 000.00	
	b) Balance of Loans with Members	22 512.00	
	c) Balance recoverable (ISI)	115.00	
	d) Balance in Bank	86 620.00	
		<u>1 060 647.00</u>	
3. Sundry Debtors:	i) Advance to Staff:		
	a) Conveyance	26 830.00	
	b) Miscellaneous	7 434.73	
	ii) Deposits:		
	a) P & T Deptt., Bombay, Delhi & Calcutta (Balance Sheet Items)	75.00	
	b) NDMC (Balance Sheet Item)	3 600.00	
	c) Madras Electric Board, Madras	40.00	
	iii) Others	152 997.10	
		<u>190 976.83</u>	
4. Stock:	i) Printing Paper in hand	80 112.46	
	ii) Library Books	10 082.68	
	iii) Furniture & Office Equipment	87 479.51	
		<u>177 674.65</u>	
5. Staff Car			5 699.56
6. ISI Building Project (Construction & Preliminary Expenses):			
	i) As at 31-3-58	1 194 895.68	
	ii) During the year 1958-59	594 979.27	
		<u>1 789 874.95</u>	
7. Expenses Pre-paid:			
	i) Deputy Controller of Stationery, Calcutta	7 802.90	
	ii) Surveyor General of India, Calcutta	1 000.00	
	iii) National Physical Laboratory	12 495.82	
	iv) Government Central Wood Working Institute, Bareilly	1 000.00	
		<u>22 298.72</u>	
	TOTAL		<u><u>3 764 682.84</u></u>

Sd. HARBANS LAL  
Secretary (Administration)  
Indian Standards Institution, New Delhi

# APPENDIX C

(See page 7)

## STAFF

(As on 31 March 1959)

Director: LAL C. VERMAN

Joint Director: A. N. GHOSH

Extra Assistant Director: T. PURNANANDAM

### ENGINEERING DIVISION

DEPUTY DIRECTOR  
ASSISTANT DIRECTOR  
SECTION OFFICER

J. P. MEHROTRA  
M. V. PATANKAR  
K. SRI RAM

### TEXTILE DIVISION

DEPUTY DIRECTOR  
ASSISTANT DIRECTOR  
EXTRA ASSISTANT DIRECTOR  
SECTION OFFICER

MAHARAJ KISHEN  
R. S. PRAYAG  
T. BALAKRISHNAN  
S. P. BHALLA

### AGRICULTURAL AND FOOD PRODUCTS DIVISION

DEPUTY DIRECTOR  
EXTRA ASSISTANT DIRECTOR  
SECTION OFFICER

D. V. KARMARKAR  
P. H. RAMANATHAN  
MAHARAJ DASS

### ELECTROTECHNICAL DIVISION

ASSISTANT DIRECTOR  
EXTRA ASSISTANT DIRECTOR  
SECTION OFFICER

Y. S. VENKATESWARAN  
S. SRINIVASAN  
CHANDER SAIN

### CERTIFICATION MARKS & IMPLEMENTATION DIVISION

DEPUTY DIRECTOR  
EXTRA ASSISTANT DIRECTOR  
EXTRA ASSISTANT DIRECTOR  
SECTION OFFICER

C. N. MODAWAL  
A. S. CHEEMA  
A. P. BANERJI  
P. CHATTERJEE

### PUBLICATIONS SECTION

CHIEF EDITOR  
EXTRA ASSISTANT DIRECTOR  
EXTRA ASSISTANT DIRECTOR  
EXTRA ASSISTANT DIRECTOR

JAINATH KAUL  
S. P. BATTOO  
G. P. SRIVASTAVA  
V. H. RAM

### BUILDING DIVISION

DEPUTY DIRECTOR  
ASSISTANT DIRECTOR  
EXTRA ASSISTANT DIRECTOR  
EXTRA ASSISTANT DIRECTOR  
SECTION OFFICER

C. S. CHANDRASEKHARA  
D. AJITHA SIMHA  
S. P. RAMAN  
C. R. RAMA RAO  
H. R. SAYAL



**APPENDIX C — Staff — Contd**

**CHEMICAL DIVISION**

DEPUTY DIRECTOR  
ASSISTANT DIRECTOR  
SECTION OFFICER

SADGOPAL  
D. DAS GUPTA  
K. P. KHANNA

**STRUCTURAL AND METALS DIVISION**

ASSISTANT DIRECTOR  
ASSISTANT DIRECTOR  
EXTRA ASSISTANT DIRECTOR  
EXTRA ASSISTANT DIRECTOR

B. S. KRISHNAMACHAR  
H. C. SHARMA  
H. N. KRISHNAMURTHY  
A. P. SIVARAMAKRISHNAN

**STATISTICAL SECTION**

ASSISTANT DIRECTOR  
EXTRA ASSISTANT DIRECTOR  
EXTRA ASSISTANT DIRECTOR

A. K. GUPTA  
B. N. SINGH  
S. R. KUPPANNA

**PUBLIC RELATIONS SECTION**

ASSISTANT DIRECTOR  
SECTION OFFICER (S & D)  
SECTION OFFICER (PR)

B. L. BHATIA  
R. S. SODHI  
P. H. GAJWANI

**PUBLICITY SECTION**

ASSISTANT DIRECTOR

J. S. GULATI

**ADMINISTRATION SECTION**

SECRETARY  
SECTION OFFICER (ADMN)  
SECTION OFFICER (ACCOUNTS)  
SECTION OFFICER (ESTT)

HARBANS LAL  
V. S. MATHUR  
G. L. BHATIA  
LAJPAT RAI

**BRANCH OFFICE, BOMBAY**

ASSISTANT DIRECTOR

A. B. RAO

**BRANCH OFFICE, CALCUTTA**

ASSISTANT DIRECTOR

S. K. SEN

**BRANCH OFFICE, MADRAS**

ASSISTANT DIRECTOR

G. L. GULATI

## APPENDIX D

(See page 61)

### NEW LICENCES ISSUED UNDER ISI CERTIFICATION MARKS SCHEME DURING 1958-59

LICENCE No.	NAME AND ADDRESS OF THE LICENSEE	PERIOD OF VALIDITY	ARTICLE ( NUMBER OF RELEVANT INDIAN STANDARD )	UNIT	MARKING FEE PER UNIT
CM/L-76 24-4-58	The Rampur Distillery & Chemical Co. Ltd., Rampur	1-5-58 to 30-4-59	Rectified Spirit — Grade A ( IS: 323-1952 )	One thousand bulk gallons	Rs 8-00 per unit for the first 200 units Rs 6-00 per unit for the next 300 units Rs 4-00 per unit for the 501st unit and over
100 CM/L-77 24-4-58	M/s. Concrete Spun Pipe Works, Kanpur	do	Non-pressure Concrete Pipes (with and without Reinforcement) (IS:458-1956)	One ton	Rs 2-50
CM/L-78 24-4-58	M/s. Crossely & Towers Private Ltd., Calcutta	do	Tea-Chest Plywood Panels ( IS: 10-1953 )	One hundred square feet	Nil ( Contribution to the Plywood Industry Voluntary Contribution Fund would continue to be made to the Development Wing, Ministry of Commerce & Industry )
CM/L-79 24-4-58	M/s. National Timber Industries, Calcutta	do	do	do	do
CM/L-80 24-4-58	M/s. Das & Co., Calcutta	do	do	do	do
CM/L-81 24-4-58	M/s. National Plywood Industries, Calcutta	do	do	do	do
CM/L-82 24-4-58	M/s. Dhubri Plywood Works, Dhubri	do	do	do	do

**APPENDIX D—NEW LICENCES ISSUED UNDER ISI CERTIFICATION MARKS SCHEME DURING  
1958-59 — Contd**

LICENCE No.	NAME AND ADDRESS OF THE LICENSEE	PERIOD OF VALIDITY	ARTICLE ( NUMBER OF RELEVANT INDIAN STANDARD )	UNIT	MARKING FEE PER UNIT
CM/L-83 24-4-58	M/s. Bando Plywood Works, Calcutta	1-5-58 to 30-4-59	Tea-Chest Plywood Panels ( IS: 10-1953 )	One hundred square feet	Nil (Contribution to the Plywood Industry Voluntary Contribution Fund would continue to be made to the Development Wing, Ministry of Commerce & Industry)
CM/L-84 24-4-58	M/s. National Saw & Plywood Works, Tinsukia	do	do	do	do
CM/L-85 24-4-58	M/s. Hindustan Timber Industries, Calcutta	do	do	do	do
CM/L-86 24-4-58	The Surma Match & Industries Private Ltd., Calcutta	do	do	do	do
CM/L-87 22-5-58	M/s. Bagdogra Plywood Factory, Bagdogra, Dist. Darjeeling	2-6-58 to 1-6-59	do	do	do
CM/L-83 22-5-58	The Hindustan Electric Co. Ltd., Faridabad	do	Aluminium Conductor Steel Reinforced and All Aluminium Conductors ( IS: 398-1953 )	One ton	Re 1-00
CM/L-89 22-5-53	M/s. Estrela Batteries Ltd., Matunga, Bombay	do	Leclanché Type Dry Cells and Batteries for Flash Lamps ( IS: 203-1950 )	One thousand dry cells or batteries	20 nP per unit for the first 20 000 units 10 nP per unit for the 20 001st unit and over for production during a year
CM/L-90 20-6-58	The National Screw & Wire Products Limited, Calcutta	1-7-58 to 30-6-59	Hard-Drawn Copper Solid and Stranded Circular Conductors for Overhead Power Transmission Purposes ( IS: 282-1951 )	One ton	Re 1-00



**APPENDIX D — NEW LICENCES ISSUED UNDER ISI CERTIFICATION MARKS SCHEME DURING  
1958-59 — Contd**

LICENCE No.	NAME AND ADDRESS OF THE LICENSEE	PERIOD OF VALIDITY	ARTICLE ( NUMBER OF RELEVANT INDIAN STANDARD )	UNIT	MARKING FEE PER UNIT
CM/L-91 20-6-58	The Arbariya Malleable Industries, Agra	1-7-58 to 30-6-59	Malleable Iron Castings for Cycle Bottom Shells and Motor Truck Chassis Parts ( IS: 227-1954 )	One piece	i) <i>Cycle Bottom Shells</i> One Naya Paisa with a minimum of Rs 150-00 for production during a calendar year ii) <i>Motor Truck Chassis Parts</i> Three Naye Paise with a minimum of Rs 150-00 for production during a calendar year
CM/L-92 8-7-58	M/s. Assam Bengal Saw Mills Private Ltd., Calcutta	16-7-58 to 15-7-59	Tea-Chest Plywood Panels ( IS: 10-1953 )	One hundred square feet	Nil ( Contribution to the Plywood Industry Voluntary Contribution Fund would continue to be made to the Development Wing, Ministry of Commerce & Industry )
CM/L-93 8-7-58	M/s. India Plywood Co., Calcutta	do	do	do	do
CM/L-94 4-8-58	M/s. Enco Plywood & Sawmill Industries, Sili-guri P.O., Dist. Darjee-ling	15-8-58 to 14-8-59	do	do	do
CM/L-95 4-8-58	The National Electrical Industries Ltd., Bombay	do	Threephase Induction Motors for Industrial Use, from 1 hp to 10 hp ( IS: 325-1956 )	One hp	15 Naye Paise
CM/L-96 18-9-58	M/s. Travancore Titanium Products Ltd., Trivan-drum	1-10-58 to 30-9-59	Titanium Dioxide for Paints, Anatase ( Type A ) ( IS: 411-1953 )	One ton	Re 1-00

APPENDIX D — NEW LICENCES ISSUED UNDER ISI CERTIFICATION MARKS SCHEME DURING  
1958-59 — *Contd*

LICENCE No.	NAME AND ADDRESS OF THE LICENSEE	PERIOD OF VALIDITY	ARTICLE ( NUMBER OF RELEVANT INDIAN STANDARD )	UNIT	MARKING FEE PER UNIT
CM/L-97 18-9-58	M/s. Sri Shunmuga Metal Works, Sangiliyandavarpuram, Tiruchirapalli	1-10-58 to 30-9-59	Wrought Aluminium Utensils, Grade A ( IS: 21-1953 )	One ton	Rs 2-00
CM/L-98 18-9-58	M/s. Tata-Fison Private Ltd., Palluruthy, Cochin	do	BHC Dusting Powders ( IS: 561-1955 )	One ton	Re 1-00
CM/L-99 18-9-58	M/s. Tata-Fison Private Ltd., Palluruthy, Cochin	do	DDT Dusting Powders ( IS: 564-1955 )	One ton	Rs 2-00
103 CM/L-100 18-9-58	The Central Trading Co. Pvt. Ltd., Calcutta	do	Tea-Chest Plywood Panels ( IS: 10-1953 )	One hundred square feet	Nil ( Contribution to the Plywood Industry Voluntary Contribution Fund would continue to be made to the Development Wing, Ministry of Commerce & Industry )
CM/L-101 18-9-58	The Travancore Timber & Products, Kottayam ( Kerala State )	do	do	do	do
CM/L-102 19-9-58	The Record Trading Company, Bombay	do	Fountain Pen Ink, Blue-Black ( IS: 220-1950 )	One gallon	10 Naye Paise
CM/L-103 7-10-58	The Standard Batteries Ltd., Bombay	1-11-58 to 31-10-59	Lead-Acid Storage Batteries for Motor Vehicle, Light Duty ( IS: 395-1952 )	One battery	12.5 nP per unit for the first 30 000 batteries or part thereof with a minimum of Rs 2 500-00 6.5 nP per unit for the 30 001st battery and over

**APPENDIX D — NEW LICENCES ISSUED UNDER ISI CERTIFICATION MARKS SCHEME DURING  
1958-59 — Contd**

LICENCE No.	NAME AND ADDRESS OF THE LICENSEE	PERIOD OF VALIDITY	ARTICLE ( NUMBER OF RELEVANT INDIAN STANDARD )	UNIT	MARKING FEE PER UNIT
CM/L-104 7-10-58	The East India Distilleries & Sugar Factories Ltd., Nellikuppam, S.I.	1-11-58 to 31-10-59	Rectified Spirit, Grade A ( IS: 323-1952 )	One thousand bulk gallons	Rs 8-00 per unit for the first 200 units Rs 6-00 per unit for the next 300 units Rs 4-00 per unit for the 501st unit and over
CM/L-105 31-10-58	M/s. Sylvan Plywood Mills, Kottayam ( Kerala State )	17-11-58 to 16-11-59	Tea-Chest Plywood Panels ( IS: 10-1953 )	One hundred square feet	Nil ( Contribution to the Plywood Industry Voluntary Contribution Fund would continue to be made to the Development Wing, Ministry of Commerce & Industry )
CM/L-106 4-11-58	The Mysore Chemical Manufacturers Ltd., Chikbanavar P.O. ( Bangalore Dist. )	do	Copper Sulphate, Technical ( IS: 261-1950 )	One ton	Rs 2-00
CM/L-107 4-11-58	The Assam Veneer & Saw Mills Ltd., Calcutta	do	Tea-Chest Plywood Panels ( IS: 10-1953 )	One hundred square feet	Nil ( Contribution to the Plywood Industry Voluntary Contribution Fund would continue to be made to the Development Wing, Ministry of Commerce & Industry )
CM/L-108 4-11-58	The Asiatic Plywood Industries, Calcutta	do	do	do	do
CM/L-109 4-11-58	M/s. Savlar Paint & Varnish Works, Bombay	do	Oil Paste for Paints, Zinc Oxide, Oil Paste for Paints, Zinc Oxide, Reduced ( IS: 98-, 99-1950 )	One hundred-weight	25 nP



**APPENDIX D — NEW LICENCES ISSUED UNDER ISI CERTIFICATION MARKS SCHEME DURING  
1958-59 — Contd**

LICENCE No.	NAME AND ADDRESS OF THE LICENSEE	PERIOD OF VALIDITY	ARTICLE (NUMBER OF RELEVANT INDIAN STANDARD)	UNIT	MARKING FEE PER UNIT
CM/L-110 23-12-58	The Jaipur Metals & Electricals Ltd., Jaipur	1-11-59 to 31-12-59	Hard-Drawn Copper Solid Circular Conductors for Overhead Power Transmission Purposes (IS: 282-1951)	One ton	Re 1-00
CM/L-111 16-12-58	M/s. Beliaghata Timber Works Private Ltd., Calcutta	do	Tea-Chest Plywood Panels (IS: 10-1953)	One hundred square feet	Nil (Contribution to the Plywood Industry Voluntary Contribution Fund would continue to be made to the Development Wing, Ministry of Commerce & Industry)
CM/L-112 26-12-58	The Kesar Sugar Works Ltd., Bombay	do	Hydroquinone, Photographic Grade (IS: 388-1952)	One pound	7 nP with a minimum of Rs 1 750-00 for production during a calendar year
CM/L-113 19-1-59	M/s. Phoenix Plywood, Kottayam (Kerala State)	1-2-59 to 31-1-60	Tea-Chest Plywood Panels (IS: 10-1953)	One hundred square feet	Nil (Contribution to the Plywood Industry Voluntary Contribution Fund would continue to be made to the Development Wing, Ministry of Commerce & Industry)
CM/L-114 19-1-59	M/s. Venus Plywood Co., Nennmara P.O. (Kerala State)	do	do	do	do
CM/L-115 28-1-59	M/s. Kamal Brothers, Calcutta	16-2-59 to 15-2-60	do	do	do

**APPENDIX D — NEW LICENCES ISSUED UNDER ISI CERTIFICATION MARKS SCHEME DURING  
1958-59 — Contd**

LICENCE No.	NAME AND ADDRESS OF THE LICENSEE	PERIOD OF VALIDITY	ARTICLE ( NUMBER OF RELEVANT INDIAN STANDARD )	UNIT	MARKING FEE PER UNIT
CM/L-116 3-2-59	M/s. Minerva Plywood Industries, Calcutta	16-2-59 to 15-2-60	Tea-Chest Plywood Panels ( IS: 10-1953 )	One hundred square feet	Nil ( Contribution to the Plywood Industry Voluntary Contribution Fund would continue to be made to the Development Wing, Ministry of Commerce & Industry )
CM/L-117 13-2-59	M/s. Metallica Works Private Ltd., Bombay	2-3-59 to 1-3-60	Antifriction Bearing Alloys ( IS: 25-1950 )	One hundred-weight	Rs 4-90
CM/L-118 19-2-59	M/s. Bengal Plywood Mfg. Co., Calcutta	do	Tea-Chest Plywood Panels ( IS: 10-1953 )	One hundred square feet	Nil ( Contribution to the Plywood Industry Voluntary Contribution Fund would continue to be made to the Development Wing, Ministry of Commerce & Industry )
CM/L-119 9-3-59	M/s. Colink Industries, Delhi	16-3-59 to 15-3-60	Ink, Drawing Waterproof, Black ( IS: 789-1955 )	One gross bottles	20 nP per unit for $\frac{1}{2}$ oz bottles 40 nP per unit for 1 oz bottles
CM/L-120 20-3-59	M/s. Himalayan Plywood Industries Private Ltd., Tinsukia P.O.	1-4-59 to 31-3-60	Tea-Chest Plywood Panels ( IS: 10-1953 )	One hundred square feet	Nil ( Contribution to the Plywood Industry Voluntary Contribution Fund would continue to be made to the Development Wing, Ministry of Commerce & Industry )

# APPENDIX E

( See page 61 )

## ARTICLES COVERED BY STANDARD MARKS SPECIFIED DURING 1958-59

Sl. No.	PRODUCT/CLASS OF PRODUCT	NO. AND TITLE OF THE RELEVANT INDIAN STANDARD	NO. AND DATE OF THE GAZETTE NOTIFICATION
1.	DDT, Technical	IS: 563-1955 DDT, Technical	SO 601 dated 26-4-58
2.	Concrete Pipes ( With & Without Reinforcement)	IS: 458-1956 Concrete Pipes ( With & Without Reinforcement )	SO 602 dated 26-4-58
3.	Leclanché Type Dry Cells or Batteries for Flash Lamps	IS: 203-1950 Leclanché Type Dry Cells and Batteries for Flash Lamps	SO 974 dated 31-5-58
4.	Malleable Iron Castings for: i) Cycle Bottom Shells, and ii) Motor Truck Chassis Parts	IS: 227-1954 Malleable Iron Castings	SO 1289 dated 5-7-58
5.	Titanium Dioxide for Paints	IS: 411-1953 Titanium Dioxide for Paints	SO 1848 dated 13-9-58
6.	Fountain Pen Ink, Blue-Black	IS: 220-1950 Fountain Pen Ink, Blue-Black	SO 2004 dated 4-10-58
7.	Oil Paste for Paints, Zinc Oxide	IS: 98-1950 Oil Paste for Paints, Zinc Oxide	SO 2344 dated 15-11-58
8.	Oil Paste for Paints, Zinc Oxide, Reduced	IS: 99-1950 Oil Paste for Paints, Zinc Oxide, Reduced	SO 2344 dated 15-11-58
9.	Hydroquinone, Photographic Grade	IS: 388-1952 Hydroquinone, Photographic Grade	SO 14 dated 3-1-59
10.	Antifriction Bearing Alloys	IS: 25-1950 Antifriction Bearing Alloys	SO 420 dated 21-2-59
11.	Ink, Drawing, Waterproof, Coloured, Transparent and Opaque	IS: 788-1955 Ink, Drawing Waterproof, Coloured, Transparent and Opaque	SO 569 dated 14-3-59
12.	Ink, Drawing, Waterproof, Black	IS: 789-1955 Ink, Drawing, Waterproof, Black	SO 569 dated 14-3-59



# INDIAN STANDARDS INSTITUTION

## GENERAL INFORMATION

### Aims and Objects

The Indian Standards Institution was set up in 1947, in pursuance of a decision of the Government of India, for the purpose of preparing and promoting standards for Indian Industry. This decision followed upon the recommendations of the Industrial Research Planning Committee (1945), and was welcomed by the industry as the fulfilment of a demand, first put forward by the Twelfth Industries Conference held in Lucknow in 1940. The objects of ISI include the preparation, promotion and general adoption, at the national and international levels, of standards relating to materials, commodities, structures, practices and operations. ISI aims at assisting in the rationalization of industry by co-ordinating the efforts of producers and consumers for the improvement of appliances, processes, raw materials and products. It promotes quality control methods, and provides for the registration of Standard Marks applicable to materials, commodities, etc, conforming to standards issued by it.

### Organization and Work

The overall control of the Institution rests with the General Council (GC), on which are represented industry, Central and State Governments, scientific organizations, subscribing members and the Division Councils of ISI. The Executive Committee (EC), appointed by GC, is responsible for the actual management of the affairs of the Institution. Financial matters are under the purview of a Finance Committee (FC), similarly appointed. The income of the Institution is derived from Government grants from the Centre, subscriptions from members, including State Governments, and from sale of standards.

In the preparation of standards, ISI functions through a large number of Sectional Committees, Subcommittees and Panels, consisting of scientists, technologists and representatives drawn from industrial and Government organizations. These committees are appointed by EC or the seven Division Councils of ISI, namely the Engineering Division Council (EDC), the Building Division Council (BDC), the Textile Division Council (TDC), the Chemical Division Council (CDC), the Agricultural and Food Products Division Council (AFDC), the Structural and Metals Division Council (SMDC) and the Electrotechnical Division Council (ETDC).

Proposals for formulating Indian Standards are normally entertained from the members of ISI. Every proposal is scrutinized, first by the appropriate Division Council, and then by the Executive Committee.

If the proposal is approved, the Division Council assigns the work to the Sectional Committee concerned with the subject, if one exists, or sets up a new committee.

A Sectional Committee is representative of the various interests concerned, but has to be weighted in favour of the consumers' interests. The sectional committees form subcommittees and panels, when required, and instruct them to prepare a working document or a draft on the subject after study of data and literature available on the subject. Where necessary, tests are carried out in collaborating laboratories. After the draft is approved by the Sectional Committee, it is issued in circulation, for the purpose of eliciting comments, to interested parties in India and abroad. This draft is reconsidered in the light of comments received and, when finalized, becomes a recommendation of the Sectional Committee. It is, then, submitted for approval of the Chairman of the Division Council concerned and to the Chairman of EC to whom power has been delegated to authorize its publication as an Indian Standard.

A period of one to three years may, therefore, elapse from the date that an item is proposed for standardization to the time when the standard is finally printed.

The bulk of the technical work towards the preparation of standards is done by ISI committees. The staff in the ISI Directorate co-ordinates the work of these committees, undertakes the necessary secretarial duties, collects and supplies background data, organizes investigations and enquiries, ensures that delays are avoided and standards are appropriately examined at each stage of formulation. Finally, the standards are edited and published by the Directorate. The published standards are brought to the notice of the various indenting and purchase departments of the different Governments, Central and States, to ensure their early adoption.

### **Implementation and Certification**

ISI believes that the acceptance of Indian Standards by Industry or Government can best be promoted through the intrinsic merit of the standards themselves. The fact that Indian Standards are formulated in collaboration with the largest number of interests concerned should, it is believed, ensure their widespread acceptance. An important step taken by ISI to aid industrialists to produce quality goods and for the consumers to recognize them, is the establishment of the ISI Certification Marks Division which issues licences to manufacturers to stamp their goods with a Standard Mark certifying that the goods conform to the relevant Indian Standard. The presence of this mark on any article is a guarantee to the consumer in regard to the quality of the article he is purchasing. The extensive use of the facilities which ISI provides through this scheme should benefit the industrialists and the consumers in the country, and also strengthen and promote India's export trade.



Indian Standards are voluntary, and the membership of the Institution involves no compulsion on the part of members to follow them either in manufacture or in making purchases. All the same, a very large number of Indian Standards has already been adopted by Government departments for the purpose of making their own purchases. In addition, representatives of various departments of the Central Government have agreed, as decided at an inter-departmental meeting called by the Ministry of Commerce & Industry in September 1953, to place all orders on the basis of specifications contained in the Indian Standards wherever such standards exist. As a result of this policy decision and the Government directive that each department should let the Institution know within a reasonable time why a particular standard may not be acceptable, is going a long way in diverting Indian production to standardized channels. It is but natural that when any industry begins to produce items in response to official tenders, in accordance with standard specifications, the benefits of the improved quality become available to all consumers of such products.

### **International Sphere**

ISI also works at international level and collaborates closely with the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC), the two important bodies engaged in international standardization. In addition, close liaison has been established with National Standards Bodies of the Commonwealth. ISI is also active at the executive levels of ISO and IEC. It is an elected member of the governing Council of the former and the Committee of Action of the latter. Dr. Lal C. Verman, Director, ISI, was the elected Vice-President of ISO from 1949 to 1955.

### **Membership**

Membership of ISI is open to all organizations and persons interested in the objects of ISI. There are three categories of membership, namely (i) Sustaining Members and Sustaining Members ( Associates ), (ii) Ordinary Members, and (iii) Committee Members. Sustaining membership is generally open to all organizations, companies, firms, Government departments and neighbouring countries; but the Associate membership is limited to firms with an annual business of less than Rs 250 000 and professional, scientific, technological and educational institutions. Individuals interested in the work of ISI can join as Ordinary Members. Persons serving on ISI Councils and Committees are classed as Committee Members. Depending upon the class of membership, members have the right to apply for information on standardization both in India and abroad, to give evidence at appropriate technical levels and continuously to receive information concerning the development of standards on subjects in which they are interested.



## Publications

Besides the Indian Standards issued from time to time, ISI issues an ISI Handbook of publications giving general information about organizational set-up of ISI and a comprehensive list of Indian Standards with a brief description of each. ISI also issues free to its members in all categories a useful and informative Bulletin every two months; its annual subscription for non-members is six rupees. The ISI Bulletin contains articles, research papers and other information relating to standardization activities in India and abroad.

(Continued from cover page 2)

Vice-Chairman, CDC & SWCC

SHRI MADHAV B. BHAGVAT  
Chief Executive Officer (Operations),  
Tata Chemicals Ltd., Bombay

Chairman

*Agricultural and Food Products  
Division Council (AFDC) and  
Standing Working Committee  
Agricultural and Food Products  
(SWCAF)*

DR. M. S. RANDHAWA  
Additional Secretary, Ministry of Food &  
Agriculture, Government of India, and Vice-  
President, Indian Council of Agricultural  
Research

Vice-Chairman, AFDC & SWCAF

DR. V. N. PATWARDHAN  
Director, Nutrition Research Laboratories,  
Coonoor

Chairman

*Structural & Metals Division  
Council (SMDC) and Standing  
Working Committee Structural &  
Metals (SWCSM)*

SHRI J. J. GHANDY  
Director-in-Charge, Tata Iron & Steel Co. Ltd.,  
Jamshedpur

Vice-Chairmen, SMDC & SWCSM

SHRI S. L. KUMAR  
Director Research, Railway Testing & Re-  
search Centre, Lucknow

DR. B. R. NIJHAWAN  
Director, National Metallurgical Laboratory  
(CSIR), Jamshedpur

Chairman

*Electrotechnical Division Council  
(ETDC) and Standing Working  
Committee Electrotechnical (SWCET)*

SHRI M. HAYATH  
Chairman, Central Water & Power Commission  
(Power Wing), Shahjehan Road, New Delhi

Vice-Chairman, ETDC & SWCET

SHRI B. V. BALIGA  
Managing Director, Bharat Electronics (P)  
Ltd., Bangalore

# PUBLICATIONS OF INDIAN STANDARDS INSTITUTION

## INDIAN STANDARDS

Over 1200 Indian Standards, broadly classified under the following heads, have been issued so far:

<b>Engineering</b>	Textile Test Methods	Copper and Copper Alloy
Bicycle Components	Wool	Design and Construction
Cutlery	<b>Chemical</b>	Ferro Alloys
General Engineering	Coal and Coke	Foundry
Machinery	Essential Oils	Lead, Zinc, Antimony and Their Alloys
Miscellaneous Items	General Chemicals	Ores
Sports Goods	Glass and Ceramic Wares	Physical Tests
Tools	Inks, Paper and Other Allied Products	Pig Iron, Cast Iron and Malleable Cast Iron
<b>Building</b>	Leather and Leather Goods	Refractories
Bitumen, Tar and Tar Pro- ducts	Metal Containers	Solders
Builder's Hardware	Oils, Fats and Soaps	Steel and Steel Products
Building Design	Paints, Printing Inks, Lac and Allied Materials	Welding
Cement and Concrete	Petroleum Products and Lubricants	<b>Electrotechnical</b>
Floor and Roof Coverings	Rubber — Plastics and Allied Products	Electrical Line Materials
General Civil Engineering	<b>Agricultural &amp; Food</b>	Electrical Rotating Machi- nery
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