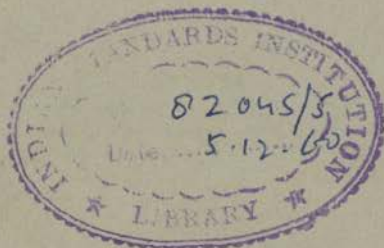


INDIAN STANDARDS INSTITUTION (ISI)

THIRTEENTH
ANNUAL REPORT
APRIL 1959—MARCH 1960



MANAK BHAVAN, 9 MATHURA ROAD
NEW DELHI 1

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INDIAN STANDARDS INSTITUTION

(As on 31 March 1960)

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(Continued on cover page 3)

INDIAN STANDARDS INSTITUTION (ISI)

THIRTEENTH
ANNUAL REPORT
APRIL 1959 – MARCH 1960



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

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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.

THIRTEENTH ANNUAL REPORT

OF THE
INDIAN STANDARDS INSTITUTION
(APRIL 1959 — MARCH 1960)

PART I GENERAL REVIEW

THE REPORT covers the activities of the Indian Standards Institution during 1959-60, the thirteenth year of its existence. The Institution has been able to maintain its uninterrupted progress towards the formulation and publication of more and more standards each year, wider implementation of the standards produced, greater participation of the public and private sector industries in its work and increased financial support from all concerned. It can be said that the country is taking greater cognizance of the useful work done by the Institution and the utility of standardization in economic and industrial growth of the nation. There has been widespread awareness of the advantages of the Certification Mark resulting in a larger demand for certified goods, particularly from purchase organizations of some of the States, and also in an increased number of firms desiring to become licensees of the Certification Marks Scheme.

It is particularly gratifying to note that by intensive activities, both in the Directorate and in the Committees, ISI was, this year, able to overshoot its target of production by 38 standards one year ahead of the target date. Under the Second Five Year Plan of ISI, standards production was to reach the mark of 200 per year in the year 1960-61. In the year under report, ISI sent 216 new standards and 22 revised standards to press.

The General Council (GC) met on 26 March 1960, when Shri Lal Bahadur Shastri, Union Minister for Commerce and Industry, President of ISI, presided. The Executive and Finance Committees, each, met five times during the year.

Published Standards — At the conclusion of the year, the total number of standards published and under print reached the figure of 1 434 as against 1 219 at the end of the preceding year. During the year, 216 new standards and 22 revised standards (see Appendix A, p. 99) were sent to press, as against 196 in the previous year; and one standard, namely IS: 886-1957 Dimensions for Screw Threads (Below 6 mm), was withdrawn.

The substantial increase in the number of published standards is largely due to the enhanced activities of ISI committees and subcommittees, the number of which rose from 791 to 887, with a total committee membership of 9 878, as against 8 195 at the end of 1958-59.

Membership — The subscribing membership of the Institution rose from 1 770 to 1 946 in the year under report, showing an increase of 176. The revenue realized through this source was Rs 4.31 lakhs as against Rs 3.99 lakhs in the previous year. The growth of ISI membership for the last five years is shown in the following table.

<i>On 31 March</i>	<i>Number of Members</i>	<i>Subscription (in Lakhs)</i>
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
1960	1 946	4.31

Third Five Year Plan of ISI — During this year, ISI prepared its Third Five Year Plan. In framing this plan, a great degree of caution was exercised. The plan envisages the expansion of the activities of ISI to two-fold its present level, although the indications are that a three-fold increase would be more than justified. It is expected that the rate of production of standards would go up to 500 per year and that the total number of standards published by ISI would reach the mark of 3 500 by 1965-66 as against an estimated demand of 6 000 standards. An Implementation Division is proposed to be created to push the implementation of standards in the country at a much more vigorous pace. In addition, it is proposed to create a Consumer Products Division, a Laboratory Division for testing certified goods and three additional branch offices. It is planned to build an additional building to house the laboratory and other departments.

The total outlay is expected to be Rs 276 lakhs including Rs 32.5 lakhs capital expenditure. Of this, an amount of Rs 159 lakhs is expected from the Government of India and the remainder of Rs 117 lakhs will come from various sources of direct income, such as sale of ISI publications, subscription, certification mark fee, etc. Proposal is also made for raising a special loan of Rs 150 lakhs for building housing accommodation for 75 percent of the staff. It is hoped that the Planning Commission will soon give its blessings to the Third Five Year Plan of ISI.

Metric System — The creation of a Metric Cell to organize the work of revision of published Indian Standards in terms of metric units

and to assist industries in the change over to the metric system was envisaged in the last report. In the latter half of this year, a Metric Cell was actually set up to carry out this important task. It is programmed that by the year 1965, all the old standards will have been revised and put into metric dimensions. All new standards to be issued from now on will become wholly metric.

Indian Standards Convention 1959 — The fifth Indian Standards Convention was held in the Jubilee Hall, Hyderabad, from 27 December 1959 to 2 January 1960. The Convention was inaugurated by Shri N. Sanjeeva Reddy, President, Indian National Congress, who was then Chief Minister, Andhra Pradesh. At this Convention, Shri Sanjeeva Reddy, gave away the K. L. Moudgill Prize for the year 1959 to Lala Shri Ram, Vice-President and Chairman, Executive Committee of ISI, who was cited as 'leading industrialist, pre-eminent organizer, champion of standardization and a dominant figure in many progressive nation-building movements'.

The Convention, which was attended by some 550 delegates, met in the following nine technical sessions in which 128 papers were discussed:

- T1 Implementation of Indian Standards
- T2 Certification for Small Industries Products
- T3 Standardization as a Pre-requisite to Productivity
- T4 Preparation of Standards in Terms of Metric Units
- T5 Design for Industrial Experimentation
- T6 Tropicalization of Electrical and Electronic Equipment
- T7 Latest Techniques in Chemical Analysis
- T8 Non-Ferrous Metals Industry and Standardization
- T9 Documentation and Communication

The Convention was attended, for the first time, by representatives from certain overseas countries, namely Germany, Japan, Lebanon and UK. The Indian delegates represented, among others, the Union and State Government departments, manufacturing firms, business houses, chambers of commerce, associations of industry, technical institutions and research laboratories.

Inaugurating the Standards Convention, Shri Sanjeeva Reddy said, "If we are to survive and compete with other nations, our standards in trade particularly should be much higher than what they are today. We are industrially backward, and it is a very difficult job to compete with highly industrialized and technologically developed nations. However, I am glad we are making efforts to improve standards and are struggling to see that industrialists should stick to them."

The successful functioning of the Convention was in a large measure due to the leadership of Shri C. S. Tyabjee, the popular President of the Andhra Pradesh Chambers of Commerce & Industry, who was the Chairman

of the Reception Committee, and the generous help and contribution from the Andhra Pradesh Government. The Reception Committee consisting of over one hundred leading firms, industrial undertakings, Government officers and distinguished private citizens co-operated whole-heartedly and gave the delegates a warm welcome. The Committee arranged, with the assistance of individuals and authorities concerned, visits to places of technical, historical and general interest. A post-convention tour to the caves of Ellora and Ajanta near Aurangabad lasting two days was also arranged in which some 200 delegates participated.

The details of the technical sessions and papers along with brief summaries of the proceedings of the sessions were covered in the Mar-Apr 60 issue of ISI Bulletin, reprints of which are available on request.

Implementation of Indian Standards and Certification Marking — In the year under review — the fifth year of operation of the ISI Certification Marks Scheme — long strides in the way of implementation of Indian Standards were made. The year saw not only an appreciable increase in the licences granted to manufacturers for marking their products with the ISI seal but also certain State Governments issued policy directives to their purchase departments calling for giving preference in their purchases to ISI certified goods, wherever available.

The number of licences in force during the year reached a figure of 184 which compares favourably with the figure 120 of the last year. Up to the end of the previous year, 34 commodities had been covered under the marking scheme. In the current year, 25 additional items were covered, bringing the total number of commodities for which certified goods were available to 59. The number of applications in the current year rose to 417 as compared to 302 of the last year. This can be taken as indicative of the greater awareness shown by the industry of the advantages of the third party guarantee by ISI for the quality of the products.

The ISI President in his address to the General Council this year emphasized the need for implementation of Indian Standards and for all purchasing departments in the public and the private sectors, placing more reliance on ISI certified goods. The General Council also adopted the following resolution for referring to the Government for their consideration and action:

‘Government of India having decided to make purchases on the basis of Indian Standards, wherever such standards are available, it will be of advantage if all State Governments, semi-Government bodies and industrial and commercial undertakings in the private and public sectors adopt a similar policy. It is, therefore, recommended that Government of India may be moved to secure to the maximum extent possible that, whenever goods bearing ISI Certification Mark are available, all purchasing and consuming organizations and departments in the public and private sectors preferably accept such goods

without duplicate inspection of their own, considering that the certification mark is allowed to be applied only after proper inspection and ensuring continuous check of quality during the process of production.

2. It is also recommended that Government of India may consider the appropriateness of treating products bearing 'Agmark' in the like manner.'

Conferences Held with State Representatives and Public Bodies — A series of conferences was held in the States of Orissa, Kerala, West Bengal and the Punjab on the subject of implementation of Indian Standards and giving preference to certified goods. These conferences were attended by representatives of the Governments, Local Self-Government Bodies, Trade Organizations and others. The recommendations of these conferences for adopting Indian Standards and giving preference to the ISI certified goods have been indicated in the report of the Certification Marks Division in Part II.

Finances — A certified statement of accounts for the year under review appears in Appendix B (*see* p. 110) of this report. Total income of ISI from various sources, such as contribution of the Government of India, sale of standards, certification marks fee and membership subscription amounts to Rs 2 210 704.23 as against an expenditure of Rs 2 196 106.13. In addition to this, we have to take into account the indirect contribution made by way of expenses incurred by members of the committees from Government and private organizations to attend meetings of ISI within India and abroad. Such invisible contribution for the year under report is estimated at Rs 639 440.00. The sale of standards, both Indian and overseas, for the past many years, as indicated below, reflects an increasing interest of purchaser and seller in making use of these standards:

Year	Indian Standards	Overseas Standards	Total
1947-48	—	700	700
1948-49	600	5 100	5 700
1949-50	4 300	20 900	25 200
1950-51	20 000	31 400	51 400
1951-52	28 500	34 400	62 900
1952-53	29 250	41 800	71 050
1953-54	33 500	50 350	83 850
1954-55	52 800	57 500	110 300
1955-56	70 800	90 100	160 900
1956-57	82 000	86 800	168 800
1957-58	*444 000	90 900	534 900
1958-59	192 500	107 500	300 000
1959-60	290 000	150 000	440 000

* Due to large sale of standards on conversion of values from other systems to metric system.

The sale of Indian Standards amounted to Rs 290 000·00 this year as against Rs 192 500·00 in 1958-59.

Conversion Slide — The Institution produced a convenient instrument called the Conversion Slide for the inter-conversion of values which proved very popular. Three thousand pieces were manufactured, and all of them were sold out within a few months, bringing in a revenue of about Rs 43 000·00 (included in the table on page 9).

Publicity Activities — The Institution continued its efforts towards increasing widespread standards consciousness and popularizing ISI Certification Marks. With this end in view, press notes on standards and draft standards and a number of articles related to the activities of ISI were published in various newspapers and technical journals. The Publicity Campaign, which was intensified just before the ISI Convention, covered a series of press advertisements in newspapers of English, Hindi and other regional languages. A number of ISI Members co-operated with the Institution by donating space and money to cover a part of the costs of advertisements, propagating the ISI Certification Marks.

Other media used for publicity purposes included projection of cinema slides in selected cinema houses, outdoor publicity in the form of display panels on the buses of the Andhra Pradesh State Transport plying between Hyderabad and Secunderabad at the time of Convention, and issue of advertisements in Telephone Directories and Year-Books. Broadcast talks by outside experts from AIR station on various subjects of interest in the field of standardization were also arranged.

Library and Information Service — The ISI libraries both at the Headquarters and at the Branch Offices in Bombay, Calcutta and Madras, continued to cater to the considerable demand for reference purposes on standards, both overseas and Indian, and also for other reference books. They dealt with a large number of enquiries, both personal and telephonic. The number of enquiries averaged about 20 per day. In the library at its headquarters, some of these enquiries were only answered after patient searching through the overseas standards — American and European. For this purpose, the British, French, American, German, Italian and Swedish standards have been much used. Approximately 25 000 standards and other publications were either consulted or loaned out of the library at Manak Bhavan. A large number of Bibliographies was prepared by the library staff for the use of committee members and the technical staff at ISI Directorate.

The library of the Institution has one of the largest collections of standards from over 36 countries. The total number of such standards is now in the region of 85 000. Accessioning, cataloguing, classifying and filing of these large number of standards as well as other reference books are being continuously kept up-to-date. During the year, 8 873 standards and other technical reference books were accessioned in the library. The

number of technical-cum-trade journals received in the library reached the figure of 290.

The ISI Bulletin grew in volume and coverage and continued to disseminate information on standards movement in India and abroad.

Branch Offices — The three branch offices at Bombay, Calcutta and Madras, continued to do useful work that was described in the last year's report, but with enlarged scope and coverage. The branch offices at Bombay and Madras have been provided with new accommodation. In each case, a Committee Room has been furnished with the result that an increasing number of technical committee meetings is now being held there. The accommodation at the Calcutta branch office is proving insufficient with the growing expansion of the activities of that branch office. Need for a commodious Committee Room is being increasingly felt. It is hoped that attempts to get a larger accommodation will succeed in the near future.

Consumers' Association of India — In the last year's report the formation of a National Association of Consumers was reported. This Association now renamed as "The Consumers' Association of India" was registered under Societies Registration Act, 1860. It is the earnest hope of ISI that this Association will soon begin to function.

Women's Advisory Committee — Women's Advisory Committee was set up during the year under review to (a) advise ISI on formulation and implementation of standards for goods of every-day use in the home; (b) create awareness among women folk in general and housewives in particular about the utility of goods conforming to Indian Standards; (c) propagate certification marks scheme; and (d) publicize standardization movement among women of India. The first meeting was held on 23 February 1960 under Smt. Raksha Saran's chairmanship. This Committee is expected to be of assistance in devising ways and means for making Indian Standards popular amongst the public of India. The Committee which is fully representative of various women's organizations in India resolved *inter alia* to bring to the notice of the Government of India that the use of ISI Certification Marks on various products should be made obligatory where their use was likely to affect safety and health of the user.

International Activities — As member of the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC), ISI continued to

- a) serve as an elected member on the Governing Council of ISO and the Committee of Action of IEC;
- b) participate actively in the work of 61 of the active 92 technical committees of ISO and all the 46 technical committees of IEC; and

- c) hold the Secretariat of the following 6 technical committees and subcommittees of ISO and IEC:
- i) ISO/TC 50 Lac,
 - ii) ISO/TC 56 Mica,
 - iii) ISO/TC 88 Pictorial Marking of Handling Instructions for Goods,
 - iv) ISO/TC 30/SC 1 Measurement of Fluid Flow/Measurement of Liquid Flow in Open Channels,
 - v) ISO/TC 34/SC 7 Agricultural Products/Spices and Condiments, and
 - vi) IEC/TC 43 Fans.

The Director of the Institution also continued to serve as Chairman of the Planning Committee (PLACO) of ISO, member of ISO Standing Committee for the Study of Scientific Principles (STACO) and ISO Liaison Officer for ECAFE.

The IEC has accepted India's invitation to hold its next Annual Group Meeting in New Delhi in November 1960. This is highly significant as it will be the first time for IEC to meet in an Asian country since its formation over 50 years ago. The occasion will give an opportunity to a much larger number of Indian engineers to participate in IEC deliberations than has been possible in the past, since most of its meetings, like so many other international meetings, have been held in Europe.

The fourth Commonwealth Standards Conference held at Ottawa (Canada) from 26 August 1959 to 3 September 1959 was attended by 71 delegates from the eight commonwealth countries, namely Australia, Canada, India, Ireland, New Zealand, Pakistan, South Africa and United Kingdom. The Indian delegation, led by Dr. A. N. Ghosh, Joint Director, ISI, consisted of Sarvashri J. G. Bodhe, K. N. P. Rao, M. S. Doshi, O. S. Murthy and B. S. Krishnamachar (ISI). Besides the General Session, three technical sessions on Steel, Cranes and Air Receivers were held. Indian delegation took active part in the General Session and in the technical sessions on steel and cranes.

PART II DIVISIONAL REPORTS

1. SUMMARY OF WORK

1.0 In this part of the report, brief summaries of the work of the various Divisions/Sections of the Institution are recorded.

1.1 In all, 293 proposals for formulation of standards were received during the year, out of which 268 were accepted and referred to the various committees for further action; this figure included a few proposals made in the previous year but accepted during the year under report.

1.2 The rapid increase in the activities of the Institution, is graphically shown in Fig. 1 and Fig. 2 (*see p. 14*).

1.3 The cumulative record of work pertaining to the different Divisions and Sections is given in Table I.

**TABLE I RECORD OF ISI TECHNICAL DIVISIONS
(FOR THE YEAR 1959-60)**

(For details of standards published and under print during 1959-60, *see Appendix A*)

DIVISION OR SECTION	NO. OF COMMITTEES	NO. OF MEETINGS	NEW STANDARDS AND REVISED STANDARDS PUBLISHED AND UNDER PRINT	AMENDMENTS TO STANDARDS	DRAFT STANDARDS CIRCULATED
Agricultural & Food Products	75	51	24	13	26
Building	133	72	53	4	39
Chemical	226	156	37	7	72
Electrotechnical	66	48	21	9	28
Engineering	119	55	20	1	18
Structural & Metals	125	32	39	—	57
Textile	124	43	42	6	43
Certification Marks Advisory Committee	1	1	—	—	—
Women's Advisory Committee	1	1	—	—	—
Administration	5	9	—	—	—
Others	14	16	2	—	5
TOTAL	889	484	238	40	288

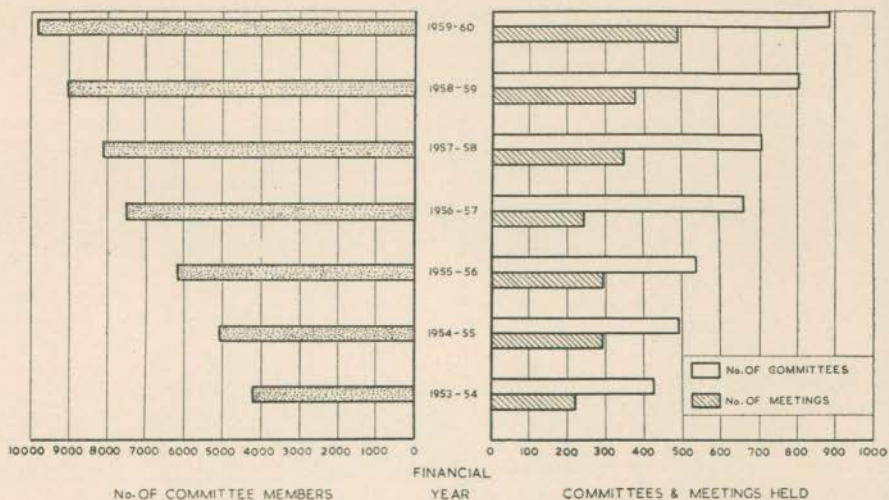


FIG. 1 GROWTH OF ACTIVITIES OF COMMITTEES

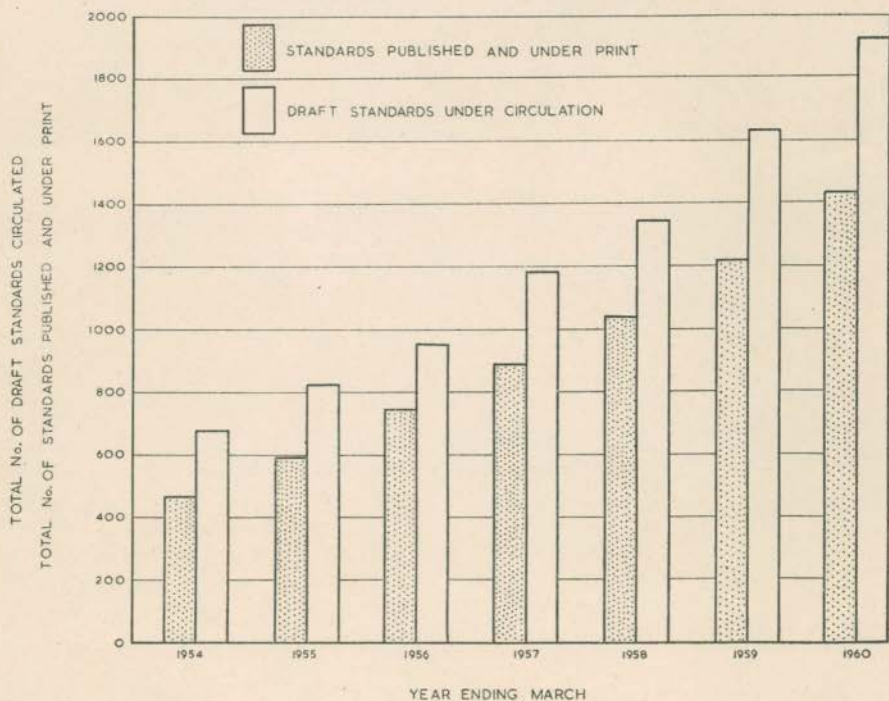


FIG. 2 GROWTH OF STANDARDS

2. AGRICULTURAL AND FOOD PRODUCTS DIVISION

2.1 The Division accomplished its task planned for the year under report. Twentyfour Indian Standards (*see* Appendix A) were either published or sent for printing. These include some subjects in which keen public interest has been shown, such as layout for regulated market yards for agricultural commodities; poultry feeds; infant milk foods; glass milk bottles; white bread; beehives and copper oxychloride, technical, with its formulations. Furthermore, two standards relating to cigarettes (from Indian tobacco) and smoking mixtures were finalized. In the standard for cigarettes, an attempt has been made for the first time to formulate a specification for cigarettes made from tobacco grown and cured in India.

As regards the subjects under study, the subject of cattle feeds was given due attention in view of the serious efforts to manufacture them in certain parts of the country. The manufacture of such feeds would help animal husbandry and poultry development. Livestock housing, meat and meat products, food colours, agricultural implements, and spices and condiments were other important subjects of common interest and a good deal of progress has been made in respect of some of these items.

2.2 The Standing Working Committee and the Division Council held their meetings on 7 September 1959 and 24 March 1960 respectively and set up two new sectional committees to evolve national standards as well as to co-ordinate the international work, covering the subjects of propagation materials, and fruits and vegetables. In all, 100 new subjects have been included in the programme of work.

2.3 A brief account of the work of the Division is given below:

Food Grain Storage Structures and Regulated Market Yards —

Two codes of practice for construction of food grain storage structures suitable for (a) trade and government purposes for the central region, and (b) *Khatti* type underground storage for use in rural areas; layout for regulated market yards for cattle and layout for regulated market yards for fruits and vegetables were sent out in wide circulation.

Standards Published

- IS : 604-1959 Code of Practice for Construction of Food Grain Storage Structures Suitable for Trade and Government Purposes for the Northern Region
- IS : 1497-1959 Layout for Regulated Market Yards for Agricultural Commodities

Work in Hand

- Layout for Regulated Market Yards for Tobacco
- Layout for Regulated Market Yards for Cotton
- Aluminium Food Grain Storage Bins

Edible Starches, Confectionery and Cereal Products — Two proposed drafts for toffees and lozenges were approved for wide circulation.

Standards Published

- IS : 1483-1959 White Bread
- IS : 1484-1959 Rolled Oats (Quick Cooking-Type)
- IS : 1485-1959 Macaroni, Spaghetti and Vermicelli
- IS : 1487-1959 Edible Groundnut Flour (Expeller Pressed)

Apiary — A proposed draft for honey extractor, tangential type, was approved for wide circulation.

Standards Published

- IS : 1504-1959 Beeswax, Commercial
- IS : 1515-1959 Beehives

Work in Hand

- | | |
|-----------------------|------------------------------|
| Pedestal for Beehives | Primary Pasteurization Units |
| Travelling Bee Box | Postal Bee Packages |
| Honey Filters | Comb Foundation Sheets |

Dairy — Two proposed drafts for processed cereal infant foods and special infant foods were put into wide circulation for eliciting technical comments, while another proposed draft for methods of test for dairy industry — Part II: Chemical Examination of Milk, was approved for wide circulation.

Standards Published

- IS : 1000-1959 Lactose, Commercial
- IS : 1373-1959 Tinned Mild Steel Milk Cans
- IS : 1392-1959 Glass Milk Bottles
- IS : 1479-1960 Methods of Test for Dairy Industry — Part I: Rapid Examination of Milk
- IS : 1516-1959 Milk Strainers, Mild Steel, Tinned
- IS : 1517-1959 Milking Pails (Hooded Type), Mild Steel, Tinned
- IS : 1547-1960 Infant Milk Foods

Work in Hand

- | | |
|--|---|
| Aluminium Milk Cans | Stainless Steel Milk Strainers |
| Stainless Steel Milk Cans | Dispensing Cans |
| Aluminium Foil for Capping of Milk Bottles | One-Piece Milk Cans |
| Aluminium Foils for Packaging of Dairy Products | Milk Receiving Tanks |
| Aluminium Foil Caps | Milk Storage Tanks/Vats (Insulated) |
| Malted Milk Foods | Tubular — Surface Cooler |
| Methods of Test for Dairy Industry — Part III: Bacteriological Examination of Milk | Bottle Fillers — Hand |
| Methods of Test for Dairy Industry — Part IV: Freezing Point of Milk | Bottle Washers — Hand |
| Methods of Test for Dairy Industry — Part V: Methods for Dairy Plant Control | Wooden Butter Churn — Hand |
| Aluminium Milking Pails | Butter Trolley |
| Aluminium Milk Strainers | Butter Moulding Machine — Hand-Operated |
| Stainless Steel Milking Pails | Butter Scoups |
| | Butter Moulds — Hand |
| | Ghee Boilers — Steam Jacketed |
| | Ice Cream Cans |
| | Cheese Vats |
| | Cheese Knives |
| | Curd Mills |

Cheese Hoops
Casein Precipitation Tank
Casein Press
Casein Mincer
Casein Dryer

Casein Grinder
Casein Grader
Ice Cylinders (Chambers) for Milk Cans
Ice Cream Freezer
Bottle Capper—Hand

Tobacco Products — Two proposed drafts for cigars and cheroots, and chuttas (country cheroots) were approved for wide circulation.

Work in Hand

Bidis
Bidi-Cigarettes
Hooka Tobacco

Chewing Tobacco
Snuff

Animal Feeds — One proposed draft for mineral mixture for supplementing cattle feeds was put into wide circulation.

Standards Published

IS : 1374-1959 Poultry Feeds
IS : 1509-1959 Tapioca Chips for Animal Feed
IS : 1510-1959 Tapioca Flour for Animal Feed

Work in Hand

Cotton Seed Oil Cake
Groundnut Oil Cake
Methods of Analysis for Oil Cakes
Mustard Cake
Copra Cake
Linseed Cake
Til Cake or Gingelly Cake
Rape Cake
Safflower Cake

Rice Bran
Wheat Bran
Fish Meal
Meat Meal
Bonemeal
Green Feeds
Cattle Feeds
Oystershell Meal
Shark Liver Oil for Feeding Animals

Meat and Meat Products — Two proposed drafts for pork and mutton and goat meat in brine were approved for wide circulation.

Work in Hand

Ham
Bacon
Sausages
Canned Pork Products
Canned Sausages
Mutton and Goat Meat—Fresh;
Frozen; in Curry, and Canned

Beef and Buffalo Flesh—Fresh; Frozen
and Canned
Poultry Products
Dehydrated Meats
Ante-Mortem and *Post-Mortem* Examination
of Meat Producing Animals
Slaughter Houses

Animal Casings

Pest Control Products and Equipment — Three proposed drafts, namely for cuprous oxide, technical (fungicidal grade); cuprous oxide water dispersible powder concentrates and cuprous oxide dusting powders, were issued into wide circulation.

Standards Published

- IS : 1486-1959 Copper Oxychloride, Technical
IS : 1488-1959 2, 4-D Sodium
IS : 1505-1959 BHC Smoke Generators
IS : 1506-1959 Copper Oxychloride Dusting Powders
IS : 1507-1959 Copper Oxychloride Water Dispersible Powders

Work in Hand

- | | |
|--|------------------------------------|
| Household Insecticidal Spray | Amendment No. 1 to IS : 1054-1957 |
| Endrin Dusting Powders | Dieldrin Emulsifiable Concentrates |
| Endrin Water Dispersible Powder Concentrates | Hand Compression Sprayers |
| Malathion, Technical | Stirrup Pump |
| Diazinon, Technical | Power Sprayer |
| Toxaphene | Chest Type Dusting Machines |
| Amine Salts of 2, 4-D | Shoulder Type Dusting Machines |
| Amendment No. 2 to IS: 1052-1957 | Bucket Sprayers |
| Dieldrin, Technical | Compression Sprayers |
| Amendment No. 2 to IS: 1053-1957 | Hand Rotary Dusters |
| Dieldrin Water Dispersible Powder Concentrates | Bellows or Plunger Dusters |
| | Foot and Rocking Sprayers |
| | Knapsack Sprayers |
| | Anti-Malarial Sprayers |

Sugar

Standard Published

- IS : 1168-1959 Cube Sugar

3. BUILDING DIVISION

3.1 The work of the Building Division during the year was highlighted by the successful conclusion of a number of important projects among which may be mentioned the revision of specification for Portland cement and formulation of new standards for natural and manufactured aggregates for use in mass concrete, steel windows for industrial buildings, prestressed concrete pipes, domestic refrigerators and room air conditioners, prestressed concrete, waterproofing and damp-proofing of buildings, paint-finishing of iron and steel in buildings and building drainage. To provide a basis for the adoption of metric units in different sections of the industry, IS : 965-1958 Equivalent Metric Units for Scales, Dimensions and Quantities Used in General Building Construction, was issued. Recommendation of standard methods of test for strength of concrete, method of sampling and analysis of concrete and classification and identification of soils are also some of the achievements of significance. The code covering the elements of functional design for library buildings has been finalized and the interest shown by the various organizations and individuals connected with the design of such buildings indicates an urgent need for similar codes for hospitals, schools and factories.

3.2 The Building Division Council considered that there was an urgent need for a code of practice for planning and organization of construction

work at site and set up a Sectional Committee to deal with this subject. It is hoped, the work of this Committee will lead to improved organizational efficiency and reduced cost of construction works. Another work of great importance to the industry has been embarked upon through the formation of a new Sectional Committee to deal with construction plant and machinery. It is hoped, the work undertaken by this Committee, when completed, will pave the way towards ensuring the best performance standards and developing a healthy and strong construction plant and machinery industry in the country.

3.3 Briefly, 53 standards were either published or under print during the year (see Appendix A). A few more standards have been finalized and a large number of others is in different stages of preparation. New work undertaken during the year included preparation of specifications for high tensile wires, evaporative coolers, cold worked deformed bars, acid resisting cements, etc, and codes of practice for partially prestressed concrete structures, reinforced concrete liquid retaining structures, nail jointed timber construction, and manufacture of building bricks.

3.4 A short account of the work in several fields is given below:

Cement and Concrete — The work on Portland-pozzolana cement has progressed further and the draft will go for wide circulation shortly. The Code of Practice for Laying of Concrete Pipes has been published and this will pave the way for achieving increased benefits by the use of standard pipes for which specifications have already been laid down.

Standards Published

- IS : 269-1958 Ordinary, Rapid Hardening and Low Heat Portland Cement
(Revised)
- IS : 515-1959 Natural and Manufactured Aggregates for Use in Mass Concrete
- IS : 516-1959 Methods of Test for Strength of Concrete
- IS : 784-1959 Prestressed Concrete Pipes
- IS : 1199-1959 Methods of Sampling and Analysis of Concrete
- IS : 1343-1960 Code of Practice for Prestressed Concrete
- IS : 1542-1959 Sand for Plaster

Work in Hand

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|--|--|
| Asbestos Cement Building Pipes and Fittings (Spigot and Socket Type) | Steel Pipes Lined and Outcoated with Cement Concrete |
| Asbestos Cement Pressure Pipes | Hollow Load Bearing Concrete Blocks |
| Prestressed Concrete Poles for Overhead Traction and Telecommunication Lines | |

Concrete Reinforcement — The Indian Standard Specification for Mild Steel and High Tensile Steel Bars and Hard Drawn Steel Wire for Concrete Reinforcement (IS: 432-1953), has been revised and the revision incorporates certain important changes, particularly in regard to grading and strength requirements.

Standard Published

IS : 1139-1959 Hot Rolled Mild Steel and Medium Tensile Steel Deformed Bars for Concrete Reinforcement

Work in Hand

Revision of IS: 432-1953 Mild Steel and High Tensile Steel Bars and Hard Drawn Steel Wire for Concrete Reinforcement
Hard Drawn Steel Wire Fabric for Concrete Reinforcement

Plain Hard Drawn Steel Wire for Prestressed Concrete
Cold Worked Steel Bars, Deformed and Twisted, for Concrete Reinforcement

Lime and Gypsum — In the field of manufacture of lime, a code of practice for burning of lime in mixed-feed vertical kilns, and another on the design and installation of lime kilns were prepared. These standards will give guidance to the lime manufacturers in the installation and operation of lime kilns efficiently and in controlling the quality of lime produced.

The results of investigations on gypsum wall boards conducted by the Central Building Research Institute established certain important details with regard to manufacture and performance of these boards and the preparation of a specification on the subject has been taken up. Investigations on other gypsum building products, such as partition blocks, wall bricks, tiles, plaster, etc, have made further progress.

Work in Hand

Code of Practice for:
Field Slaking of Lime and Preparation of Putty
Use of Lime in Masonry Mortar
Field Testing of Building Lime and Lime Mortars

Code of Practice for:
Manufacture of Lime in Mixed-Feed Vertical Kilns
Design and Installation of Lime Kilns
Gypsum Wall Boards

Pozzolana — As an important pozzolanic ingredient in mortars and cements, *surkhi* has a big role to play in the building industry and the specification on *surkhi* published during the year is expected to provide the necessary basis for its development apart from providing necessary guidance to the producer and the user.

Standard Published

IS : 1344-1959 *Surkhi* for Use in Mortar and Concrete

Work in Hand

Methods of Test for Pozzolanic Materials

Building Stones — For the purpose of establishing standard data on the properties of building stones available in this country, a joint investigation by the Central Building Research Institute and the Geological Survey of India has been initiated, and it is hoped that this standard data will lead to a more rational utilization of building stone resources in the country.

Standard Published

IS : 1129-1959 Dressing of Natural Building Stones

Work in Hand

Method of Resistance to Wear by Abrasion of Natural Building Stones
Method of Test for Surface Softening of Natural Building Stones by Exposure to Acidic Atmospheres

Glossary of Terms Relating to Building Stones
Classification and Distribution of Natural Building Stones

Building Bricks — Further investigations to facilitate the manufacture of standard modular bricks were taken up. Work on a code of practice for manufacture of bricks was also initiated.

Timber — As a sequel to the publication of IS : 1331-1958 Cut Sizes of Timber, an attempt is being made to draft grading rules for cut-sizes of timber. Continuing the work on aircraft timber for further conversion, a draft has been prepared on the mechanical properties of actual sizes used in aircraft construction.

Work has been initiated on drawing up specifications for timber for various end uses, such as coach building, ladder construction, etc.

Standard Published

IS : 1140-1959 Logs for Matches

Work in Hand

Revision of:

IS: 190-1953 Coniferous Sawn Timber Intended for Further Conversion
IS: 287-1951 Recommendations for Maximum Permissible Moisture Content of Timber Used for Different Purposes in Different Climatic Zones
IS: 401-1954 Code of Practice for Preservation of Timber
Code of Practice for Preservation of Bamboos and Canes for Non-Structural Uses

Jointed Wood Poles
Methods of Testing Clear Specimens of Timber
Rules for Grading of Cut-Sizes of Timber
Timber for Use in Aircraft Construction
Code of Practice for Sawing of Timber
Timber for Ladders

Wood Products — The investigations relating to the type of plywood specimen to be used for glue adhesion strength came to a successful conclusion and the revision of IS: 303-1951 Commercial (Common) and Moisture Proof Plywood, incorporates the results of these investigations in addition to major changes relating to the number of grades, requirements of types, sizes and thickness. This revision includes all the commercial grades of plywood now marketed and their quality requirements.

The specification for rectangular solid wood packing cases has been finalized and it is hoped that the approach to the problem of packing on the basis of weight of contents will be of particular importance with industry.

Standards Published

- IS : 652-1959 Wooden Separators for Lead Acid Storage Batteries (*Revised*)
- IS : 1503-1959 Rectangular Solid Wood Packing Cases
- IS : 1508-1959 Extenders for Use in Synthetic Resin Adhesives (Urea-Formaldehyde) for Plywood

Work in Hand

- | | |
|---|------------------------------|
| Revision of IS: 303-1951 Commercial (Common) and Moisture Proof Plywood | Block Boards |
| Wood Wool for General Packaging Purposes | Pressed Hard Building Boards |
| | Methods of Testing Plywood |

Tar and Bitumen — Revision of standards on tar and bitumen has been taken up keeping in view the new grades now being marketed. Further, as a sequel to the printing of IS: 1201-1958 to IS: 1220-1958 dealing with methods of testing tar and bitumen, methods of test formerly included in these material standards are being deleted.

Work in Hand

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|---|---|
| Revision of: | Revision of: |
| IS : 73-1950 Asphaltic Bitumen and Fluxed Native Asphalt for Road Making Purposes | IS : 217-1951 Cutback Bitumen |
| IS : 212-1950 Crude Coal Tar for General Use | IS : 218-1952 Creosote and Anthracene Oil for Use as Wood Preservatives |
| IS : 215-1951 Road Tar | IS : 454-1953 Digboi Type Cutback Bitumen |
| IS : 216-1951 Coal Tar Pitch | IS : 702-1955 Blown Type Bitumen |

Floor and Roof Coverings

Standards Published

- IS : 1322-1959 Bitumen Felts for Waterproofing and Damp-Proofing
- IS : 1346-1959 Code of Practice for Waterproofing of Roofs with Bitumen Felts
- IS : 1464-1959 Ridge and Ceiling Tiles
- IS : 1478-1959 Clay Flooring Tiles

Work in Hand

- | | |
|--|--|
| Code of Practice for Laying Waterproof and Damp-Proof Coursing Using Bitumen Felts | Preformed Expansion Joints for Concrete (Non-Extruding and Resilient Type — Bitumen Impregnated Fibre) |
| Bitumen (Plastic) for Waterproofing Purposes | Hot Applied Sealing Compounds for Concrete Joints |

Building Finishes — In the field of floor finishes, work on two important standards, one dealing with cement concrete flooring tiles and the other with the laying of the cement concrete flooring tiles was completed.

With the publication of a code of practice for paint finishing of iron and steel, a long awaited need has been fulfilled and it is hoped that strict conformity to this standard will lead to better performance and reduction

in the cost of maintenance. Further work on paint finishing of wood and wood based materials and equipment and accessories with painting has also been taken up.

The standard on a comprehensive range of colours for buildings and decorative finishes is another useful guide to architects and builders. With the publication of this standard, it is hoped that the difficulties experienced in the selection of satisfactory colour scheme from the individual colour charts furnished by the manufacturers will be eliminated.

Standards Published

- IS : 1237-1957 Cement Concrete Flooring Tiles
- IS : 1443-1959 Code of Practice for Laying and Finishing of Cement Concrete Flooring Tiles
- IS : 1477 (Part I)-1959 Code of Practice for Finishing of Iron and Steel in Buildings; Painting and Allied Finishes: Part I Operations and Workmanship

Work in Hand

- Colours for Buildings and Decorative Finishes
- Mason's Tools for Plaster Work and Pointing Work
- Code of Practice for Finishing of Wood and Wood Based Materials in Buildings
- Code of Practice for Cement Plaster and Cement-Lime Plaster: Applied Wall and Ceiling Finishes
- Code of Practice for Preparation and Application of Mud Plaster

Building Construction Practices — As a result of extensive studies of the construction practices in different regions of the country, work on several important aspects of construction in connection with foundations, superstructures, roofing, etc, has registered considerable progress.

Work in Hand

- Code of Practice for:
 - Use of Fixing Devices in Solid Walls and Ceilings
 - Use of Fixing Devices in Cavity Construction
 - The Design and Construction of Wood Stairs
 - Timber Walls and Partitions
 - Simple Foundations for Load Bearing Construction
 - Flat Roof Finishing
 - Non-Load Bearing Walls and Partitions—Brick Work and Stone Masonry
- Gypsum Block Masonry
- In-situ* Cement Soil Construction
- Brick Masonry Load Bearing Construction in Buildings
- Stone Masonry Load Bearing Construction in Buildings
- RC Singly Curved Shell Roofs
- Concrete Block Masonry
- Fixing Wall Coverings
- Built-Up Floors: Madras Terrace Type

Builder's Hardware

Standards Published

- IS : 1341-1959 Cold Rolled Mild Steel Butt Hinges
- IS : 1495-1959 Mild Steel Dust Bins

Work in Hand

Wire Gauze for General Purposes	Door Stoppers
Sheet Metal Rain Water Pipes, Gutters, Fittings and Accessories	Fanlight Pivots
Revision of IS: 204-1950 Mild Steel and Brass Door Bolts, Tower and Barrel Types	Mortice Locks
	Mild Steel Aldrops

Doors, Windows and Building Furniture

Standard Published

IS : 1361-1959 Steel Windows for Industrial Buildings

Work in Hand

Code of Practice for Fixing and Glazing of Steel Doors, Windows and Ventilators	Aluminium Industrial Windows
Venetian Blinds for Windows	Aluminium Doors, Windows and Ventilators
Timber Flush Door Shutters	Wooden Tables and Desks for General Office Purposes
Steel Shelving Racks	Materials for Wooden Furniture

Terminology, Notations and Drawings — The code for architectural drawing office practice was finalized taking into consideration the revision of the parallel code for engineering drawings. Work is under way regarding building terminology and schedule of unit weights of building materials.

Work in Hand

Code of Practice for Architectural and Building Drawings	Schedule of Unit Weights of Building Materials
Code of Building Terminology	

Functional Requirements of Buildings — A number of drafts dealing with different aspects of fire safety of buildings was got ready for finalization. The loading standards code is under revision and the revised standard will be an important step in metricizing and rationalizing the design loads. The wind load requirements are being revised and brought up-to-date.

Work has been initiated on the formulation of a code of practice for the design of earthquake resisting structures for giving necessary guidance to engineers in building safe and economical structures in the seismic areas of the country.

Work in Hand

Code of Practice for:	Code of Practice for:
Structural Safety of Buildings — Foundation	Fire Safety of Buildings (General): Materials and Details of Con- struction
Structural Safety of Buildings — Masonry Walls	Fire Safety of Buildings (General): Exposure Hazard
Fire Safety of Buildings (General): General Principles and Fire Grading	Fire Safety of Buildings (General): Personal Hazard

Code of Practice for:

- Fire Safety of Buildings (General):
Chimneys, Flues, Flue Pipes and
Hearths
- Fire Safety of Buildings (General):
Electrical Installation
- Fire Safety of Buildings (General):
Non-Electric Lighting Equipment
and Oil and Gas Heaters and
Burners of Small Capacity
- Fire Safety of Buildings (General):
Fire Fighting Equipment and Its
Maintenance Including Construction
and Installation of Fire
Proof Doors

Code of Practice for:

- Fire Safety of Non-Industrial
Buildings
- Fire Safety of Industrial Buildings
- Daylight for Houses and Flats
- Orientation of Buildings
- Ventilation of Buildings
- Sound Insulation of Buildings
(Houses, Flats and Schools)
- Heat Insulation of Dwellings,
Schools, Hospitals and Office
Buildings
- Aseismic (Earthquake Resistant)
Design of Structures

Library Buildings, Fittings and Furniture — The finalization of the draft on design of primary elements in library buildings has paved the way for initiating work on special items of furniture used in libraries, such as card index trays, shelving racks, etc.

Standard Published

- IS : 1553-1960 Code of Practice Relating to Primary Elements in the Design of Library Buildings

Work in Hand

Index Card Trays

Book Racks for Libraries

Water Supply and Sanitation

Standard Published

- IS : 781-1959 Sand-Cast Brass Screw-Down Bib Taps and Stop Taps for Water Services

Work in Hand

Code of Practice for:

- Water Supply and Plumbing
- Drainage in Buildings
- Selection and Installation of Sanitary Appliances
- Mixing Valves for Ablutionary and Domestic Purposes
- Draft Revision of IS: 774-1957 Flushing Cisterns for Water Closets and Urinals
- Drinking Fountains
- Pillar Taps
- Self-Closing Taps
- Ball Valves (Portsmouth Type) Including Floats for Water Supply Purposes
- Cast Iron Manhole Covers and Frames Intended for Use in Drainage Works

Draft Revision of IS : 651-1955 Salt Glazed Stoneware Pipes and Fittings

Water Meter Boxes

Water Meters with Flanged End Connections

Draft Revision of IS : 779-1956 Water Meters with Threaded End Connections

Sluice Valves (350 mm to 1200 mm Size) Used for Water Works Purposes

Glazed Earthenware Wall Tiles

Polythene Pipes for Cold Water Services

Electrical Installation and Illumination — The code of practice for electric passenger and goods lifts was finalized for circulation. The code has been prepared keeping in view specially the safety of lift users. It also takes note of the relevant Acts and Rules in force in important cities in India and the standard practices in other countries. It is hoped that the code will provide useful guidance to local authorities in ensuring safe installation and operation of lifts.

Work in Hand

Code of Practice for Design of Street Lighting Installations

Code of Practice for Electric Passenger and Goods Lifts

Refrigeration and Airconditioning — In the field of airconditioning and refrigeration, draft standards on domestic and commercial refrigerators were got ready for publication. The finalization of these standards is of significant importance since indigenous manufacture of refrigerators and room airconditioners has advanced rapidly and today a large number of component parts is also being manufactured in the country.

Standards Published

IS : 1474-1959 Commercial Refrigerators

IS : 1475-1959 Self-Contained Water Coolers

IS : 1476-1959 Domestic Refrigerators (Mechanically Operated)

Work in Hand

Room Airconditioners
Codes of Practice for the Use of Different Types of Insulating Materials in Cold Storages
Ice Cans

Ice Tanks
Ice Cream and Ice Candy Machines
Standard Design Conditions for Airconditioning in Various Parts of India

Soil Engineering

Standard Published

IS : 1498-1959 Classification and Identification of Soils for General Engineering Purposes

Work in Hand

Soil Cement Blocks

Fluid Flow Measurement — Work on measurement of fluid flow in pipes and other closed conduits registered further progress, and a specification on standard formulæ and coefficients for liquid flow in conduits was taken up (see also ISO/TC 30 SC1 on p. 71).

Standards Published

IS : 1191-1959 Glossary of Terms Used in Measurement of Flow of Water in Open Channels

- IS : 1192-1959 Velocity-Area Methods for Measurement of Flow of Water in Open Channels
- IS : 1193-1959 Methods for Measurement of Flow of Water in Open Channels Using Notches Weirs, and Flumes
- IS : 1194-1959 Forms for Recording Measurement of Flow of Water in Open Channels

Work in Hand

Current Meters (Cup Type) for Liquid Flow Measurement

Sieves — A standard on methods for dry sieving was finalized for publication. It is hoped that, with the publication of this standard, it will be possible to ensure uniform efficiency and reproducible sieving results in the size analysis of materials.

Work in Hand

Screens for Industrial Purposes

Fire Fighting Equipment and Appliances — Work on most of the water fittings for fire fighting purposes was completed. Specifications for various fire fighting units are under print.

Standards Published

- IS : 904-1959 2-Way and 3-Way Suction Collecting Heads for Fire Fighting Purposes
- IS : 907-1959 Suction Strainers, Cylindrical and Shoe Types, for Fire Fighting Purposes
- IS : 926-1959 Fireman's Axe
- IS : 929-1959 Hook Ladder for Fire Fighting Purposes
- IS : 930-1959 Extension Ladders for Fire Fighting Purposes
- IS : 931-1959 Wheeled Fire Escape
- IS : 933-1959 Portable Chemical Fire Extinguisher, Foam Type
- IS : 934-1960 Portable Chemical Fire Extinguisher, Soda Acid Type
- IS : 935-1959 Portable Chemical Fire Extinguisher, Carbon Tetrachloride Type
- IS : 936-1959 Underground Fire Hydrant, Double Valve Type
- IS : 937-1959 Washers for Water Fittings for Fire Fighting Purposes
- IS : 943-1959 680-l/min (or 150-gal/min) Trailer Pump for Fire Brigade Use
- IS : 944-1959 1 800-l/min (or 400-gal/min) Trailer Pump for Fire Brigade Use
- IS : 945-1959 1 800-l/min (or 400-gal/min) Motor Fire Engine
- IS : 946-1959 3 200-l/min (or 700-gal/min) Motor Fire Engine
- IS : 948-1959 Water Tender, Type A, for Fire Brigade Use
- IS : 949-1959 Emergency Tender for Fire Brigade Use
- IS : 950-1959 Water Tender, Type B, for Fire Brigade Use

Work in Hand

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|--|--|
| 30-34 m (or 100-110 ft) Mechanically Operated Turn-Table Ladder for Fire Brigade Use | Portable Chemical Fire Extinguisher, Water Type (Gas Pressure) |
| Snatch Block for Use with Fibre Rope for Fire Brigade Use | Portable Chemical Fire Extinguisher, CBM Type |
| Fireman's Helicuts | Fire Extinguisher, Water (Bucket Pump Type) |
| Electric Motor Sirens | Fire Extinguisher, Dry Powder |
| Self-Contained Breathing Apparatus | Combined Foam and CO ₂ Crash Tender |
| Screw Jacks, 5 Ton, for Fire Brigade Use | Small Foam Crash Tender |
| Stirrup Pump for Fire Brigade Use | |

Towing Tender for Trailer Pump for Fire Brigade Use	Hose Laying Tender for Fire Brigade Use
Small Fire Engine	Dry Powder Crash Tender
CO ₂ Crash Tender	Oxy-Acetylene Cutting Set Used in Fire Service
Rescue Tender for Airfield Purposes	Control Post Van for Fire Brigade Use
Rescue Tender for General Purposes	Foam Crash Tender, Large

4. CHEMICAL DIVISION

4.1 The Division was actively engaged in formulation of standards for the Chemical Industry in general. Special mention may be made of its work for petroleum products, metal containers in metric system for various industries, essential oils, paint, paper, laboratory glassware, rubber, and leather products, plastics, coal and coke, etc. During the year, 20 standards were published and 17 were in press as indicated in Appendix A.

4.2 As desired by the Union Government, high priority was given to the work on petroleum products. The Ministry of Labour was equally interested to have an Indian Standard for miners' boots. However, to satisfy their immediate need, every possible assistance was given in drawing up a Departmental Specification on the subject. Another successful conclusion of an important project was the formulation of an Indian Standard glossary of terms relating to hides, skins and leather. Some attention was also paid to the problem regarding control and prevention of river pollution by trade effluents, and State Governments were approached to take appropriate steps in the matter within their own jurisdiction.

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

Alcohol and Allied Products — During the year, substantial progress has been made on compilation of alcoholometric tables.

Standards Published

- IS : 323-1959 Rectified Spirit (*Revised*)
- IS : 324-1959 Denatured Spirit (*Revised*)

Work in Hand

- Alcoholometric Tables
- Isopropyl Alcohol
- Diacetone Alcohol

Acids and Fertilizers

Work in Hand

- Amendment No. 1 to IS: 798-1955 Calcium Ammonium Nitrate
- Orthophosphoric Acid, Technical Ammonium Sulphate Nitrate
- Amendment No. 1 to IS: 1022-1956 Revision of IS: 266-1950 Sulphuric Acid
- Kotka Phosphate Urea, Technical and Pure

Alkalis and Chlorine

Standards Published

- IS : 1514-1959 Methods of Sampling and Test for Quick Lime and Hydrated Lime
IS : 1540-1959 Quick Lime and Hydrated Lime for Chemical Industry

Work in Hand

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|---|----------------------------------|
| Revision of IS: 252-1950 Caustic Soda,
Technical | Dairy Salt
Potassium Chloride |
| Stannic Chloride, Technical | Bromine |
| Free Flowing Table Salt | |

Fine Chemicals

Work in Hand

- | | |
|--|--|
| Amendment No. 2 to IS: 557-1954
Sodium Acetate, Technical and
Photographic | Vegetable Tallow
Stabilized Hydrogen Peroxide
Benzene, Reagent Grade |
| Dicalcium Phosphate for Dentifrice | Toluene, Reagent Grade |
| Tricalcium Phosphate for Dentifrice | Hydrogen Peroxide, 20 Volumes |

Miscellaneous Chemicals — The Committee took up the work on such basic raw materials for which the country was depending mainly on imports, such as sulphur and red phosphorus which are of very great importance to our chemical industry.

Standards Published

- IS : 1090-1959 Compressed Hydrogen
IS : 1420-1959 Light Magnesium Carbonate for Rubber Industry
IS : 1462-1959 Talc for Cosmetic Industry
IS : 1463-1959 Kaolin for Cosmetic Industry

Work in Hand

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|--|--|
| Amendment No. 2 to IS: 574-1954
Glassy Sodium Metaphosphate | IS: 1040-1957 Calcium Carbide,
Technical |
| Amendment No. 1 to IS: 877-1956
Methods of Sampling and Test for
Activated Carbon Used for Deco-
lourizing Vegetable Oils and Sugar
Solution | Methods of Sampling for Gypsum
Mineral Gypsum for Ammonium
Sulphate and Cement Industries
Mineral Gypsum, Surgical Plaster
Grade |
| Amendment No. 1 to IS: 1092-1957
China Clay for Textile and Paper
Industries | Plaster of Paris
Nitrogen, Technical |
| Amendment No. 2 to IS: 1109-1957
Borax, Technical | Sulphur Dioxide, Liquid
Red Phosphorus |
| Revision of:
IS : 299-1951 Alumino-Ferric
IS : 301-1951 Potassium Nitrate,
Technical | Methods of Test for Sulphur
Iron Powder (Reduction Grade)
Aluminium Powder for Explosives
and Pyrotechnic Composition |
| IS : 308-1953 Dissolved Acetylene
(Gas) | Magnesium Powder
Sodium Hydrosulphite, Technical |

Rubber Products — Besides the four draft standards, as reported last year and finalized during the year, drafts on zinc oxide for rubber

industry, rubber hot water bottles, braided petrol hose, light duty water suction hose, semi-embedded water suction hose (heavy duty) corrugated outside, trailer fire pump hose, radiator hose, and hard rubber ebonite, have been approved for wide circulation.

Work in Hand

Gloves for Surgical Use
 Penicillin Bottle Caps (Rubber)
 Armoured Suction Hose for Fire
 Fighting Service

Delivery Hose, Flax or Cotton
 Burnettized
 Titanium Dioxide, Anatase Type
 Yellow Iron Oxide

Paints — The Panel for revision of Indian Standards on paints held 16 meetings during the year under review. It has already made a study of 40 standards with a view to proposing revisions or amendments.

Standards Published

- IS : 1404-1959 Anti-Corrosive Paint, Brushing, for Ships' Bottoms and Hulls, Red, Chocolate or Black, as Required
 IS : 1419-1959 Anti-Fouling Paint, Brushing, for Ships' Bottoms and Hulls, Red, Chocolate or Black, as Required

Work in Hand

Amendment No. 1 to:

IS : 5-1955 Colours for Ready
 Mixed Paints

IS : 163-1950 Ready Mixed Paint,
 Brushing, Quick Drying, Matt,
 Lead-Free, for General Purposes,
 to Indian Standard Colours
 (19 Colours)

IS : 169-1950 Ready Mixed Paint,
 Spraying, Quick Drying, Matt,
 Lead-Free, for General Purposes,
 to Indian Standard Colours
 (19 Colours)

IS : 197-1952 Methods of Test for
 Varnishes and Lacquers

IS : 370-1956 Ready Mixed Paint,
 Brushing, Finishing, Egg Shell
 Gloss, for Interior Use, to
 Indian Standard Colours (6
 Colours)

Revision of:

IS : 57-1950 Red Lead for Paints
 and Jointing Purposes

Revision of:

IS : 62-1950 Graphite for Paints

IS : 101-1950 Methods of Test for
 Ready Mixed Paints and
 Enamels

IS : 164-1950 Ready Mixed Paint,
 Brushing, for Road Marking,
 to Indian Standard Colour
 No. 356 Golden Yellow, and
 White and Black

Black Japan, Type C, for Hot
 Surfaces

Whiting for Putty

Thinner for Cellulose Nitrate Paints
 and Lacquers

Thinner for Cellulose Nitrate Based
 Paints, Dopes and Lacquers

Thinner for Synthetic Paints and
 Varnishes

Ready Mixed Paint, Zinc Chrome,
 Priming (Synthetic) for Light
 Alloys

Printing Ink, Letterpress, Black

Glassware — Besides three draft standards on laboratory glassware, the revision of IS: 489-1954 Glass Ampoules, and the draft standard on transparent sheet glass for glazing and framing purposes were finalized for printing.

Standards Published

- IS : 1381-1959 Boiling Flasks (Narrow-Necked)
- IS : 1388-1959 Reagent Bottles
- IS : 1494-1959 Glass Containers for Preserved Fruits Industry
- IS : 1541-1959 Glass Filter Funnels

Work in Hand

- | | |
|-----------------------------|--|
| Distilling Flasks | Colours for Signal Glassware for Use in Railways |
| Petri Dishes | Liquid Gold |
| Test Tubes | Tables for Calibration of Volumetric Glassware |
| Glass Beakers | Glossary of Terms Relating to Glass Industry |
| Burettes | Glass Tableware |
| Glass Stopcocks | |
| Floating Dairy Thermometers | |
| Penicillin Vials | |

Essential Oils — The Committee concerned organized a scheme for testing the applicability of the simple colour test evolved by the Regional Research Laboratory, Hyderabad, for the detection of the adulteration of the oil of palmarosa (*motia*) with the oil of gingergrass (*sofia*) with a view to incorporating the above test, if found satisfactory, in IS: 526-1954 Palmarosa Oil and Gingergrass Oil. Another scheme of investigation was also undertaken for the collection of authentic samples of Indian *attars* and floral waters distilled from the flowers of rose and *keuda* and for testing them at various laboratories in order to collect physico-chemical data for formulating specifications.

Work in Hand

- | | |
|---|------------------------|
| Amendment No. 1 to: | Oil of Spike Lavender |
| IS : 326-1952 Methods of Test for Essential Oils | Oil of Lavender-French |
| IS : 327-1952 Lemongrass Oil (East Indian Lemongrass Oil) | Oil of Lavandin |
| IS : 329-1952 Sandalwood Oil | Citral |
| IS : 512-1954 Citronella Oil | Oil of Celeryseed |
| Oil of Vetiver | Oil of Indian Dill |
| Geraniol | Oil of Patchouli |
| Citronellol | Ionones |
| Oil of Himalayan Cedarwood | Oil of Pine |
| | Oil of Bergamot |
| | Oil of Rosemary |

Inks and Allied Products — A draft Indian Standard Specification for Glass Bottles for Ink Fluid covering the functional aspects and the chemical characteristics of the glass was prepared.

Standards Published

- IS : 220-1959 Ferro-Gallo Tannate Fountain Pen Ink (0.1 Percent Iron Content) (*Revised*)
- IS : 1379-1959 Ink, Stencil, Oil Base, for Marking Non-Porous Surfaces, Colour as Required
- IS : 1380-1959 Ink, Finger Printing, Black
- IS : 1440-1959 Ink, Metal Stamp, Black
- IS : 1551-1960 Carbon Paper for Typewriter

Work in Hand

Amendment No. 1 to:

- IS : 393-1952 Ink, Stamp-Pad
- IS : 788-1955 Ink, Drawing, Waterproof, Coloured, Transparent and Opaque
- IS : 789-1955 Ink, Drawing, Waterproof, Black
- IS : 1221-1957 Dye Based Fountain Pen Inks (Blue, Green, Violet, Black and Red)
- IS : 1222-1957 Ink, Duplicating, All Weather, Black for Rotary Type Machines
- IS : 1234-1957 Ink, Stencil, Oil Base, for Marking Porous Surfaces, Colour as Required
- IS : 1333-1958 Ink, Duplicating, All Weather, Black, for Drum Type Machines
- IS : 1379-1958 Ink, Stencil, Oil Base, for Marking Non-Porous Surfaces

Revision of:

- IS : 219-1950 Ink Powders and Tablets
- IS : 220-1950 Ferro-Gallo Tannate Fountain Pen Ink (0.1 Percent Iron Content)
- IS : 221-1950 Fluid Ink for Registration and for Cheques and Records
- IS : 222-1950 Blue-Black Superior Fluid Ink for Writing
- IS : 394-1952 Ink, Cloth Marking, Black
- Ferro-Gallo Tannate Fountain Pen Ink (0.2 Percent Iron Content)
- Carbon Paper for Typewriters
- Pencil Carbon Papers
- Ribbons for Typewriters
- Dye, Ink, Blue, for Ink Industry
- Dye, Methylene Blue, for Ink Industry

Coal and Coke — Six standards reported last year concerning various methods of tests for coal and coke were sent to the press. Formulation of standards for coke for blast furnaces, coke for cupolas, soft coke, and coke for gas producers has been undertaken.

Standards Published

- IS : 1350-1959 Methods of Test for Coal and Coke—Proximate Analysis, Total Sulphur and Calorific Value
- IS : 1351-1959 Methods of Test for Coal and Coke—Ultimate Analysis
- IS : 1352-1959 Methods of Test for Coal and Coke—Special Impurities
- IS : 1353-1959 Methods of Test for Coal Carbonization—Caking Index, Swelling Properties and Gray-King Assay (L.T.) Coke Types
- IS : 1354-1959 Methods of Test for Coke—Special Tests
- IS : 1355-1959 Methods of Test for Ash of Coal and Coke

Paper — Three draft specifications for blotting paper, waterproof packing paper and kraft paper, and Part II of Indian Standard Methods of Test for Paper and Allied Products were finalized for printing.

Work in Hand

- Writing and Printing Papers
- Base Paper for Sensitized Paper
- Folding Box Board, White and Coloured
- Paper for Permanent Records

Leather and Leather Goods — Five draft standards on E.I. tanned kips and skins, cycle saddle leather, chrome waxed sole leather, shoe polish, and sizes and fittings of footwear having completed wide circulation are awaiting finalization.

Work in Hand

Amendment No. 1 to IS: 581-1954
Vegetable Tanned Hydraulic Leather
Revision of IS: 582-1954 Methods of
Sampling and Tests for Vegetable
Tanned and Chrome Tanned Leather
Holdall Straps
Tanned Reptile Skins
Book Binding Leather
Clothing and Lining Leather Including
Suede Leather

Postman Bags
Cash Bags for Railways
Gloves for Welders
Pure Tannin Extract of Myrabolams
Men's Shoes, Superior Quality
Men's Shoes, Popular Quality
Men's Shoes, Utility Quality
Gassing (Fumigation) of Hair for
Export
Miners' Boots

Plastics

Standards Published

IS : 1461-1959 Plastic Buttons (Thermosetting)
IS : 1465-1959 Methods of Test for Plastic Buttons (Thermosetting)

Work in Hand

Cellulose Nitrate for Use in Coated
Fabrics
Polystyrene Moulding Material
Methods of Test for Thermosetting
Synthetic Resin Bonded Laminated
Sheets
Paper Base Thermosetting Synthetic
Resin Bonded Laminated Sheets
Fabric Base Thermosetting Synthetic
Resin Bonded Laminated Sheets

Decorative Thermosetting Synthetic
Resin Bonded Laminated Sheets
Methods of Test for Finished Plastic
Mouldings, Part I
Unsupported Flexible Vinyl Film
and Sheeting
Methods of Test for Urea Formalde-
hyde Moulding Powder
Polyethylene

Classification of Dangerous Goods

Standard Published

IS : 1446-1959 Classification of Dangerous Goods

Petroleum — Consequent upon the advice of the Ministry of Steel, Mines and Fuel through the Ministry of Commerce and Industry, top priority was given to the formulation of Indian Standards on petroleum and petroleum products. Indian Standard Specifications for Kerosines (IS: 1459-1959) and Diesel Fuels (IS: 1460-1959) have been published. Draft standards for methods for temperature measurement of petroleum and petroleum products, method for gauging of petroleum and liquid petroleum products, motor gasoline, aviation gasoline, vaporizing oil, aviation turbine fuels, and fuel oils, were in the process of being sent to pre33.

Standards Published

IS : 1459-1959 Kerosines
IS : 1460-1959 Diesel Fuels



Work in Hand

Methods of Calibration of Tanks
(Vertical, Horizontal and Tilted)
Compilation of Capacity Tables

Calculation of Bulk Quantities of Oil
Special Boiling Point Spirits
Oil, Mineral, Colza

Lubricants — The draft revisions of steam cylinder oils (IS: 311-1951 to IS: 316-1951) and automotive hydraulic brake fluid (IS: 317-1951) were finalized and sent to press. Draft standards for oil, lubricating, axle, premium and regular; jute batching oil; and temporary corrosion preventive, fluid, soft film, solvent deposited, have been approved for wide circulation.

Standard Published

IS : 317-1959 General Service Automotive Hydraulic Brake Fluid (*Revised*)

Work in Hand

Amendment No. 1 to IS: 719-1955
Grease S/L No. 1
Sulphurized Cutting Oil

Quenching Oil
Grease, Graphited, for Leaf Springs
Open Gear and Wire Rope Lubricants

Methods of Test for Petroleum, Petroleum Products and Lubricants — To avoid duplication of efforts by the Sectional Committees on petroleum products and lubricants in laying down methods of tests, most of which are common, the Chemical Division Council set up a new Sectional Committee on methods of test for petroleum, petroleum products and lubricants. In its first meeting, the Committee finalized 42 methods of test which would be released to press shortly.

Work in Hand

Knock Characteristics of Aviation
Fuels by Aviation and Supercharge
Methods
Thermal Stability

Bromine Number
Olefines and aromatic Conten
Sampling Procedure

Water — With the rapid industrialization of the country, the problem of regulating trade effluents and cleanliness of river water is assuming great importance. The appropriate Panel has prepared a draft standard prescribing requirements for river water for various purposes.

Work in Hand

Revision of IS: 1070-1957 Distilled
Water
Methods of:
Test (Physical) for Industrial Water
Test (Chemical) for Industrial Water
Sampling Industrial Water for
Physical and Chemical Tests

Method of:
Microbiological Examination of
Industrial Water
Code of Practice for:
Treatment of Water for Land Boilers
Treatment of Water for Marine
Boilers

Ceramicware

Work in Hand

Terminology
Enamelware
Laboratory and Hospital Porcelain

Stoneware Containers
Dinnerware
Ceramic Raw Materials

Metal Containers — In order to aid the vanaspati, paint and petroleum industries, which are changing over to the metric system shortly, top priority was given to the formulation of standards for containers in rationalized metric sizes. Work was also initiated on aluminium containers, containers for packing dangerous insecticides, and for essential oils and collapsible tubes.

Standards Published

IS : 1394-1959 Glossary of Terms Relating to Metal Containers Trade
IS : 1406-1959 Rectangular Tins
IS : 1407-1959 Round Paint Tins
IS : 1413-1959 Round *Vanaspati* Tins
IS : 1549-1960 Steel Drums and Kegs (Galvanized and Ungalvanized)

Work in Hand

Amendment No. 1 to IS:1407-1959 Round Paint Tins	Square Tins for General Purposes Drums, Large, Fixed Ends
Amendment No. 1 to IS:1413-1959 Round <i>Vanaspati</i> Tins	Screwed Closures for Drums Crown Corks
	Round Tins for General Purposes

Adhesives — Having felt the need for the formulation of standards on adhesives other than those used in the plywood industry, a new Sectional Committee on adhesives was set up. The Committee in its first meeting appointed subcommittees for undertaking the preparation of draft standards on adhesives for leather, paper and paper products, rubber based adhesives, etc.

Brushware — At the suggestion of the Ministry of Defence that national standards for all major types of brushes should be formulated, the Chemical Division Council set up a Brushware Sectional Committee. In addition to a review of existing standards on brushes for paints and varnishes, the Committee undertook formulation of standards on toilet and industrial brushes and brushes for other miscellaneous uses.

Coal Carbonization Products — Composition and methods of test for evaluating germicidal value of coal tar disinfectant fluids came in for active consideration and study during the year.

Work in Hand

Nitrobenzene, Technical

Treated Fabrics

Standard Published

IS : 1421-1959 Cellulose Nitrate Coated Fabrics

Work in Hand

Amendment No. 1 to IS: 1259-1958 Vinyl Coated Fabrics	Tracing Cloth Tarpaulins
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Oils, Fats and Soaps — A collaborative scheme of investigation was instituted for the collection of authentic samples of raw and washed cottonseed oil of Indian origin and for testing them at various laboratories with a view to collecting comparative data on their physico-chemical properties for formulation of specifications on the subject. A new Panel for studying Indian Standards on soaps with a view to consider the desirability and necessity, if any, of formulating Indian Standards for higher TFA content laundry soap and also to suggest any points for revision of or amendments to the existing Indian Standards was constituted.

Work in Hand

Amendment No. 1 to IS: 548-1954 Methods of Sampling and Test for Vegetable Oils and Fats	Mutton Tallow Refined Glycerine Crude Glycerine
Stearic Acid Oleic Acid	Methods of Sampling and Test for Crude and Refined Glycerine
Bleaching Earth of Indian Origin	

5. ELECTROTECHNICAL DIVISION

5.1 The most significant achievement of this Division, during the period, was the rational metric series of wires and conductors for electrical purposes which was evolved in consultation with the cable industry. Work was also started on heavy electrical equipment—particularly high-voltage equipment like isolators, oil circuit breakers, etc. The Division also continued to study general aspects of electrical engineering, such as tropic proofing of electrical and electronic equipment, insulation co-ordination, insulating materials, etc.

5.2 During this period, 21 standards, including revisions, were published or were under print (*see* Appendix A) and 25 new subjects were taken up for formulation of standards. Besides reorganization of the Electrical Plant and Switchgear Sectional Committee into seven Sectional Committees, a new Sectional Committee was set up to prepare, on priority basis, national standards for flameproof electrical equipment.

5.3 This Division also holds the Secretariat of Indian National Committee of the International Electrotechnical Commission (IEC). The activities of IEC, during the period, have been reported at page 85.

5.4 A brief account of the Division's work is given below:

General Electrical Standards

Work in Hand

- | | |
|---|---|
| Electrotechnical Vocabulary: Part I
Fundamental Definitions | Revision of IS : 585-1954 Recommended Voltages and Frequency for AC Transmission and Distribution Systems |
| Electrotechnical Vocabulary: Part II
Machines and Transformers | |
| Graphical Symbols Used in Electro-
technology | |

Electrical Conductors and Accessories — Three specifications covering metric sizes of copper wires and conductors for electrical purposes, polythene insulated and PVC sheathed cables for electrical power and lighting for working voltages up to and including 250 volts to earth, and PVC insulated (heavy duty) cables for electricity supply and control purposes for working voltages up to and including 1 100 V were finalized.

Work in Hand

Revision of:

- | | |
|--|---|
| IS : 282-1951 Hard-Drawn Copper Solid and Stranded Circular Conductors for Overhead Power Transmission Purposes (<i>Tentative</i>) | Enamelled High Conductivity Annealed Round Copper Wire (Synthetic Enamel) |
| IS : 398-1953 Hard-Drawn Stranded Aluminium and Steel-Cored Aluminium Conductors for Overhead Power Transmission Purposes (<i>Tentative</i>) | Paper Covered Rectangular Copper Conductors for Transformer Windings |
| IS : 434-1953 Rubber-Insulated Cables and Flexible Cords for Electric Power and Lighting (for Working Voltages Up to and Including 11 kV) | PVC Electrical Insulating Sleeving and Tapes |
| IS : 482-1953 Reels for Covered, Solid, Round Electrical Winding Wire | Aluminium Conductors in Insulated Cables |
| Trolley and Contact Wires for Electric Traction | Braided Cables with Copper Conductors for Overhead Transmission Lines |
| Hard-Drawn Cadmium Copper Solid and Stranded Circular Conductors | Rubber-Insulated Flexible Trailing Cables for Use in Coal Mines |
| Hardware Items for Transmission Lines | Flexible Cables for Use in Quarries and Metalliferous Mines |
| | Glossary of Terms for Electrical Conductors and Cables |
| | Aluminium Conductor Fittings for Overhead Power Lines |
| | Reels and Drums for Bare Wire |
| | Special Types of Cables and Wires Used in Indian Telephone Industries |

Insulators and Accessories — Three 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 sent to press.

Standards Published

- IS : 283-1959 Porcelain Insulators for Telegraph and Telephone Lines (*Revised*)
IS : 1441-1960 Insulator Stalks for Telegraph and Telephone Lines
IS : 1445-1959 Porcelain Insulators for Overhead Lines with Nominal Voltage Below 1 000 Volts

Work in Hand

General Requirements and Methods of Test for Insulator Hardware for Overhead Lines with a Nominal Voltage of 3.3 kV and Above

Hardware Fittings for LT Insulators
Dimensions of Disc Insulators, 11 kV Pin Insulators, and Post Type Insulators

Electrical Plant and Switchgear — Specifications for three-phase induction motors (Revision of IS:325-1956), small AC and universal electric motors with class 'A' insulation, general requirements for electrical equipment of machine tools, and recommendations for the colour of push-buttons were published.

Standards Published

- IS : 325-1959 Three-Phase Induction Motors (*Revised*)
IS : 996-1959 Small AC and Universal Electric Motors with Class 'A' Insulation
IS : 1336-1959 Recommendations for the Colour of Push-Buttons
IS : 1356-1959 General Requirements for Electrical Equipment of Machine Tools

Work in Hand

Outdoor Airbreak Isolating Switches for Use on 3.3 kV to 132 kV

HRC Cartridge Fuse-Links for Use in Circuits of Low and Medium Voltage Ratings

High Voltage Alternating Current Circuit Breakers

Low-Voltage Fuse Gear (Heavy Duty) Circuit Breakers Up to 11 kV

Textile Motors Including Loom Motors
Flame-Proof Motors

High Torque Motors
Variable Speed Motors

Flange Motors
Motors for Domestic Appliances

Outdoor Type Distribution Transformers Above 100 kVA, 11 kV

Recommendations on Tropic Proofing of Electrical Equipment

Standard Conditions for Use During Testing and Pre-conditioning of Electrical Insulating Materials

Determination of Electrical Strength of Solid Insulating Materials at Power Frequencies

Motor Controlgear
Contactors

Code of Practice for:
Installation and Maintenance of Power Transformers

Maintenance of Insulating Oils
Installation and Maintenance of Switchgear

Earth Leakage Protection in Mines and Similar Other Locations

Installation and Maintenance of Motor Controlgear

Recommendations on Insulation Co-ordination

Carbon Brushes for Electrical Machines
Arc Welding Transformers: Part I
Single Operator Type

Electric Fans — The following documents revised on the basis of decisions taken at the first meeting of IEC/TC 43 Electric Fans held in Madrid in July 1959 were sent to the IEC (*see also* IEC/TC 43 on p 91)

43 (Secretariat) 4 Draft International Recommendations for Standard Specifications for a.c. Electric Ceiling Fans and Regulators

43 (Secretariat) 5 Draft International Recommendations for Standard Specifications for a.c. Electric Table Type Fans and Regulators

Work in Hand

Revision of:

IS : 374-1951 Electric Ceiling Fans
IS : 555-1955 Table Type Electric Fans

Revision of:

Fixed Capacitors for Fans
Exhaust Fans
Ventilating Fans
Air Circulator Type Fans

Electrical Instruments and Meters — Draft specification for electrical apparatus comprising resistors was finalized.

Work in Hand

IS: 722 (Part IV) AC Electricity Meters—Three-Phase Kilowatt-Hour Meters with Maximum Demand Indicator
Time Switches
Thermocouple Type Pyrometers with Indicators

Potentiometers for Laboratory and Industrial Uses
General Requirements for Time Switches
Galvanometers
Shunts, Resistors and Instrument Transformers
Dimensions of Indicating Instruments

Electrical Appliances and Wiring Accessories — Draft standards for ballasts for fluorescent lamps, switch start circuits, and metal clad switches (current rating not exceeding 100 amperes) were finalized.

Standards Published

IS : 1401-1959 Accessibility Test Probes
IS : 1415-1959 Electric Hand-Lamps
IS : 1416-1959 Extra Low Voltage Transformers
IS : 1534 (Part I)-1960 Ballasts for Fluorescent Lamps, Part I for Switch Start Circuits

Work in Hand

Revision of:

IS: 302-1951 General Requirements for Electrical Appliances for Domestic Use
IS: 365-1952 Electric Hot Plates
IS: 366-1955 Electric Irons
IS: 367-1955 Electric Kettles for Domestic Use
IS: 368-1952 Electric Portable Immersion Heaters for Domestic Use
IS: 369-1952 Electric Radiators for Domestic Use
IS: 370-1954 Reversible Type Two-Pin Plugs and Socket Outlets Without Earthing Connections
IS: 371-1954 Two- and Three-Terminal Ceiling Roses

Schedule for Automobile Lamps
Steel Conduits and Fittings for Electrical Wiring

Cut-Outs (Fuses)
Fittings and Accessories for Wiring Fuse Wire
Prevention of Glare Menace from Automobile Head Lamps
Telephone Switchboard Lamps
Radial Dial Lamps
Special Types of Lamps Used by the Indian Navy
Electric Discharge Lamps (Mercury Vapour and Fluorescent)
Schedule of Mercury Vapour Lamps Starters for Fluorescent Lamps
Fluorescent Lamps
Ballasts Intended for Instant Start Lamps
Safety Requirements for Ballasts
Power Factor Capacitors
Bl-Pin Lampholders and Sockets for Starters
Fittings and Accessories for Wiring

Bell Pushes

Radio Equipment

Standards Published

- IS : 1490-1959 Recommendations for Minimum Performance Requirements of Mains-Operated Public Address Amplifiers
- IS : 1496-1959 Transformers Used in Vibrator Power Supplies
- IS : 1512-1959 Tests and General Requirements for I.F. Transformers and R.F. Coils Used in Amplitude Modulation Broadcast Receivers

Work in Hand

Revision of:

- IS : 589-1954 Procedures for Basic Climatic Tests for Electronic Components
- IS : 590-1954 Fixed Paper Dielectric Capacitors
- IS : 614-1954 Methods of Measurements on Receivers for Amplitude Modulation Broadcast Transmissions
- 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 : 1031-1957 Methods of Measurements on Loudspeakers and Loudspeaker Systems
- IS : 1036-1957 6-Volt Accumulator-Operated Community Radio Receivers

Ceramic Dielectric Capacitors, Type I
Ceramic Dielectric Capacitors, Type II
Silvered Mica Capacitors
Carbon Resistors
Wave Band Switches
Wire Wound Resistors
Potentiometers
Aerial Wires
Hook-Up Wires
Shielded Wires
Capacitors for Interference Suppression Devices
Moulded Plugs for Mains-Operated Receivers
Electrolytic Condensers
Mechanical Parts for Receivers
Plugs for Dry Battery-Operated Receivers

Main Plugs, Rubber Moulded Type
Gang Condensers
Knobs for Receivers
Sampling Procedures for Electronic Components
General Requirements for Electronic Components
'Standard' Community Radio Receivers
T. V. Receivers
Communication Receivers
Code of Practice for Installation of Receivers
Methods of Measurements on F. M. Broadcast Receivers
Transistorized Receivers
Transformers and Chokes for Interference Suppression Devices
Interstage Transformers
Microphone Transformers
Transformers for AC-cum-Vibrator Operation
Climatic Tests for Complete Electronic Equipment
Code of Practice for Installation of Indoor Amplifying and Sound Distribution Systems
Code of Practice for Outdoor Installation of Public Address Systems
Recommendations for General Requirements for Audio Amplifiers
Acoustical Terminology
Methods of Measurements on Microphones
Tape Recorders
Transistorized Amplifiers
Signal Generators:
a) High Frequency
b) Low Frequency
Vacuum Tube Voltmeters
Cathode Ray Oscilloscopes (General Purpose)
Output Power Meters

Mica

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
Grading of Phlogopite Mica

Further processing of the following
ISO subjects:
Thermal Classification of Phlogopite
Mica Splittings
Master Standard Samples
The Effect of Metric System on Size
Grading of Mica

Primary Cells and Batteries

Standards Published

IS : 268-1959 Leclanché Type Sack Cells (*Revised*)
IS : 556-1960 Leclanché Type Radio Batteries (*Revised*)
IS : 586-1959 Leclanché Type Dry Batteries for Telecommunication, Signalling
and General Purposes (*Revised*)

Work in Hand

Carbon Rods for Primary Cells
Batteries for Photo-Flash Lamps
Batteries for Hearing Aids

Batteries for Transistorized Receivers
Flash Light Torches

Secondary Cells and Batteries

Standard Published

IS : 395-1959 Lead-Acid Storage Batteries (Light Duty) for Motor Vehicles
(*Revised*)

Work in Hand

Stationary Accumulators, Lead-Acid
Type (Plante Positive Plate)
Stationary Accumulators, Lead-Acid
Type (Tubular Positive Plate)
Lead-Acid Storage Batteries (24 V,
40 AH or Aircraft (Aerobatic and
Non-aerobatic)

Revision of IS: 985-1958 Lead-Acid
Storage Batteries (Heavy Duty)
for Motor Vehicles
Hard Rubber Containers for Lead-
Acid Storage Batteries for Motor
Vehicles

Electroplating

Standards Published

IS : 1337-1959 Hard Chromium Plating on Steel
IS : 1359-1959 Electro-Tin Plating
IS : 1378-1959 Oxidized-Copper Finishes

Work in Hand

Revision of IS: 1068-1958 Copper,
Nickel and Chromium Electroplated
Coatings
Zinc Plating
Cadmium Plating
Lead Plating

Copper Plating
Brass Plating
Industrial Silver Plating (Matt and Bright)
Gold Plating
Anodes for Electroplating
Code of Practice for Electroplating

Illumination Engineering Equipment

Work in Hand

Lighting Fittings with Reflectors for Use in Industry	Aerodrome Lighting
General Requirements for Electrical Lighting Fittings	Street Lighting
	Decorative Lighting
	Commercial Lighting
	Flood Lighting

Automobile Electrical Equipment

Work in Hand

Electric Horns	Screen Wipers
Cut Outs	Dipper Switches
Coils	Flashers, Ignition Switches
Distributors	Voltage Regulator
Generators	Fuel Gauge
Starters	Terminal Connection
Magnotos	Dynamos for Cars
Armatures	Dynamos for Commercial Vehicles

6. ENGINEERING DIVISION

6.1 Basic and other engineering standards required in connection with the changeover to metric system continued to receive a high priority. In their work, the technical committees were guided by the directive of the Engineering Division Council against inclusion of avoidable design details in the standards. Twenty engineering standards were published or were under print at the close of the year (*see* Appendix A).

6.2 A small exploratory committee was set up to examine and to recommend the items of mining and similar equipment for which Indian Standards need to be formulated. Decision was also taken to set up a new committee for unfired pressure vessels, other than gas cylinders for which a committee already exists.

6.3 A brief account of the activities of the Division is given below :

Engineering Standards — Draft revision of IS:2-1949 Rules for Rounding Off Numerical Values and a draft standard for Equivalent Metric Units for Quantities Used in Mechanical Engineering were circulated for general comments. These drafts were awaiting finalization.

Machine Tools — Draft Indian Standard Test Chart for Lathes (Up to 800 mm Swing Over Bed) completed general circulation and was awaiting finalization.

Work in Hand

Test Chart for Radial Drilling Machines	Drill Chucks
Coolant Pumps	Safety Code for Machine Tools
	T-Slots, T-Nuts and T-Bolts (Metric)
	Lathe Chucks

Hand Tools — Draft revisions of IS : 273-1951 Picks and Beaters, and IS : 274-1951 Shovels, and draft standards for swage blocks and stands; screw drivers; wood working chisels and gouges; *phourahs* and files were awaiting finalization. Besides, draft standards for braces smith and for pliers of different types (universal pliers, cutting pliers, cutting and gripping pliers, gripping pliers, burner pliers, tube pliers and eyelet pliers) were approved for general circulation for comments.

Standard Published

IS : 1511-1959 Chaff Cutter Blades

Work in Hand

Machinists Vices (With and Without Quick Release Device)	Swivel Base Machine Tool Vices
Pipe Vices (Open Side and Hinged Jaw Type)	Blacksmith's Vices
	Carpenter's Vices
	Spanners

Abrasives

Work in Hand

Preferred Shapes and Sizes of Grinding Wheels and Segments	Safety Code for Grinding Wheels
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Internal Combustion Engines — Draft standards for the following were finalized for publication :

Performance of Constant Speed IC Engines for General Purposes
Type Testing of Constant Speed IC Engines for General Purposes
Performance of Variable Speed IC Engines for Automotive Purposes
Type Testing of Variable Speed IC Engines for Automotive Purposes

Standard Published

IS : 1543-1960 Single Cylinder Fuel Injection Pumps

Work in Hand

Piston Rings	Cast Iron Pistons
Code of Practice for Installation of Land Engines	Aluminium Alloy Pistons
	Filters for Air, Fuel and Oil

Drawings — Draft revision of IS : 696-1955 Code of Practice for General Engineering Drawings was finalized for publication.

Bicycles — Draft revision of IS : 627 1955 Bicycle Chains was finalized for publication and the draft standard for bicycle front forks was awaiting finalization. Draft standards for bicycle tubes and for bicycle tyres were approved for circulation.

Work in Hand

Bicycle Steering Head Assembly

Revision of:

IS : 532-1954 Bicycle Tube Valve
IS : 623-1955 Bicycle Frames
IS : 624-1955 Bicycle Rims
IS : 625-1955 Bicycle Handle Bars
IS : 626-1955 Bicycle Seat Pillars

Revision of:

IS : 628-1955 Bicycle Pedal Assembly
IS : 629-1955 Bicycle Hub Assemblies
IS : 630-1955 Bicycle Spokes (Plain) and Nipples for Spokes

Screw Threads — Indian Standards on the following were finalized for publication :

Black Hexagonal Bolts (6-39 mm) with Nuts and Black Hexagonal Screws (6-24 mm)
Precision Hexagonal Bolts (6-39 mm) with Nuts and Precision Hexagonal Screws (6-39 mm)
Slotted Countersunk Head Machine Screws (6-20 mm)
Slotted Round Head Machine Screws (6-20 mm)
Dimensions of Ends of Bolts and Nuts
Screw Thread Run Out and Thread Undercuts

Draft standards for slotted countersunk head machine screws (1.6 to 5 mm) and for technical supply conditions for thread fastenings, which had completed circulation, were awaiting finalization. Two draft standards, one for rivets for general purposes (12-48 mm diameter) and the other for mild steel boiler rivets (12-48 mm diameter), were put into general circulation.

Standard Published

IS : 1362-1959 Dimensions for Screw Threads for General Purposes (Diameter Range 0.25 to 39 mm)

Work in Hand

Studs

Round Head Screws (1.6 to 5 mm)

Cheese Head Screws (1.6 to 36 mm)

Hexagonal Socket Head Cap Screws (4 to 39 mm)

Steel Rivets Below 12 mm Diameter

Sports Goods — In view of the policy directive of the EDC in regard to design standardization, the Sports Goods Sectional Committee (EDC 28) decided not to proceed further with the revision of tentative standard specifications for shuttlecocks; for cricket and hockey balls; and for footballs, basket balls and water polo balls. For the same reason, it was decided to discontinue work on squash racket frames and on a number of sports accessories and equipment.

Work in Hand

Tennis Balls

Rubber Bladders

Metric Steel Scales for Engineers
Metric Scales for Use with Drafting Machines

Besides these, draft standards for slide rules (linear type), prismatic compass and trough compass were awaiting finalization.

Standards Published

IS : 1360-1959 Engineers' Pattern Tee Squares
IS : 1399-1959 Glossary of Terms Used in Optical Technology
IS : 1444-1959 Engineers' Pattern Drawing Boards
IS : 1491-1959 Metric Scales for Architectural Purposes
IS : 1492-1959 Metric Surveying Chains

Automotive Vehicles

Work in Hand

Helical Springs for Automobile Suspension Vehicle Performance Code

Ball and Roller Bearings

Work in Hand

Glossary of Terms Relating to Ball and Roller Bearings Materials for Bearing Components and Tests for the Same
Identification Code for Ball and Roller Bearings Dimensions of Bearings (Including Tolerances)
Methods of Tests for Complete Bearings

Weights and Measures — Draft standards for the following were finalized for publication :

Beam Scales
Platform Weighing Machines
Automatic Weighing Machines
Weigh-Bridges

Besides, the draft standard for spring balance was awaiting finalization.

Standards Published

IS : 1432-1959 General Requirements for Weighing Instruments
IS : 1434-1959 Counter Machines
IS : 1438-1960 Crane Weighing Machines
IS : 1439-1959 Steelyards

Work in Hand

Person Weighing Machines Large Metric Capacity Measures
Metric Tapes for Use in Measurement of Oil Quantities Self-Indicating and Semi-Self-Indicating Counter Machines

Pulleys and Belts — Draft standards for the following were awaiting finalization :

Cast Iron and Mild Steel Flat Pulleys
Belt Fasteners
Round Leather Belting for Small Machines
Vegetable Tanned Leather Belting for Power Transmission

Standards Published

IS : 529-1959 Solid Woven Impregnated Cotton Belting for Power Transmission
(Revised)
IS : 530-1959 Solid Woven Impregnated Hair Belting for Power Transmission
(Revised)
IS : 1370-1959 Friction Surface Rubber Transmission Belting

Work in Hand

Rubber and Canvas Conveyor and Elevator Belting Code of Practice for Choice, Installation and Maintenance of Beltings

Engineering Metrology

Work in Hand

Straightedges Steel Squares
Dial Gauges Master Squares
Cast Iron Surface Plates Precision Squares

Transmission Devices — The Transmission Devices Sectional Committee (EDC 44) held its inaugural meeting and agreed on a programme of work to be undertaken. Though large scale manufacture in the field of transmission devices is still to be organized, it has been felt desirable that standardization should precede this development in view of the tremendous industrial expansion that is being planned coupled with the decision to go 'metric'.

Small Tools — Draft revision of IS : 599-1954 Twist Drills was finalized. Draft standards for single point cutting tools; dimensions of milling cutters; and for general requirements for milling cutters were approved for general circulation.

Work in Hand

Revision of IS : 664-1954 Combined Plug and Ring Gauges for Self-Holding
Drills and Countersinks Tapers
Screwing Taps Reamers
Self-holding Tapers Screwing Tools

Domestic Oil Burning Appliances (Non-Pressure Type) — The draft Indian Standard Specification for Blow Lamps was circulated to elicit comments.

Standards Published

IS : 1342-1959 Oil Pressure Stoves
IS : 1384-1959 Oil Pressure Lanterns

Work in Hand

Gas Mantles

Hanging Type Pressure Lamps

Utensils — The draft standard specification for wrought aluminium utensils was finalized.

A subcommittee was set up to examine the special requirements of the hotel and restaurant trade in the matter of aluminium utensils.

7. STRUCTURAL AND METALS DIVISION

7.1 This Division formulated 32 new Indian Standards and revised 7 existing Indian Standards during the period under review (see Appendix A).

Uniform progress was maintained in the field of ferrous and non-ferrous metal standards. Of the important standards sent for publication, mention may be made of standards on grades of gold and gold alloys, thicknesses of sheet and diameters of wire, general requirements for the supply of metals and metal products and specification for refractory sleeves for steel plants.

7.2 The work on rationalization of alloy and carbon steels which was initiated about three years ago was nearly completed. Five draft schedules relating to carbon steels, free-cutting and semi-free-cutting steels, alloy steels other than stainless steels and high alloy steels were finalized. A draft schedule on carbon and alloy tool steels was issued for eliciting comments.

7.3 The new items of work taken up during the period include physical tests for steel, cast iron and light metals and their alloys; methods of non-destructive testing of metallic materials; glossary of terms relating to foundry technology; copper and copper alloys and refractory materials; and chemical analysis of important raw materials like bauxite, fluorspar, dolomite and quartzite, used in the metal industry.

7.4 Arrangements have been made for establishing a centre at the Government Test House, Calcutta for the certification of welders in accordance with standards set by ISI and the Boiler Board Regulations. This would go a long way in assisting the industry to get qualified welders and also to popularize welding.

7.5 In addition to the standards sent for publication, a brief account of the other work done by the Division is given below :

Metal Standards — A draft standard on glossary of terms relating to iron and steel was finalized for publication. Draft Indian Standard Code for Designation of Steel was issued for eliciting comments.

Standards Published

IS : 1137-1959 Thicknesses of Sheet and Diameters of Wire

IS : 1387-1959 General Requirements for the Supply of Metals and Metal Products

Work in Hand

Colour Code for Identification of Metallic Materials	Glossary of Terms Relating to Copper and Copper Alloys
Code of Practice for Classification of Non-Ferrous Scrap and Residues	Glossary of Terms Relating to Foundry Technology
Round Bars for the Production of Metric Threaded Components	Corrosion Protection of Light Gauge Steel Construction
Hexagonal Bars for the Production of Metric Threaded Components	Performance Tests for Protective Schemes Used in Corrosion Protection of Light Gauge Steel
Code for Designation of Non-Ferrous Metals	Corrosion Protection of Steel Transmission Towers and Steel Work in Foundations
Code for Designation of Pig Iron and Ferro Alloys	

Methods of Chemical Analysis — Five draft standards relating to methods of chemical analysis of printing metals, ferro silicon, ferro chromium, ferro manganese and spiegeleisen, and refractory materials were finalized for printing.

Draft standards for methods of chemical analysis of ferro titanium, silico manganese, ferro vanadium, ferro tungsten, ferro molybdenum and ferro phosphorus were approved for wide circulation for comments.

Standards Published

IS : 228-1959 Methods of Chemical Analysis of Pig Iron, Cast-Iron and Plain Carbon and Low-Alloy Steels (<i>Revised</i>)
IS : 998-1959 Methods of Chemical Analysis of Soft Solder
IS : 999-1959 Methods of Chemical Analysis of Brazing Solder
IS : 1327-1959 Methods of Testing Tin Coating on Tin-Plate
IS : 1338-1959 Certified Samples for Metallurgical Analysis
IS : 1409-1959 Methods of Chemical Analysis of Antifriction Bearing Alloys
IS : 1493-1959 Methods of Chemical Analysis of Iron Ore
IS : 1546-1960 Method for Determination of Arsenic in Iron and Steel

Work in Hand

Revision of:	Methods of Chemical Analysis of:
IS : 403-1953 Methods of Chemical Analysis of Lead	Dolomite
IS : 406-1953 Methods of Chemical Analysis of Slab Zinc and Zinc Base Alloys	Quartzite
IS : 504-1954 Methods of Chemical Analysis of Aluminium and Its Alloys	Fluorspar
Methods of Chemical Analysis of:	Method for Determination of Arsenic in Lead, Copper and Copper Alloys
Manganese Ore	Methods of Polarographic and Spectrographic Analysis of High Purity Zinc and Zinc Alloys for Die Castings
Tin Ingots	Unified Standards for Methods of Chemical Analysis for Groups of Metals
Bauxite	Test Methods for Silica Sands

Methods of Physical Tests — Seven draft standards relating to 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),

rockwell hardness test (B & C) scales for steel, and Izod impact test for steel were finalized for publication.

Eleven draft standards on load calibration of testing machines for tensile testing of steel, calibration of Vickers hardness testing machines, wrapping test of wire, reverse bend test of steel wire, simple torsion testing of steel wire, modified Erichsen cupping test for steel sheet and strip, beam impact test (V-notch) on steel, Brinell hardness test for grey cast iron, tensile test for light metals and their alloys, Brinell hardness test for light metals and their alloys, and diamond pyramid hardness test for light metals and their alloys were issued in wide circulation for eliciting comments.

Standards Published

- IS : 1403-1959 Method for Reverse Bend Test for Steel Sheet and Strip Less Than 3 mm Thick
- IS : 1499-1959 Method for Charpy Impact Test (U-Notch) for Steel
- IS : 1500-1959 Method for Brinell Hardness Test for Steel
- IS : 1501-1959 Method for Vickers Hardness Test for Steel

Work in Hand

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| Non-Destructive Testing of Metallic Materials | Ductility Test
Transverse Test |
|---|-----------------------------------|

Steel — Draft standards relating to steel wire suitable for manufacture of machine screws, boiler and superheater tubes, carbon steel bars, billets, blooms and slabs for forgings, mild steel wire suitable for manufacture of wood screws and draft amendments relating to IS : 1148-1957 Rivet Bars for Structural Purposes, and IS : 1149-1957 High Tensile Rivet Bars for Structural Purposes were finalized for publication. The draft revision of the Indian Standard Specification for Galvanized Iron and Steel Wire for Telegraph and Telephone Purposes (IS : 279-1951) was approved for wide circulation for eliciting comments.

Work in Hand

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| Revision of: | Steel Tubes for General Engineering Purposes |
| IS : 277-1951 Galvanized Steel Sheets (Plain & Corrugated) | Steel Pipes for Hydraulic Purposes |
| IS : 280-1951 Mild Steel Wire | Steel Tubes for Cycle and Motor Cycle Purposes |
| IS : 412-1954 Expanded Metal (Steel) for General Purposes | Steel Tubes for Water Well Casing (Shaft Enclosing Tubes and Column Pipes) |
| IS : 513-1954 Special Qualities of Steel Sheets | Stainless Steel for Use in the Manufacture of Utensils |
| IS : 597-1955 Black Plate for Tinning and Tin Plate | Steel Bars for Stays |
| Rivet Bars for Locomotive Boilers | Carbon Steel Forgings |
| Steel Plates for Locomotive Boilers | Molybdenum Steel for Forgings |
| Steel Billets, Bars and Sections for Locomotive Boilers | Plates for Pressure Vessels |
| Steel Bars for Production of Machined Parts and for General Engineering Purposes | Steel Spigot and Socket Pipes and Specials for Water, Gas and Sewage |
| Steel Tubes for Automobile Purposes | Cold Reduced Tin-Plate |
| | Steel Wire Rods for the Manufacture of Machine Screws |

Structurals — Draft standards for rolling and cutting tolerances for hot rolled steel products, and cold formed light gauge structural steel sections were issued for wide circulation for comments.

Work in Hand

Structural Sections in Aluminium and Aluminium Alloys
Tubular Steel Poles for Overhead Power Lines
Tubular Steel Poles for Traction and Telecommunication Purposes

Handbook Giving Design and Fabrication Data and Other General Information
Rolled Steel Piling Sections
Special Channel Sections

Structural Engineering — Three codes of practice relating to cranes and hoists, use of steel in gravity water tanks, and design of vertical mild steel cylindrical welded oil storage tanks were circulated for eliciting comments.

One of the handbooks relating to beams and plate girders, which was finalized last year, has been processed for publication.

Work in Hand

Code of Practice for:
Use of Steel in Gas Storage Tanks
Use of Steel in Overhead Transmission Line Towers
Use of Steel in Radio Masts
High Strength Bolting in Structures
Light Weight Open Web Steel Joist Construction
Use of Steel in Temporary Construction
Use of Aluminium Sections in Structures
Handbooks for Structural Engineers:
Steel Columns and Struts
Functions of Good Design in Steel Economy
Economy of Steel Through Choice of Fabrication Methods
Roof Trusses in Steel
Designing and Detailing Welded Joints and Connections
Single Storey Industrial and Mill Type Buildings in Steel

Handbooks for Structural Engineers:
Multistorey Steel Framed Structures for Offices and Residences
Steel Transmission Towers
Steel Work in Cranes and Hoists
Large Span Shed Type Buildings in Steel
Structural Use of Tubular Sections
Structural Use of Light Gauge Sections
High Strength Bolting in Steel Structures
Light Weight Open Web Steel Joist Construction
Design of Rigid Frame Structures in Steel
Application of Plastic Theory in Design of Steel Structures
Guide for 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, and one draft Amendment No. 1 to IS: 1110-1957 Ferro Silicon were finalized for publication.

Work in Hand

Electrolytic Manganese
Metallic Manganese
Metallic Silicon
Metallic Chromium
Silico Chromium

Calcium Silicide
Ferro Nickel
Foundry Nickel
General Rules for Testing and Inspection of Ferro Alloys

Cast Iron and Malleable Cast Iron — The three draft specifications relating to centrifugally cast (spun) iron pressure pipes, cast iron fittings for pressure pipes, and vertically cast iron pressure pipes for water, gas and sewage, which were re-circulated for comments last year, were finalized for publication. A draft standard relating to malleable cast iron pipe fittings was also finalized for publication.

Preliminary draft standard relating to iron castings with spheroidal or nodular graphite was approved for wide circulation for eliciting comments.

Work in Hand

Revision of:

IS : 210-1950 Grey Iron Castings
IS : 227-1954 Malleable Iron
Castings

Cast Iron Spigot and Socket Soil,
Waste and Ventilating Pipe Fittings
and Accessories

Aluminium and Aluminium Alloys — A draft standard relating to anodized aluminium has been finalized for consideration at the joint meeting of Aluminium and Aluminium Alloys Sectional Committee (SMDC 10), and Electroplating Sectional Committee (ETDC 12) before sending it to press.

Two draft specifications relating to rolled aluminium rods (electrical conductor grade) for electrical purposes, and 99.7 percent primary aluminium notched bars and ingots for remelting for aircraft purposes were approved for wide circulation for eliciting comments.

Standards Published

- IS : 20-1959 Cast Aluminium and Aluminium Alloy for Utensils (*Second Revision*)
IS : 21-1959 Wrought Aluminium and Aluminium Alloy for Utensils (*Second Revision*)
IS : 23-1959 99 Percent Primary Aluminium Notched Bars and Ingots for Remelting for Aircraft Purposes (*Revised*)
IS : 202-1960 Aluminium Alloy Ingots and Castings for Aircraft Purposes (*Revised*)
IS : 617-1959 Aluminium and Aluminium Alloy Ingots and Castings for General Engineering Purposes (*Revised*)

Work in Hand

Recommendations for the Selection
of Structural Aluminium Alloys
Aluminium Master Alloys
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
Code of Practice for Die Casting
Aluminium Alloys
Type of Aluminium Ingots and
Notched Bars
Aluminium for Electrical Purposes

Copper and Copper Alloys — Draft revisions of 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 : 306-1951 Tin

Bronze Ingots and Castings, and IS : 318-1952 Leaded Tin Bronze Ingots and Castings, were finalized for publication.

Draft revision of IS : 291-1951 Naval Brass Rods, Bars and Sections, and IS : 407-1953 Brass Tubes for General Purposes, and draft amendments relating to IS : 191-1958 Copper (*Revised*), IS : 410-1959 Rolled Brass Plate, Sheet, Strip and Foil, and IS : 422-1959 Brass Sheet and Strip for the Manufacture of Utensils, were issued for eliciting comments. A draft standard on copper plate, sheet and strip was also issued for comments.

Standards Published

- IS : 288-1960 Copper Rods for Boiler Stay Bolts and Rivets (*Revised*)
- IS : 531-1959 Leaded Brass Strip for Use in the Manufacture of Parts for Instruments
- IS : 1385-1959 Phosphor Bronze Rods and Bars, Sheet and Strip and Wire
- IS : 1403-1959 Recommended Procedure for Inspection of Copper-Base Alloy Sand Castings
- IS : 1458-1959 Railway Bronze Ingots and Castings
- IS : 1545-1960 Solid Drawn Copper Alloy Tubes
- IS : 1550-1960 Copper Sheet and Strip for the Manufacture of Utensils and for the General Purposes

Work in Hand

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| Revision of: | Copper Nickel Tubes for Condensers in Sea-Going Vessels |
| IS : 319-1951 Free Cutting Brass Rods and Bars (for Use in Screw Machines) | Copper Sheet and Strip for Electrical Purposes |
| IS : 320-1951 High Strength Brass Rods, Bars and Sections | Copper Tubes for General Purposes |
| Copper Sheet and Strip for Industrial Purposes | Code of Practice for Tinning of Brassware |

Lead, Zinc, Tin, Antimony and Their Alloys — Draft standards relating to antifriction bearing alloys (Revision of IS : 25-1950), antimonial lead, and code of practice for the manufacture of zinc alloy pressure die castings, and a draft amendment to IS : 193-1956 Soft Solder (*Revised*) were finalized for publication.

Preliminary draft standards relating to chemical lead, and lead sheets (Revision of IS : 405-1952) were issued for wide circulation for eliciting comments.

Standards Published

- IS : 1339-1959 Lead Cable Alloy
- IS : 1340-1959 Code of Practice for Protective Coating of Zinc Base Alloys
- IS : 1357-1959 Printing Metal

Work in Hand

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| Revision of IS : 404-1952 Lead Pipes for Other Than Chemical Purposes | Resin Cored Solder Wire for Electrical Purposes |
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Code of Practice for Hot Dip Galvanizing and Zinc Impregnation
Zinc Plate, Sheet and Strip

Tin for Tin Plates and Tin Sticks for Tinning
Nickel and Nickel Alloys and Nickel Shot

Precious Metals — Preliminary draft specifications relating to fine gold in the form of bar, sheet, wire, grain and *mohar*, fine silver in the form of bar, sheet, wire, grain and *mohar*, and grades of silver and silver alloys were approved for wide circulation for comments. A draft standard on method for assaying gold and gold alloys has also been prepared for wide circulation for eliciting comments.

Two subcommittees were set up to undertake detailed work on platinum and *jari* standards.

Standard Published

IS : 1417-1959 Grades of Gold and Gold Alloys

Work in Hand

Platinum in the Form of Plate, Sheet, Wire and Tube Gold Solder

Welding General — Two draft standards, one on recommended procedure for metal arc welding of mild steel, and the other a code of practice for training and testing of oxy-acetylene welders were issued for comments.

Standards Published

IS : 1395-1959 1/2-Percent Molybdenum Steel Covered Electrodes for Metal Arc Welding

IS : 1442-1959 Covered Electrodes for Metal Arc Welding of High Tensile Structural Steel

Work in Hand

Code of Practice for:
Welding of Pressure Vessels
Inspection of Welds
Use of Welding in Weldments
(Built Up Sections for Use in
Place of Steel Castings)
Argon Arc Welding of Aluminium
and Stainless Steel
Handbook for Welding Inspectors and
Welding Supervisors

Hose Connections for Welding and
Cutting Appliances
Spot Welding Electrodes
Filler Rods and Wires for Inert Gas
Arc Welding
Welding Rods and Electrodes for Sur-
facing Work
Assessment of Welds by Radiographic
Examination

Structural Welding — Final draft of the ISI Handbook for Manual Metal Arc Welding for Welders was prepared and circulated to Welding General (SMDC 14) and Structural Welding (SMDC 15) Sectional Committees and others interested for eliciting comments. Preliminary draft for code of practice for welding of structures subject to dynamic loading has been prepared.

Standards Published

- IS : 1261-1959 Code of Practice for Seam Welding in Mild Steel
IS : 1323-1959 Code of Practice for Oxy-Acetylene Welding for Structural Work in Mild Steel

Work in Hand

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| Code of Practice for:
Use of Welding in Tubular
Construction | Qualifying Tests for Welders Engaged
in Welding of Boilers |
| Class I Metal Arc Welding of Steel
Pipelines and Pipe Assemblies
for Carrying Fluids | Qualifying Tests for Welders Engaged
in Welding of Steampipes |
| | Welding Handbook for Use of Welding
Engineers |
| Handbook for | Gas Welders |

Ores and Raw Materials

Work in Hand

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| Revision of IS: 372-1952 Manganese
Ore, Battery Grade | Revision of IS: 373-1952 Manganese
Ore, Metallurgical Grade |
| I r o n O r e | |

Foundry — Draft standard relating to coal dust for use in cast iron foundry was issued for eliciting comments.

It has been decided to take up a programme of investigation and location of deposits of silica sands in this country suitable for foundry purposes in collaboration with the Geological Survey of India and the National Metallurgical Laboratory. With a view to helping the Geological Survey of India in this work, a note relating to basic characteristics of high silica sands for use in foundries is being made available to them.

Standard Published

- IS : 1513-1959 Wooden Pattern Equipment for Foundries

Work in Hand

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| High Silica Sand for Use in Foundries | Recommended Characteristics for
Binding Materials |
| Sodium-Base Bentonite for Use in
Foundry | Recommended Methods of Testing of
Binding Materials: |
| Basic Characteristics of High Silica
Sands for Use in Foundries | a) Testing of Clays |
| Recommended Methods of Testing of
Foundry Sands | b) Testing of Liquid Binders |
| | c) Testing of Synthetic Binders |

Refractories — Three draft standards relating to bottom pouring refractories for steel plants, ladle refractories for steel plants, sizes and shapes for firebricks, draft revision of IS : 483-1953 Fireclay Refractories for Oil Fired Boiler Furnaces of Naval Ships and one amendment to IS : 484-1958 Silica Refractories for General Purposes, were finalized for publication.

Preliminary drafts for methods of sampling and physical tests for refractory materials, revision of IS : 194-1950 Recommendations for Refractories for Railways, blast furnace refractories for steel plants, sizes for graphite

crucibles, cupola refractories, pea magnesite, magnesite bricks, and Amendment No. 1 to IS:8-1958 High Heat Duty Fireclay Refractories (*Second Revision*) were issued for wide circulation.

Standards Published

- IS : 1522-1960 Fireclay Refractories for Glass Melting Tank Furnaces
IS : 1524-1960 Refractory Sleeves for Steel Plants

Work in Hand

Dimensional Standardization of Refractories	of	Sillimanite Refractories for Glass Melting Tank Furnaces
Insulating Firebricks		Siliceous or Semi-Silica Bricks
Graphite Crucibles		Stoppers and Nozzles for Steel Plants
Natural Sillimanite Blocks for Glass Melting Tank Furnaces		Classification of Clays for Ceramic Industry
		Glossary of Terms for Refractory Materials

Alloy Steels and Special Steels — The following five draft schedules pertaining to wrought steels for general engineering purposes were finalized for publication :

- Schedule I Steels Without Detailed Chemical Composition Specified by Tensile Properties
- Schedule II Carbon Steels with Specified Chemical Composition and Related Mechanical Properties
- Schedule III Carbon and Carbon-Manganese Free Cutting and Semi-Free Cutting Steels with Specified Chemical Composition and Related Mechanical Properties
- Schedule IV Alloy Steels (Other Than Stainless Steels) with Specified Chemical Composition and Related Mechanical Properties
- Schedule V High Alloy Steels, for Example, Stainless Steel with Specified Chemical Composition and Related Mechanical Properties

A draft schedule relating to carbon and alloy tool steels was issued for eliciting comments.

8. TEXTILE DIVISION

8.1 Fortytwo Indian Standards (*see* Appendix A) for the various sectors of the Textile Industry were published or were under print during the period under review. Amongst the published standards, special mention may be made of IS : 1315-1959 Method for Determination of Universal Count of Cotton Yarn. This standard is intended to supersede IS : 937-1951 Method for Determination of Cotton Yarn Count (or Yarn Melidity in tex), which

is now outmoded because of the unanimous decision of the International Organization for Standardization for adopting one universal system of direct metric units applicable to all kinds of fibres.

8.2 The Tariff Commission recommended and Government of India accepted that the Indian Standards Institution should take up the work of formulation of Indian Standard Specification for Hair Belting Yarn and desired that very high priority be given to this work. ISI took up the work of formulation of standard on this subject. Acting on the proposal received from the West Bengal Tape Manufacturers' Association, Calcutta, new Sectional Committee for Tapes for Electrical Purposes (TDC 35) was set up, and the work of formulation of standard for cotton tapes for electrical purposes was started. Thirteen other new subjects were added to the programme of work of the various committees.

8.3 A brief account of the work accomplished in various fields of the Textile Industry is given below:

Physical Methods of Tests — The draft Indian Standard Methods for Determination of (a) Breaking Load (Strength) and Breaking Elongation of Single Strand of Cotton Yarn (by constant-rate-of-traverse machine), (b) Cotton Fibre Immaturity Count: Polarized Light Method, and (c) Lea Breaking Load (Strength) and Breaking Length of Cotton Yarn (Metric System) were finalized.

Standards Published

- IS : 1315-1959 Method for Determination of Universal Count of Cotton Yarn
- IS : 1348-1959 Method for Determination of Kemp Content of Raw Wool
- IS : 1349-1959 Method for Determination of Clean Wool Yield of Raw Wool
- IS : 1377-1959 Method for Determination of Mean Fibre Length of Wool

Work in Hand

Determination of:

Universal Count of Yarn Removed from Cotton Fibres

Strength of Cotton Fibres at Zero Gauge Length: Flat Bundle Method

Micronaire Value of Cotton Fibres

Crimp in Wool in the Fleece

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

Nappiness in Cotton

Upper Half Mean Length of Cotton

Fibres by Fibrograph and by Uster Stapling Apparatus

Specific Area and Immaturity Ratio of Cotton Fibres: Arealometer Method

Universal Count of Woollen and Worsted Yarn

Breaking Load (Strength) and Elongation of Woven Woollen Fabrics (by constant-rate-of-traverse machine)

Woollen Fabric Dimensions

Twist in Woollen and Worsted Yarn

Universal Count in tex of Silk Yarn

Ends and Picks in Woven Silk Fabric

Silk Fabric Dimensions

Weight per Square Metre and Weight per Linear Metre of Silk Fabric

Breaking Load (Strength) and Elongation of Woven Silk Fabrics

Determination of:
Crimp of Yarn in Cloth
Weight of Warp and Weft Free
from Added Matter per Unit
Area of Cloth
Glossary of Terms for Describing Fibre
Content of Fabrics Containing:
Silk
Wool

Definitions of Terms Relating to Types
of Fabrics Used in:
Jute Industry
Silk Industry
Cotton Industry
Wool Industry
Designation of Yarn Structure

Chemical Methods of Tests — The draft Indian Standard Methods for (a) Determination of Scouring Loss in Grey and Finished Cotton Textile Materials, (b) Testing Jute Fabrics for Resistance to Attack by Micro-Organisms, and (c) Testing Jute Cordages for Resistance to Attack by Micro-Organisms were finalized.

Standards Published

IS : 1386-1959 Method for Testing Cotton Cordages for Resistance to Attack by Micro-Organisms
IS : 1389-1959 Methods for Testing Cotton Fabrics for Resistance to Attack by Micro-Organisms

Work in Hand

Determination of:
 ρ H Value of Aqueous Extracts of
Textile Materials
Barium Activity Number of Cotton
Textile Materials
Colour Fastness of Textile Materials
to Nitrogen Oxides
Fastness of Dyestuffs
Colour Fastness of Textile Materials
to Formaldehyde
Colour Fastness of Textile Materials
to Chlorinated Water
Amount of Size Left in the Cloth
After Desizing
Strength of Anthraquinone Vat Blue
RSN, Anthraquinone Vat Blue BC,
Anthraquinone Vat Green B and
Caledon Jade Green 2G
Absorbency of Cotton Textile
Materials
Residual Nitrogenous Matter
Colour Fastness of Textile Materials
to Washing in Presence of Sodium
Hypochlorite
Shrinkage of Woven Silk Fabrics
on Washing
Method for:
Resistance of Fabrics and Yarns to
Insect Pests

Method for:
Detection and Estimation of Damage
in Cotton Yarns and Cordages
Due to Micro-Organisms
Quantitative Estimation of Fibres
and Their Mixtures
Identification of Cellulose Deriva-
tives and Synthetic Resin Finishes
on Cotton and Regenerated Cellu-
losic Fibres
Estimation of Carboxylic Acid
Groups in Cotton Materials
Detection and Estimation of Damage
in Cotton Due to Micro-Organisms
Detection and Estimation of Cotton
Anticeptics
Estimation of Residual Chlorine
Identification of Waterproof,
Mildew-Proof, Rot-Proof and
Fire-Proof Finishes on Textiles
Assessing Relative Efficiency of
Detergents
Detection and Estimation of Damage
in Jute Fabrics Due to Micro-
Organisms
Detection and Estimation of Damage
in Jute Yarn and Cordages Due
to Micro-Organisms

Cotton Yarn and Fabrics

Standards Published

IS : 293-1959 Code for Seaworthy Paolinging of Cotton Cloth and Yarn (*Revised*)

- IS : 1347-1959 Code for Inland Packaging of Cotton Cloth and Yarn
 IS : 1376-1959 Cotton Sewing Thread, Bleached, for Aeronautical Purposes
 IS : 1402-1959 Braided Cotton Cord for Aeronautical Purposes
 IS : 1422-1959 Cotton Duck, Scoured, Dyed or Waterproofed
 IS : 1423-1959 Cotton Gaberdine, Bleached
 IS : 1424-1959 Cotton Canvas, Scoured, Dyed or Waterproofed
 IS : 1431-1959 Cotton Mosquito Netting, Round Mesh, Dyed
 IS : 1535-1960 Cotton Lining Cloth, Dyed
 IS : 1544-1960 Cotton Calico, Bleached or Dyed
 Amendment No. 1 to:
 IS : 174-1951 Specification for Cotton Flannelettes (Plain) (*Tentative*)
 IS : 175-1951 Specification for Cotton Bed Sheets (*Tentative*)
 IS : 179-1951 Specification for Dosuti (*Tentative*)

Work in Hand

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|--|---|
| Cotton Sewing Thread, Bleached or Dyed | Amendment No. 1 to: |
| Cotton Tape Newar, Grey or Dyed | IS : 171-1951 Specification for Cotton Yarn, Grey (<i>Tentative</i>) |
| Cotton Embroidery Thread, Bleached or Dyed | IS : 177-1951 Specification for Cotton Drills |
| Cotton Umbrella Cloth | IS : 1143-1957 Specification for Cotton Mosquito Netting, Square Mesh, Dyed |
| Cotton Fabric, Dyed, Water Resistant | |
| Cotton Lining Cloth, Dyed (Warp Faced Satin) | |

Textile Materials for Aeronautical Purposes

Work in Hand

- | | |
|---|---|
| Amendment No. 1 to: | Flax Webbing for Aeronautical Purposes |
| IS : 514-1954 Mercerized Cotton Fabric, Grade 1, for Aircraft | Cotton Webbing for Aircraft Safety Belts |
| IS : 596-1954 Mercerized Cotton Fabric, for Gliders | Linen Sewing Thread for Aeronautical Purposes |
| IS : 598-1955 Mercerized Cotton Fabric, Grade 2, for Aircraft | Braided Linen Cord for Aeronautical Purposes |
| IS : 714-1955 Cotton Reinforcing Tape for Aircraft | |
| IS : 1045-1957 Cotton Fabric for Covering Plywood in Aircraft | |

Woolen and Worsted Fabrics

Standards Published

- IS : 1530-1960 Cloth, Baize
 IS : 1531-1960 Cloth, Blanket
 IS : 1532-1960 Serge Blue, Worsted
 IS : 1533-1960 Serge, Drab Mixture, Water Resistant
 Amendment No. 2 to IS : 677-1955 Specification for Cloth, Drab Mixture, Woolen (Water Resistant), No. 1
 Amendment No. 2 to IS : 678-1955 Specification for Cloth, Drab Mixture, Woolen (Water Resistant), No. 2

Work in Hand

- | | |
|--------------------------|--------------|
| Blanket, Woolen, Scarlet | Super Shawls |
| Worsted <i>Lohis</i> | Woolen Rugs |

Worsted Suitings
Summer Suitings
Woollen Coating
Tweed
Union Suitings
Woollen Flannel for Trousering
Worsted Shirting
Blazer Cloth
Woollen Blankets
Worsted Suitings (Piece Dyed)
Worsted Suitings (Special)

Hand-Made Woollen Carpets (South India), for Export
Hand-Made Woollen Carpets and Woollen Rugs (Floor Coverings), such as are Made in Rajasthan, Agra, Gwalior, etc, for Export
Hair Belting Yarn
Felt
Code for Packing of Raw Wool for Export
Code for Inland Packaging of Woollen Textiles

Coir and Coir Products — Amendment No. 1 to IS : 898-1957 Specification for Coir Fibre (*Tentative*) was finalized.

Work in Hand

Door Mats-Rod

Creel, Fibre, and Bit Mats
Anjengo Type Yarn

Man Made Fibre and Fabrics

Standards Published

IS : 1425-1959 Rayon Crepe
IS : 1426-1959 Rayon Half Crepe Sari Cloth
IS : 1427-1959 Rayon Georgette
IS : 1428-1959 Rayon Voiles, Ninons and Plain Chiffons
IS : 1429-1959 Rayon Half Crepe
IS : 1430-1959 Rayon Crinkle Georgette or Crinkle Chiffon
IS : 1452-1959 Rayon Taffeta
IS : 1453-1959 Rayon Satin
IS : 1454-1959 Rayon Sari Cloth
IS : 1455-1959 Rayon Jacquard Fabrics
IS : 1456-1959 Rayon Baby Sharkskin
IS : 1457-1959 Rayon Sharkskin
IS : 1502-1959 Rayon Linen

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

Textile Sizing and Finishing Materials — The draft Indian Standard Specification for Tapioca Starch for Use in Cotton-Textile Industry was finalized for publication.

Work in Hand

Tapioca Flour

Handloom Fabric (Cotton, Silk and Wool) — The following draft Indian Standards or amendments to Indian Standards were finalized :

Handloom Cotton Bed Durries

Handloom Cotton Twills, Bleached or Dyed
Handloom Cotton Poplin, Bleached or Dyed
Handloom Silk Dhories, Loomstate
Handloom Silk Shirting, Loomstate

Amendment No. 1 to :

- IS : 1095-1957 Specification for Handloom Cotton Dress Material, Bleached, Dyed, Printed, Striped or Checked
- IS : 1096-1957 Specification for Handloom Cotton Holland Cloth, Unscoured
- IS : 1097-1957 Specification for Handloom Cotton Mosquito Netting, Bleached or Dyed
- IS : 1099-1957 Specification for Handloom Cotton Lining Cloth
- IS : 1100-1957 Specification for Handloom Cotton Crepe, Bleached or Dyed
- IS : 1101-1957 Specification for Handloom Cotton Cellular Shirting, Bleached or Dyed
- IS : 1242-1958 Specification for Handloom Cotton Shirting, Bleached, Dyed, Striped, Checked or Printed
- IS : 1243-1958 Specification for Handloom Cotton Coating, Bleached, Dyed, Striped or Checked
- IS : 1245-1958 Specification for Handloom Cotton Pyjama Cloth, Grey and Striped
- IS : 1265-1958 Specification for Handloom Cotton Woollen Tweed
- IS : 1267-1958 Specification for Handloom Worsted Raffal Shawls
- IS : 1268-1958 Specification for Handloom Worsted Lohis.

Standards Published

- IS : 1450-1959 Handloom Cotton Floor Durries
IS : 1451-1959 Handloom Cotton Drills, Bleached or Dyed
IS : 1539-1960 Cotton Yarn, Grey, for Handlooms

Work in Hand

- | | |
|--|-----------------------------|
| Handloom Silk Bush Shirt Cloth, Loomstate | Handloom Rayon Fabrics |
| Handloom Silk <i>Kora</i> (Loomstate) Cloth | Handloom Staple Fabrics |
| Handloom Silk Sari Cloth, Undyed, Dyed, or Printed | Handloom Furnishing Fabrics |
| Handloom Cotton Tussore, Bleached or Dyed | Handloom Tapestry Cloth |

Ropes and Cordages

Standards Published

- IS : 1321-1958 Hawser-Laid Sisal Rope
IS : 1371-1958 Shroud-Laid Sisal Rope
IS : 1372-1958 Cable-Laid Sisal Rope
IS : 1410-1959 Hawser-Laid Coir Rope
IS : 1411-1959 Shroud-Laid Coir Rope
IS : 1412-1959 Cable-Laid Coir Rope

Work in Hand

Amendment No. 1 to :		Country Twine, 3 Ply
IS : 1084-1957 Specification	for	Tarred Hemp Marline, 2 Ply
Hawser-Laid Manila Rope		Hemp Ropes and Cordages
IS : 1085-1957 Specification	for	Jute Ropes and Cordages
Shroud-Laid Manila Rope		Cotton Ropes and Cordages (Except
IS : 1086-1957 Specification	for	Power Transmission Ropes)
Cable-Laid Manila Rope		Whip Cord
Spun Yarn Jute, 18 Ply		Cotton Twine, 3 Ply
White Indian Hemp Line		Pilot Lead Line

Hosiery Yarn and Knitted Garments — The draft Indian Standard Specification for Socks, Worsted, was approved for general circulation.

In order to tide over the problem of oversized marking of knitted vests and to develop a suitable device for measuring the size of vests, the Division concerned collected some samples of cotton vests from various manufacturers in the country and tests were carried out on these samples in the ISI Directorate with the assistance of a local member of the Committee concerned. This problem also continued to receive attention through correspondence with technical institutions in the country.

Work in Hand

<i>Cotton Hosiery :</i>	<i>Woollen Hosiery :</i>
Plain Knit Underwear	Stockings
Interlock Underwear	Hose Tops
Interlock Outerwear	Cardigans
<i>Woollen Hosiery :</i>	Mufflers
Jerseys, Pullovers	Slip-Overs
Gloves, Knitted	Pullovers
Vests, Woollen	Gents and Ladies Garments
Drawers	Scarves
Comforters	Jerseys, Natural

Textile Mill Stores — The following three draft Indian Standards were finalized :

- Buffer Bands for Automatic Looms
Pitch Bound Reeds for Use in Cotton Looms
Wire Reeds for Use in Jute Looms

Standard Published

- IS : 1552-1960 Wire Reeds for Use in Jute Looms

Work in Hand

Amendment No. 1 to IS:1225-1958 Specification for Leather Picking Bands for Looms (<i>Tentative</i>)	Picking Sticks for Cotton Looms Shuttles for Plain Calico Looms (Cotton)
Large Size Spring Buffers for Cotton Looms	Shuttles for Automatic Looms (Cotton) Pickers
Small Size Spring Buffers for Cotton Looms	Cotton Healds for Use in Jute Looms Bottom Fluted Rollers
Cotton Healds for Use in Cotton Looms	Spindles
6-in. Lift Varnished and Enamelled Ring Rabbeth Bobbins for Cotton Mills	Sawtooth Rollers Knurled Rollers Cotton Spindle Tapes

Textile Machinery

Work in Hand

Plain Calico Looms and Their Com- ponent Parts	Carding Engine and Its Component Parts
Ring Frame and Its Important Com- ponent Parts	Hand Driven Socks Knitting Machines Power Driven Socks Knitting Machines Power Driven Outerwear Machines

Wicks for Oil Burning Domestic Appliances

Work in Hand

Flat Cotton Wicks for Hurricane Lanterns and Lamps	Circular Wicks Round Wicks
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Jute and Jute Fabrics

Work in Hand

A-Twill Jute Bags for Packing Sugar Jute Bags for Packing Cement	Packing Jute Manufactures in Bales, Trusses and Bundles Indian Hessians
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9. CERTIFICATION MARKS AND IMPLEMENTATION DIVISION

9.1 The ISI Mark is being increasingly recognized both by producer and consumer as an effective instrument for safeguarding their respective interests. During the period under report, which was the fifth year of operation of ISI Certification Marks Act, the number of licensees rose from 120 to 184. The number of enquiries from industry also increased to 464 as against 289 in 1958-59.

9.2 In regard to securing greater recognition and preferential treatment of ISI certified goods by purchase organizations of the Central Government and the various State Governments, further progress was made. In addition to DGS&D's decision reported last year for preferential treatment, the following State Governments and authorities have issued instructions to

their heads of departments to give preference to goods bearing ISI Certification Mark in their purchases :

- a) Government of Uttar Pradesh,
- b) Government of Madras,
- c) Government of Orissa,
- d) Director of Public Health Services, Himachal Pradesh, and
- e) Chief Commissioner, Andaman and Nicobar.

Conferences of Local Self-Government Bodies held in States of Kerala, West Bengal, Madras and the Punjab adopted the following recommendations for giving preference to goods bearing ISI Certification Mark :

‘Recognizing the value and benefits of standards certification marking and with a view to providing adequate encouragement to the endeavours of ISI in propagating widespread use of certification in industry and commerce, the State Governments may give a lead by according due recognition to ISI Standard Mark by preferring to purchase only such goods as carry this mark and, wherever such goods are not available, by demanding goods that could be similarly certified. The Conference recognizes that certified goods being as they are produced under an organized inspection system do not require the same degree of inspection and testing prior to purchase as other goods do. It is, therefore, possible to effect substantial economies by relaxing repeat inspection prior to purchase. Furthermore, the State may direct industrial undertakings under its control and request those in the private sector to cover their products under the ISI Mark.’

9.3 In regard to voluntary implementation of Indian Standards, both industry and purchase departments of the Central and State Governments adopted many more Indian Standards. The total adoption numbered 1 173 as against 948 at the end of the last year, registering an increase of 225 in the year under report. The DGS&D, the main purchasing organization of the Central Government, adopted as many as 219 standards during the year thereby raising the total adoption by them to 1 077. Steps for promoting adoption of Indian Standards by industry and other consuming departments in their manufacturing and purchase programmes were also intensified.

In the seven conferences held in four different States reported earlier, the subject of widespread implementation of Indian Standards was also discussed and the conferences, recognizing that sound development of industry and trade and the lasting benefits to overall economy of the country could be ensured only through a widespread and co-ordinated implementation of Indian Standards issued by the national standards organization of the country, recommended that :

‘All Indian Standards including specifications, codes of design and practice, model bye-laws, etc, should be formally adopted, as soon

as they are published by the Indian Standards Institution, by all departments of the Government and Municipal Committees and other Local Self-Government Bodies, for the purpose of stores purchases and for guiding design and construction work in the public sector. Such official adoption by the State may be indicated by publication of notification in the official gazette from time to time and by giving direct reference to Indian Standards in legislation, and any statutory orders wherever it may be necessary to prescribe requirements according to standards.

It is also important that industrial undertakings, both in the public and private sectors, adopt Indian Standards to guide their production programmes as well as procurement and sales operations.⁷

These conferences also emphasized on the desirability of Municipal Bodies and other Local Self-Government Bodies supporting ISI by becoming its members, and made the following recommendation :

‘The Conference recognizes the need for extending the scope of standardization in the country and making it much more broad based than it is. The Indian Standards Institution, therefore, should be supported by every municipal committee and other Local Self-Government body in the same manner as it is being supported by the States and the private industry, by becoming* sustaining members of ISI and by active participation in its deliberations for the establishment of standards, which reflect the results of experience gained during the course of application of materials and use of equipment in practice.’

9.4 Competent Authority — The Director of Industries, Uttar Pradesh, has been appointed as competent authority under the ISI Certification Marks Act, 1952, in respect of six commodities reported last year.

The Deputy Director General (Inspection), DGS&D, has been declared as the competent authority for picks and beaters manufactured by Tata Agrico.

The Director of Industries and Commerce, Government of Kerala, has been appointed as the competent authority for the following commodities proposed to be covered by the ISI Certification Marks in conjunction with the State’s ‘Q’ Mark :

- | | |
|--------------------------------------|--|
| a) Soaps | f) Locks |
| b) Paints and varnishes | g) Scissors, razors and cutlery |
| c) Tapioca starch | h) Agricultural implements |
| d) Inks | j) Machine tools and light engineering goods |
| e) Leather goods, including footwear | k) Electric motors and fans |

* The Kerala Conference omitted the word ‘sustaining’.

9.5 The possibility of introduction of ISI Certification Marking in the steel industry was further discussed in meetings held on 11 June and 25 June 1959 under the chairmanship of Shri S. Ranganathan, Secretary to the Government of India, Ministry of Commerce & Industry, where representatives of the steel industry; Ministries of Railways; Steel, Mines & Fuel; and Works, Housing & Supply; and DGS&D were present. The Ministries of Steel, Mines & Fuel, and Works, Housing & Supply are considering action on the lines decided at these meetings.

9.6 The Technical Committee of the All India Handicrafts Board decided that where Indian Standards were available and could be adopted in toto they should be adhered to strictly and that the ISI Mark be applied on those commodities in conjunction with the Quality Marking Schemes of the States.

9.7 Certification Marks Advisory Committee (CMAC) — The following recommendations of the CMAC were adopted by the General Council of ISI in 1959 and were referred to the Government of India for their consideration :

‘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.’

In respect of (a), it was confirmed by the Government that the Tariff Commission was already advising the new industries being considered for protection to join the ISI Certification Marks Scheme wherever such measures were considered to be in the interest of development and growth of the particular industry. As regards (b), the Government of India cannot implement it till a separate legislation in this respect was enacted for each commodity.

The General Council, after considering various aspects, suggested that, as an experimental measure, a memorandum for introduction of compulsory certification marking scheme in electrical appliances industry be prepared by ISI for discussion in a meeting of all the interests concerned. Then, if necessary, a small committee might be appointed to go into the matter and propose a concrete scheme.

9.8 Enquiries for Certification Marks — In all, 175 firms made enquiries about ISI Certification Marks and, ultimately, many sent their

applications for the grant of licences. The fields of activity of the various firms which made enquiries were as follows :

a) Agricultural & Food Products	26
b) Building	26
c) Chemicals	50
d) Electrotechnical	41
e) Engineering	15
f) Structural & Metals	12
g) Textiles	5
	Total
	175

9.9 Applications for the Grant of Licences — One hundred and fifteen new applications were received for the grant of licences for the use of ISI Mark, thus raising the aggregate to 417. The final disposal of these applications was as follows :

Licences granted	184
Action deferred at the request of the applicant	21
Applications withdrawn	65
Applications under consideration	147
	Total
	417

Twentyone deferred applications are mainly those where applicants wished to have more time to bring up their production technique and testing facilities in line with ISI requirements. The reasons for withdrawal of 65 applications include lack of testing facilities, difficulty in procurement of raw materials, non-acceptance of the rates of marking fee, frequency of tests, etc. Of the remaining 147 applications under consideration, preliminary inspection of most of them has been carried out and further action initiated.

Sixtyfour new licences for the use of ISI Certification Mark were granted during the year under report. The names of licensees, the products covered by these licences and the rate of marking fee are given in Appendix C (*see p. 116*).

Under ISI Certification Marks Rules, 1955, 86 licences were renewed.

9.10 Standard Mark — Standard Marks in respect of articles covered by 24 Indian Standards, listed in Appendix D (*see p 124*), were specified and published in the Gazette of India, Part II, Section III, Sub-Section (ii). The Standard Mark specified during 1958-59 in respect of Malleable Iron Castings (IS : 227-1954) was rescinded.

10. METRIC CELL

10.1 The Metric Cell established in 1959 carried out the important task of classifying published Indian Standards on the basis of metricization.

This classification has revealed that the number of standards that remain to be metricized is 582 or 44 percent of those published till the end of the year. A programme of revision is being worked out by the various Divisions of the Institution which will aim to convert all of them before the target date set by Government, namely the end of 1965.

Basic standards required by industries for the changeover continued to receive prior attention and a number of such standards was published during the year. Details will be found in the reports of the various Divisions but mention may be made here of IS : 1330-1958 General Plan for Metric Screw Threads with ISO Profile (Diameter Range 0.25 to 300 mm), IS : 1362-1959 Indian Standard Dimensions for Screw Threads for General Purposes (Diameter Range 0.25 to 39 mm), IS : 919-1959 Limits and Fits for Engineering and IS : 1137-1959 Thicknesses of Sheet and Diameters of Wire.

Many important steps were taken during the year by Central and State Governments and also by industries for gradual adoption of the metric system. Notable among them is the decision of the Railways to introduce it in commercial departments with effect from 1 April 1960 and of the petroleum industry to sell petroleum oil and some of their other products in metric units from the same date. Preparations continued in States to establish necessary facilities for the administration of Weights and Measures Rules which were envisaged to be brought under obligatory use in respect of metric weights in certain notified areas and industries from October 1960. A contributory factor to these developments was the timely publication of a series of Indian Standards for commercial metric weights and measures. Another series of Indian Standards for the common types of weighing machines has also been partly published and is partly awaiting publication. The Institution is keeping close contacts with Government and other agencies in all these developments, and its programme of work is being kept under review to ensure that the publication of new and revised standards kept pace with the growing demand for changeover to the metric system.

11. STATISTICAL SECTION

11.1 The Statistical Section made further headway in its efforts to formulate standards on methods of sampling, to introduce statistical quality control concepts in Indian Standards and to suggest the routine sampling inspection plans for the implementation of certification marks scheme. This is in line with the trend in the ISO of emphasizing the need for introducing SQC concepts in standards. At the fourth Commonwealth Standards Conference held in Ottawa in 1959, it was recommended that standards should cater for the manufacture as well as the inspection of products and should specify the criteria for acceptance on a statistical basis.

11.2 A brief account of the work done during the period under review is given below :

Introduction of SQC Concepts in Standards — All the draft standards sent out for wide circulation were scrutinized with the object of introducing SQC concepts in them. In particular, the sampling clauses, which form an essential part of the material specifications for determining conformance of a material to specified requirements, were carefully examined and suitable recommendations made in 108 cases.

Special mention may be made here of the work done by the Subcommittee on Sampling in Specifications (SMDC 4:2) set up by the Methods of Sampling Sectional Committee (SMDC 4) last year for reviewing the sampling and allied clauses of the draft Indian Standards formulated by SMDC. The Subcommittee scrutinized 29 draft standards and made suitable recommendations in 18 cases pertaining to metal products, refractories, ingots and castings.

Appropriate recommendations were made in 90 cases pertaining to chemicals, agricultural and food products, electrotechnical goods, etc. The recommendations were accepted by the relevant ISI Committees in many cases. Special mention may be made of Indian Standards on glass milk bottles (IS : 1392-1959); infant milk foods (IS : 1547-1960); ink, stencil, oil base, for marking non-porous surfaces, colour as required (IS : 1379-1959); glass containers for preserved fruits industry (IS : 1494-1959); leclanché type sack cells (IS : 268-1959); extra low voltage transformers (IS : 1416-1959); copper rods for boiler stay bolts and rivets (IS : 288-1960); copper sheet and strip suitable for the manufacture of utensils and for the general purposes (IS : 1550-1960).

Standards on Methods of Sampling

a) *Sampling of Ores* — Besides scrutiny of the sampling clauses in SMDC standards, three draft standards, namely methods of sampling foundry sands, methods of sampling iron ores, and methods of sampling manganese ores, were prepared by the Methods of Sampling Sectional Committee (SMDC 4), and issued in wide circulation.

Standards Published

IS : 1472-1959 Methods of Sampling Ferro-Alloys

IS : 1548-1960 Manual on Basic Principles of Lot-Sampling

Work in Hand

Sampling of Non-Ferrous Metals

Sampling Inspection Tables

b) *Sampling of Gypsum* — On the basis of the results of the two investigations, the preliminary draft for Indian Standard Methods of Sampling of Mineral Gypsum was prepared, and has been widely circulated for

technical comments after processing it through Chemicals (Miscellaneous) Sectional Committee (CDC 3).

c) *Sampling of Coal* — In addition to the work done previously, some more investigations were carried out for collecting technical data with a view to revising the two Indian Standards on sampling of coal and coke, namely IS : 436-1953 and IS : 437-1956. Based on the results of investigations on coal, a preliminary draft for the revision of IS : 436-1953 is under preparation for consideration of the Sampling Subcommittee (CDC 14 : 1).

d) *Manual on Sampling of Textiles* — The preliminary draft for the Manual on Sampling for Textiles, the formulation of which was undertaken for the guidance of the textile industry in general and various sectional committees of TDC in particular, will soon be ready for further processing by Sampling Methods Sectional Committee (TDC 33).

Revision of IS : 2-1949 — The revision of IS : 2-1949 Rules for Rounding Off Numerical Values had been undertaken with a view to enhancing its scope and thereby making it more useful to the scientists and technologists in general and the various technical committees of ISI in particular. The revised draft as formulated by the Section had been widely circulated and will be further processed through the Engineering Standards Sectional Committee (EDC 1).

Inter-Conversion of Values

a) *ISI Handbook on Quantities, Conversion Factors, Formulae and Tables* — The draft of the Handbook prepared by the Section was processed through the Subcommittee on Units and Conversions (EC 5 : 2), specially appointed for this purpose. The Handbook which has been finalized is expected to be of use to the students of science, engineering and technology.

b) *Slide Tables* — The slide tables for inter-conversion of values in anodized aluminium were made available for sale during the year. The tables were well received by the scientists and technologists and all the copies were sold out. On the basis of the suggestions received for improvement, the design of the tables has been slightly modified for meeting the future demand. Attempts have also been made to make available cheaper version of the tables in cardboard.

Certification Marking — The Section continued to assist the Marks Division in preparing routine inspection schemes necessary for issuing licences under ISI Certification Marks Act, 1952 and made suitable recommendations in 64 cases. The routine inspection data collected by the licensees in course of the operation of these schemes were also statistically analyzed by the Section with a view to examining whether the certified goods conformed to the relevant Indian Standards or not.

12. SECTIONAL COMMITTEES UNDER EC

12.1 Documentation Sectional Committee, EC 2 — During the year under review, two new Indian Standards covering library cataloguing work were sent to press and work on processing of proposed drafts for bibliographical references and principles of library classification was taken up. A revised proposed draft of IS : 4-1949 Practice for Make-Up of Periodicals was prepared.

An important field of new work explored was the subject of abbreviations for the titles of periodicals in Indian languages. Some of the problems to be solved in this connection were usefully discussed at the Documentation and Communication Session of the Hyderabad Convention.

A new subject accepted for formulating an Indian Standard during the current year was glossary of classification terms.

Standards Published

IS : 796-1959 Glossary of Cataloguing Terms

IS : 1358-1959 Practice for Layout of Library Catalogue Code

12.2 ISI Directorate Standards Sectional Committee, EC 5 — With a view to assisting the organizers of future ISI Conventions and Conferences, the formulation of the 'Guide for the Organization of ISI Conventions' was undertaken by the ISI Directorate Convention Organization Subcommittee (EC 5 : 3). The guide has since been finalized and, it is hoped that with suitable modifications, it will also be of use to the organizers of other conferences in India.

13. RESEARCH AND INVESTIGATIONS

13.1 As in the previous years, the collaboration and assistance received from the different national, State and private laboratories, testing organizations, and research institutions, in undertaking investigations and research for the purpose of proper formulation of Indian Standards have been indeed very close and substantial. The Institution records its appreciation and gratitude to these organizations for the assistance received.

13.2 The problem with which the Agricultural and Food Products Division was concerned, included research and testing of sugar, dairy products, dairy utensils, food colours and insecticides.

13.3 The Building Division's research problems related to testing of wall tiles; investigations on *sukhi*-lime mixture as masonry cement; testing of natural building stones; testing of jointed wood poles; investigations on gypsum and gypsum building products, tests on hook ladders for fire fighting purposes; 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 of noise levels and noise comfort conditions; tests on samples of building limes available in different regions to ascertain their chemical composition; strength values of building stones; and tests on new species of timber to determine their suitability for the manufacture of tea-chest plywood.

13.4 A number of new experimental projects was initiated by the Chemical Division while work was completed on the determination of specific gravity of benzene and toluene at different temperatures which was undertaken in pursuance of a resolution of ISO/TC 78 Aromatic Hydrocarbons. Research and testing were carried out on denaturants from *neem*, resistances to wear of road marking paints, outdoor exposure test of black japan, gum spirit of turpentine, permanency of fountain pen inks and testing of different brands of SAE 30 and SAE 40 of premium oils currently marketed in this country. Test data have also been collected with the object of formulating Indian Standards on whiting for putty making, liquid gold, penicillin vials, cold-pressed Nagpur orange oil, quick developing marking ink, paper and dinnerware.

13.5 Among the more important investigations taken up by the various Committees working under the Electrotechnical Division Council, the following may be specially mentioned :

‘Work on various types of accumulators, stationary and for motor vehicles; performance of electric motors with Class E insulations; reconditioning tests to determine behaviour of materials in tropical countries; data on performance of rubber insulated cables with reduced thickness rubber; verifications of basic climatic test and procedures; correlation of accelerated test on electrical components under tropical conditions; safety requirements of radio receivers; mechanical durability tests of electronic components for use in national standards and for work connected with IEC.’

13.6 Standardization work in the Structural and Metals Division, which called for two new research schemes pertaining to (a) production of reference radiographs for steel welds to be published by ISI for facilities of radiographic inspection and control, and (b) corrosion of metals in the tropics with special reference to India were referred to the Council of Scientific and Industrial Research for according necessary financial sanction. These two schemes will be conducted at the different laboratories in India. Tests were completed on (a) liquid binders, and (b) study of physical properties on glass house refractories. The experimental researches initiated under the steel economy programme continued to make progress. A number of new problems was also taken up for investigation. These include (a) exploration of sources of high silica sand for steel foundries in India, and (b) standardization of the methods of determination of thermal conductivity of insulating firebricks.

13.7 The research and testing work in the Textile Division during the year included testing of raw silk yarn, braided cotton cord, umbrella cloth, webbing, proofed cotton fabrics, handloom rayon and staple cloth, handloom cotton floor durries, handloom cotton lungies, handloom cotton twill, flat cotton wicks for constructional details. Samples of vat dyes were tested for strength; tapioca starch was tested for viscosity values; and picking bands were tested for tensile strength, tear strength, temporary and permanent elongation and suppleness.

13.8 For evolving a rational and realistic procedure for sampling of gypsum, two investigations had been conducted at Jamsar gypsum mines near Bikaner. Result of the first investigation enabled the panel responsible for this research to lay down proper procedure for drawing representative samples of gypsum. The second investigation was conducted on the basis of the recommended sampling procedure to examine and eliminate the practical difficulties encountered in implementation of the procedure. Sampling procedures for iron and manganese ore are being investigated by actual trial runs by M/s Tata Iron and Steel Company, M/s Indian Iron and Steel Company and M/s Italab Private Limited. It is hoped that this work will enable the improvement of the standard and elimination of any difficulties that may be faced in following the procedures recommended in these draft standards.

PART III STANDARDIZATION AT INTERNATIONAL LEVEL

(For ISO Publications during the year, see Appendix E on page 126)

1. INTERNATIONAL ORGANIZATION FOR STANDARDIZATION, ISO

1.1 ISO Council — The annual meeting of ISO Council was held in Geneva in July 1959 under the presidentship of Prof. E. Wegelius of Finland. It was attended by Dr. Lal C. Verman, Director, ISI as the Indian delegate. The Council admitted Venezuela as a new member of ISO, thereby increasing its total membership to 41; created a new technical committee ISO/TC 95 Office Machines with Italy as its Secretariat; and decided to merge ISO/TC 8 Shipbuilding Details for Sea Navigation and ISO/TC 9 Shipbuilding Details for Inland Navigation into one single Technical Committee ISO/TC 8 Shipbuilding Details, with Netherlands as its Secretariat.

With regard to the technical work of ISO, the Council noted that out of the 74 draft ISO Recommendations submitted to all the member bodies for enquiry during 1958, 42 had been approved by the majority of the member bodies and 26 accepted for publication as ISO Recommendations.

1.2 ISO Planning Committee, PLACO — As usual, its meeting was held at Geneva along with the Council meeting. It was presided over by Dr. Lal C. Verman, Director, ISI, and attended by representatives of France, UK and USA. The Committee considered, among other things, the desirability of a more equitable distribution of Secretariats of ISO Technical Committees; re-allocation of the work on timber and timber products; liaison of the works of ISO/TC 80 Safety Colours, ISO/TC 85 Nuclear Energy, and ISO/TC 88 Pictorial Marking of Handling Instructions for Goods; close co-operation between the work of all technical committees; and importance of the incorporation of ISO Recommendations in national standards. After the meeting, PLACO adopted 8 recommendations for consideration of ISO Council. After some discussion, all of them were approved as ISO Council Resolutions.

After the meeting and during the period under review, the following subjects were taken up by PLACO for study:

- a) Contractual clauses in ISO Recommendations
- b) Co-ordination of ISO Recommendations
- c) Methods of static calculations of building constructions
- d) Reorganization in the field of timber and timber products
- e) Steel roller chains and chain wheels
- f) Conveyors and elevators
- g) Standardization in the field of digital computers and data processing machines

The studies on items (a) and (b) have been initiated by India.

Recently, it was recommended by PLACO that a new technical committee should be created to deal with the subject of 'Cranes, Derricks and Excavators'.

1.3 ISO Standing Committee for the Study of Scientific Principles of Standardization, STACO — Its last meeting, held at Bucharest from 22 to 25 June 1959, was attended by Dr. Lal C. Verman, Director, ISI. A basic document on the subject 'Aims of Standardization' had been prepared by Dr. Verman and this was finalized by a special working group under his chairmanship. It is hoped, that after circulation, this document will be published as an ISO Report in due course.

Of the six resolutions which STACO passed at its Bucharest meeting, four dealt with the following:

- a) The use of statistical methods in standardization work;
- b) Bibliography dealing with the applications of statistics to standardization;
- c) Symbols for units and quantities; and
- d) The necessity for including in international recommendations, wherever possible, a single series of linear dimensions of standardized products.

The other two resolutions were connected with the work of two technical committees—ISO/TC 37 Terminology (Principles and Co-ordination) and ISO/TC 69 Statistical Treatment of Series of Observations.

1.4 ISO/METESCO Co-ordinating Committee on the Mechanical Testing of Metals — The first meeting of ISO/METESCO was held at London on 10 and 11 November 1959. In this meeting, METESCO decided upon its programme of work and the suggested method of working. The Committee will review and co-ordinate all mechanical tests and calibration of machines used for tests for metals at present included in the ISO Recommendations, draft recommendations and proposals. It will also review terms, definitions and symbols used for mechanical testing of metals. The work of this Committee, which consists of representatives of each ISO Technical Committee Secretariat interested in the study of mechanical testing of metals, is of great interest to India.

1.5 ISO/ECAFE Liaison — Dr. Lal C. Verman, Director, ISI, continued to act as the Liaison Officer of ISO for ECAFE. During the year 1959, ISO was invited:

- a) by the Secretary General of the World Meteorological Organization and the Executive Secretary of the ECAFE to participate in an Inter-Regional Seminar on Hydrologic Networks and Methods held in Bangkok (Thailand) from 14 to 27 July 1959; and

- b) by the Executive Secretary of the ECAFE to send observers to the Third Session of the ECAFE Committee on Trade held in Bangkok (Thailand) from 18 to 25 January 1960.

It was felt that neither in the Seminar nor in the Committee on Trade, there was anything of direct interest to ISO. Hence, the meetings were not attended by the ISO Liaison Officer personally. However, a brief on 'ECAFE and Standardization Work' was sent to the Government of India for utilization by the Indian Delegate at these meetings.

1.6 ISO Committee Meetings — Meetings of 17 ISO technical committees, 12 subcommittees and 14 working groups of interest to India were held during 1959-60. A brief report on their work and on other important developments is given below :

ISO/TC 2 Bolts, Nuts and Accessories (Sectt: Germany) — The fourth plenary meeting of ISO/TC 2 was held on 20 to 23 October 1959 at Milan. Agreement was reached at the meeting about thread diameters of hexagon bolts and nuts, and also about their width across flats, height of heads and thickness of nuts. Decisions were also reached concerning lengths of bolts and screws; slotted and castle nuts; and tapping screws. The decisions taken at the meeting were being carefully examined by ISI's Screw Threads Sectional Committee (EDC 27) which is engaged in the preparation of national standards on screw threads and threaded fasteners.

ISO/TC 5 Pipes and Fittings (Sectt: Switzerland) — India approved the draft ISO Recommendation pertaining to Pipes of Plastic Material for the Transport of Fluids. The following two draft ISO Recommendations were received for comments :

- a) Steel Tubes — Thicknesses
- b) Pipe Threads Where Pressure-Tight Joints are Not Made on the Threads (1/8 to 6 in.)

ISO/TC 17 Steel (Sectt: UK) — India's approval to the following draft ISO Recommendations was sent to the ISO General Secretariat subject to certain editorial modifications :

- a) Flanging Test on Steel Tubes
- b) Drift Expanding Test on Steel Tubes
- c) Bend Test on Steel Tubes
- d) Flattening Test on Steel Tubes
- e) Interrupted Creep Testing of Steel at Elevated Temperature
- f) Non-interrupted Creep Testing of Steel at Elevated Temperature
- g) Determination of Proof Stress and Proving Testing for Steel at Elevated Temperature
- h) Stress Rupture Testing of Steel at Elevated Temperature

ISO/TC 18 Zinc and Zinc Alloys (Sectt: Belgium) — The first plenary meeting of this Committee was held from 24 to 26 November 1959. In this meeting, agreement was reached on the following subjects concerning zinc ingots and zinc alloy ingots:

- a) Terminology
- b) Definitions
- c) Classification and Designation
- d) Appearance and Texture
- e) Characteristics of Ingots
- f) Marking of Ingots

As regards specification (limits for impurities and limits for alloying elements in the alloys), India along with Australia and UK did not agree to raise the limit for lead from 0.003 percent to 0.006 percent in the case of zinc 99.99, as proposed by Germany and supported by Belgium and France.

The work on establishment of methods of selection and preparation of samples for chemical analysis was entrusted to a subcommittee.

ISO/TC 24 Sieves (Sectt: Germany) — The meetings of the two subcommittees, namely ISO/TC 24/SC 1 Test Sieve and ISO/TC 24/SC 2 Test Sieving were held at The Hague from 7 to 14 October 1959.

The Secretariat of ISO/TC 24/SC 1 was requested to prepare a draft ISO Recommendation for Wire Cloths for Test Sieves incorporating the aperture dimensions agreed at the previous meeting with the proviso that additional intermediate values to the already agreed series (up to a limit of 22.4 mm) should be chosen to form a geometric progression. It was agreed to form a working group to study the question of tolerances on aperture widths, wire diameters, etc.

Draft ISO Recommendation for Basic Standard Test Sieving was discussed by ISO/TC 24/SC 2, and India was requested to propose a draft Recommendation on Preparation of Sample for Test Sieving.

ISO/TC 25 Cast Iron (Sectt: UK) — India's approval to the following draft ISO Recommendations was sent to the ISO General Secretariat subject to certain editorial modifications:

- a) Grey Cast Iron
- b) Brinell Hardness Test of Grey Cast Iron

Further, it was decided that India should participate actively in the following two Working Groups functioning under this Technical Committee:

- a) WG 1 Malleable Cast Iron
- b) WG 2 Spheroidal Graphite Cast Iron

ISO/TC 26 Copper and Alloys (Sectt: USA) — India's approval to the following draft ISO Recommendations was sent to the ISO General Secretariat:

- a) Method of Test for Expansion of Copper and Copper Alloy Tubes
- b) Method of Mercurous Nitrate Test for Copper and Copper Alloys
- c) Classification of Copper

ISO/TC 27 Solid Mineral Fuels (Sectt: UK) — Two subcommittees and two working groups met during the period under review. Three draft ISO Recommendations dealing respectively with Determination of Forms of Sulphur in Coal, Ash in Hard Coal and Total Sulphur in Coal by Stranbi Method were submitted to the ISO Council for approval.

ISO/TC 28 Petroleum Products (Sectt: USA) — The third meeting of the Committee was held in New York on 8 and 9 June 1959. In this meeting, Methods of Test for Determining Flash Point by Pensky-Martens Closed Tester (ASA Z11.7), Tetraethyl Lead in Gasoline (ASA Z11.48), and Tetraethyl Lead and Ethyl Fluid by Chromate Method (GOST 63-52) were considered as subjects for draft ISO Recommendations. The Committee also formed Working Groups for Specific Gravity and Density, Kinematic Viscosity and Sampling, besides the existing Working Group on Terminology. It was further decided to undertake new work on Methods of Distillation of Petroleum and Liquefied Petroleum Gases; Test Methods and Specifications for Liquefied Petroleum Gases; Determination of Calorific Value, Water and Sediment, Pour Point, Vapour Pressure and Expansion of Petroleum Measurement Tables.

ISO/TC 30/SC 1 Measurement of Liquid Flow in Open Channels (Sectt: India) — Two working groups of the Subcommittee met during the year. WG 4 Dilution Methods at its meeting held at East Kilbride, UK, on 16-17 April 1959 examined the French draft proposal on Dilution Method. WG 2 Notches, Weirs and Flumes had fixed, at its last meeting, the specific devices to be covered in the proposed recommendation. In its Berlin meeting on 20-22 May 1959, the preliminary drafts prepared by some of the member countries were considered and the target date for finalization of different sections of the proposed draft Recommendation was fixed.

ISO/TC 33 Refractories (Sectt: UK) — The second meeting of this Committee was held in London from 27 to 29 April 1959. In this meeting, agreement was reached regarding glossary of terms for refractories and refractory material, and the method for the determination of pyrometric cone equivalent of refractory products. The programme of tests to be conducted for determining refractoriness-under-load was approved.

ISO/TC 34/SC 3 Fruits and Vegetables (Sectt: Poland) — The first meeting of the Subcommittee was held from 17 to 20 November 1959

in Warsaw. General problems of the international standardization of fruits and vegetables covering terminology, methods of sampling, methods of analysis and packing were considered.

ISO/TC 38/SC 3 Systematic Reduction of the Number of Cloth Widths (Sectt: Czechoslovakia) — This Subcommittee met from 18 to 20 February 1960 in Prague.

Six draft ISO Recommendations prepared by this Subcommittee were received from the General Secretariat of ISO during the year and these were circulated to the ISI's committee/panel concerned.

ISO/TC 39 Machine Tools (Sectt: France)

ISO/TC 39/WG 3 Elements of Machines — The meeting of the Working Group took place in Paris on 21 and 22 September 1959 and was followed by the sixth plenary meeting of ISO/TC 39 on 23 September 1959.

Draft ISO Recommendations relating to lathe tool posts and machine tool speeds and feeds were approved subject to a number of editorial and other modifications. Draft proposals for tapers for tool shanks and symbols to be used on the indication plates of machine tools were adopted as draft ISO Recommendations. The Committee also entrusted the Working Group with the work of preparing revised proposals for direction of operation of controls and tee slots. The Working Group was asked to continue study of the following subjects:

- a) Hub Flanges for the Mounting of Grinding Wheels on Machines
- b) Spindle Noses
- c) Driving Squares
- d) Cotter Slots on Morse Tapers

ISO/TC 45 Rubber (Sectt: UK) — At the eighth meeting held in New York from 26 to 31 October 1959, the Committee approved draft ISO proposals for the determination of viscosity of natural and synthetic rubbers by the shearing disk viscometer and determination of impact brittleness temperature for circulation as draft ISO Recommendations. Because of difficulties in precisely defining rubber and plastic materials, the Committee felt that there should be close co-operation between ISO/TC 45 Rubber and ISO/TC 61 Plastics on the subject of cellular materials and that for this purpose a joint co-ordinating body of both these committees be formed.

ISO/TC 48 Laboratory Glassware and Related Apparatus (Sectt: UK) — The sixth meeting of the Committee was held in London from 3 to 6 November 1959. Substantial progress was made in reaching

agreement on internationally acceptable recommendations on the following subjects :

- a) Interchangeable Spherical Joints
- b) One-Mark Volumetric Flasks
- c) One-Mark Pipettes
- d) Graduated Pipettes
- e) Thermometers for Precision Use
- f) Hydrometers for General Purposes
- g) Calorimeter Thermometers
- h) Procedures for Testing Chemical Resistance of Glass and Glassware.

Other subjects discussed, on which further work will be required, included general purpose glass stopcocks, methods of verification and use of volumetric glassware, and adjustable-range thermometers.

ISO/TC 50 Lac (Sectt : India) — ISO Recommendations for Seedlac, Shellac and Bleached Lac were under publication and it was hoped that they would soon be available. Co-operative research on improving test methods on seedlac, shellac and bleached lac had been in progress on an international scale in which several laboratories from France, India, UK and USA participated. These tests have now been completed and the documents containing test data and statistical analysis have been circulated to the members of this Committee for their study.

ISO/TC 54 Essential Oils (Sectt : Portugal) — The fifth meeting of the Committee was held at Figuera da Foz in Portugal from 22 to 29 July 1959. The meeting had on agenda some 30 documents concerning essential oils of economic importance and methods of test thereof. During the discussion on general principles for the establishment of the system of nomenclature for essential oils, India strongly advocated her point of view to assign one name for an essential oil derived from one specific plant of distinct botanical identity. It was pointed out that in respect of the chemical composition and important constituents of the West Indies, African and Australian Sandalwood Oils which were responsible for their individual odorific value, there was nothing common between any of these oils, and more so when compared with a true oil of East Indian Sandalwood. The Committee decided, after a lively discussion, to take up this point again as and when a monograph on East Indian Sandalwood Oil was considered by the Committee.

During the discussions on programme of future work, it was decided to include the subject of Himalayan Cedarwood Oil, for which India undertook to provide a draft proposal in the near future.

ISO/TC 56 Mica (Sectt : India) — ISO Recommendation on Methods of Grading Muscovite Mica Blocks, Thins and Films (ISO/R67-1958) was published. A draft proposal for Visual Classification for Muscovite Mica, and a draft ISO Recommendation for Phlogopite Blocks, Thins and

Splittings, Methods for Grading by Size, based on the decisions taken at the last meeting held in Harrogate (UK) in June 1958 were circulated.

ISO/TC 59/SC 4 Limits and Fits in Building Construction (Sectt : France) — A meeting of the Subcommittee was held on 19 November 1959 in Paris. India's participation in the work of this Subcommittee is under consideration.

ISO/TC 61 Plastics (Sectt : USA) — The Committee held its ninth meeting at Munich from 26 to 31 October 1959. The nine working groups functioning under this Committee held in all 15 sessions and considered approximately 37 of the items listed on the programme of work.

Draft ISO proposals on the following four subjects were approved as new draft ISO Recommendations :

- a) Determination of Vicat Softening Point
- b) Determination of Viscosity Number of Polyamide Resins in Solution
- c) Determination of Acetone Soluble Matter for Phenolic Moulding Materials
- d) Determination of Thermal Stability of Polyvinyl Chloride and Related Co-polymers and Their Compounds by the Discoloration Method

Draft ISO proposals on the following six subjects were approved for formal letter ballot consideration of the Committee.

- a) Testing of Tensile Properties of Plastics
- b) Resistance of Plastics to Natural Light
- c) Resistance of Plastics to Artificial Light
- d) Determination of Maximum Temperature and Time Taken for Temperature to Rise During Setting of Unsaturated Polyester Resins
- e) Determination of Stiffness Properties of Plastics as a Function of Temperature by Means of a Torsion Test
- f) Determination of Changes in Mechanical Properties After Contact with Chemical Substances

ISO/TC 62 Sheet and Wire Gauge (Designation of Diameters and Thicknesses) (Sectt : Australia) — A draft ISO Recommendation pertaining to International Metric Series for Basic Thicknesses of Sheet and Diameters of Wire was received from the ISO General Secretariat for comments.

ISO/TC 69 Statistical Treatment of Series of Observations (Sectt : Netherlands) — A draft ISO Recommendation on Statistical Terminology Necessary for the Proper Formulation of ISO Standards and a draft ISO Proposal on List of Recommended Symbols were circulated by the Secretariat of this Committee.

ISO/TC 72 Textile Machinery and Accessories (Sectt: Switzerland) — This Technical Committee and three of its subcommittees, namely ISO/TC 72/SC 1 Spinning Preparatory, spinning and Doubling (Twisting) Machinery, ISO/TC 72/SC 2 Winding and Weaving-Preparatory Machinery, and ISO/TC 72/SC 3 Weaving Machinery, held their meetings from 15 to 18 June 1959 in London. The Committee decided to add the following new items to its respective subcommittees :

ISO/TC 72/SC 1 :

- a) Principle for Numbering the Elements in Drafting Systems, Cotton and Wool Only
- b) Flyer Bobbins for Lifts Above 300 mm or 12 in.
- c) Terminology of Spinning Preparatory, Spinning and Doubling Machinery
- d) Warp Tubes with Smaller Taper, for Example 1:100
- e) Warp Tubes with Lengths Above 400 mm

ISO/TC 72/SC 2 :

- a) Cones for Special Purposes
- b) Warpers Beams
- c) Beams for Warp Dyeing
- d) Parallel Tubes for Cheese Dyeing
- e) Spring Cylinders for Cheese Dyeing

ISO/TC 72/SC 3 :

- a) Co-ordinated Dimensions for Pitch-Bound Reeds
- b) Co-ordinated Dimensions for Metal Reeds
- c) Co-ordinated Dimensions for Twin Wire Healds
- d) Conical Based Pirns for Automatic Looms
- e) Double Spring Metal Reeds

The Technical Committee unanimously agreed to the following re-allocation of the Secretariats of the subcommittees and the corresponding working groups :

ISO/TC 72/SC 1 — Switzerland
ISO/TC 72/SC 2 — Germany
ISO/TC 72/SC 3 — United Kingdom
ISO/TC 72/SC 4 — France

The Committee also approved the following items finalized by the subcommittees concerned :

- a) Working Width of Cotton Spinning Machinery
- b) Working Width of Worsted and Woollen Cards

- c) Flyer Bobbins
- d) Cylindrical Sliver Cans
- e) Warp Tubes for Ring Spinning and Ring Doubling Frames
- f) Metal Cones 4°20'
- g) Wood Cones 3°30'
- h) Wood Cones 4°20'
- j) Wood Cones 5°57'
- k) Pitch-Bound Reeds
- m) Flat Steel Healds
- n) Metal Reeds
- p) Twin Wire Healds
- q) Single Base Pickers for Automatic Looms

ISO/TC 74 Hydraulic Binders (Sectt: Belgium) — This Technical Committee along with its two subcommittees, ISO/TC 74/SC 1 Methods of Chemical Analysis of Cements and ISO/TC 74/SC 2 Plasters, met at Warsaw from 28 September to 2 October 1959. The following items were discussed:

- a) Terminology of Cement
- b) Test Methods for Cement in Plastic Mortar — Development of the Method-Rilem Cembureau

The subcommittees discussed the first draft proposals on Method of Chemical Analysis of Portland Cement and Gypsum Rock for the Manufacture of Binders respectively.

ISO/TC 77 Products in Asbestos Cement (Sectt: Switzerland) — The Committee held its fourth plenary meeting in Lisbon from 4 to 8 May 1959. Draft ISO Proposal for Symmetrical Corrugated Sheets, draft Proposal for Asymmetrical Corrugated Sheets, and draft Proposal for Slates were examined.

ISO/TC 78 Aromatic Hydrocarbons (Sectt: UK) — The third plenary meeting of the Committee was held in December 1959 in Paris. India participated in collaborative testing for preparation of conversion tables for specific gravity and density. At this meeting, agreement has been reached by the relevant Working Group as to the basis for preparing conversion tables. Further, proposals for the sampling of liquid aromatic hydrocarbons were being studied by the Working Group on Sampling.

ISO/TC 79 Light Metals and Their Alloys (Sectt: France) — The following draft ISO Recommendations were received from the ISO General Secretariat for comments:

- a) Composition of 99.95 Unalloyed Magnesium Ingots
- b) Composition of Aluminium Alloy Castings
- c) Composition of Wrought Products of Aluminium and Aluminium Alloys

ISO/TC 81 Common Names for Pesticides (Sectt: UK) — The third meeting of the Committee was held from 6 to 9 October 1959 at London. India had proposed that in the ISO Recommendations for Common Names, other widely-used chemical names in addition to those conforming to International Union of Pure and Applied Chemistry (IUPAC) Rules be given. It was also proposed that the common names included in the ISO Recommendations be allotted pesticide numbers and that the desirability of grouping the common names in separate tables as insecticides, fungicides, rodenticides, etc, for the convenience of the users (as has been done in IS : 885-1956 Indian Standard Common Names for Pesticides) should be considered. This point was considered at the meeting and the Committee resolved as under :

‘That the information to be included in the draft ISO proposals for Common Names for Pesticides shall include chemical names in use in various countries but which are not in accordance with IUPAC Rules and should provide a numerical classification indicating the type of pesticides covered.’

India, at this meeting, had proposed three new names to be processed as common names, namely PCP, PCP-sodium and copper-8. As a result of discussion on the proposed names (including the three proposed by India), it was agreed that the Committee should publish a list of those pesticides for which it was not proposed to issue common names. Two of the names proposed by India, namely PCP and PCP-sodium came under this category while the third was modified as oxine-copper or oxine-Cu and accepted for further processing to be adopted as a common name.

ISO/TC 89 Fibre Building Board (Sectt: Germany) — The Committee held its first plenary meeting in Munich from 12 to 15 May 1959. The scope of the Committee and the draft ISO proposal on Fibre Building Board were discussed at the meeting. A Working Group consisting of one expert each of France and Germany, and one joint expert of Finland, Norway and Sweden was set up to investigate methods of sampling and cutting test pieces.

ISO/TC 90 Apparatus for Testing Milk and Milk Products (Sectt: Germany) — The first meeting of the Committee was held from 12 to 14 May 1959 at Berlin. The Secretariat circulated the second draft ISO proposal on Butyrometers for the Determination of Percentage of Fat in Milk by the Gerber Method. This document was the result of the discussions of a working group set up at the first meeting of the Committee. India's comments on this document were sent to the Secretariat after consulting with the Dairy Industry Sectional Committee, AFDC 12, working at the national level.

ISO/TC 93 Starch (Including Derivatives and By-Products) (Sectt: Germany) — The first meeting of the Committee was held on

24-25 April 1959 at Bad Meinberg. At this meeting, it was decided to:

- a) change the title of the Committee to 'Starch (Including Derivatives and By-Products)' from 'Methods of Analysis and Examination in the Field of Starch, Its Derivatives and By-Products';
- b) define the scope to include terminology, methods of sampling, methods of analysis and examination of starch, its derivatives (including hydrolysis products and dextrans) and its by-products; and
- c) set up Working Groups for study of the following subjects:
 - 1) Determination of Starch — WG 1
 - 2) Moisture Content of Starch — WG 2
 - 3) Protein Content of Starch — WG 3
 - 4) Rheology of Starch — WG 4
 - 5) Dry Matter in Starch Hydrolysates — WG 5
 - 6) DE Value of Starch Hydrolysates — WG 6
 - 7) Colour, Discolouration and Turbidity of Starch Syrups — WG 7
 - 8) Candy Test for Starch Syrups — WG 8

India has been nominated on Working Groups 1 and 6.

A draft ISO proposal on Sampling of Starch was circulated by the Secretariat for comments.

2. INTERNATIONAL ELECTROTECHNICAL COMMISSION, IEC

(For IEC Publications during the year, see Appendix E)

2.1 The 1959 General Meeting of IEC was held at Madrid (Spain) from 30 June to 10 July 1959. Grouped meetings of certain technical committees and subcommittees were also held in Paris from 16 to 26 June 1959, in ULM (West Germany) from 25 September to 10 October 1959 and in London from 20 to 29 October 1959. A few other committees met at Brussels, Milan and Prague.

2.2 During the year, meetings of 59 IEC Committees, including subcommittees, working groups and expert committees were held. A brief report on their work and on other important developments of interest to India is given below:

IEC Council — The IEC Council is the supreme body of the international organization consisting of representatives from all member countries. This Council meets whenever required, but not less frequently than once in 3 years. At a special meeting of the Council in Madrid, Pakistan's membership of IEC was accepted and an increase in subscription of all

members by one-third of the present rate was agreed to. This increase had been originally proposed at the Council's meeting held in Stockholm in 1958 and opportunity had been given to member bodies to come prepared on this question at this meeting.

India's invitation to IEC for holding its General Meeting in New Delhi in 1960 was formally ratified.

Committee of Action — The Committee of Action is the executive body of IEC consisting of nine elected member countries. India was elected to this in 1952 for the first time for a period of nine years. Its Madrid agenda was as heavy as usual. The important points of particular interest to India included the standard test temperatures, climatic and durability tests for electrical equipment and IEC marking codes. A new Technical Committee (TC 46 Cables, Wires and Waveguides) was also set up.

Standardization of test temperatures was a subject initiated by India in both IEC and ISO. The final decision incorporates the Indian Standard test temperature as one of the three which have now been internationally recognized in the ISO and will shortly be recognized in IEC also after six month's circulation as decided at Madrid.

The subject of climatic and durability tests of electrical equipment and rotating machinery was proposed by Poland and supported by India, but no decision on studying this problem on a general basis could be taken as the consensus of opinion was to leave the matter to individual committees dealing with the specific types of equipment and drawing their attention to the climatic and durability test procedures adopted by IEC in relation to electronic equipment and components.

On the use of the initials 'IEC' in any marking code for use on electrical equipment, there was considerable discussion. India doubted the advisability of such a practice because of the complications that it might create in relation to certification marks of various member countries, including India. The question was, therefore, postponed for consideration at a later date.

India also joined other countries, such as the UK, Netherlands, Yugoslavia, Germany and the USSR in offering to invite individual or small group meetings of IEC technical committees to their countries, in between the annual sessions of the organization.

IEC/TC 1 Nomenclature (Sectt: France) — Work on preparation of a list of terms, with their definitions, for relays used for telecommunication purposes was completed. Agreement was also reached on the procedure to be adopted for preparing, in co-ordination with ISO/TC 85 Nuclear Energy, list of terms, with their definitions, relating to (a) nuclear power plants for electric energy generation, and (b) detection and measurement by electric means of nuclear radiations.

IEC/TC 2 Rotating Machinery (Sectt: UK) — Arising out of a recommendation of IEC/SC 2A, a new Subcommittee (IEC/SC 2G Constants of Synchronous Machines) was set up with USSR as the Secretariat. A proposal to prepare international recommendations for commutators and sliprings was deferred for consideration at the next meeting.

IEC/SC 2A Turbine Type Generators (Sectt: UK) — A table of temperature rises and correction factors for inclusion in IEC Publication 34-1 was agreed upon. Recommendations were made for the preparation of a new document for the constants of synchronous machines and a revised draft of Publication 34-3 was approved for reference to the National Committees.

IEC/TC 3 Graphical Symbols (Sectt: Switzerland) — Three documents covering symbols for (a) elements of tubes, valves and rectifiers, (b) switchgear—accessories, and (c) measuring instruments and electric clocks were approved for circulation.

IEC/TC 4 Hydraulic Turbine (Sectt: USA) — A model test code was revised in entirety and two working groups were constituted to study acceptance tests for storage pumps and for hydraulic turbine generators.

IEC/TC 9 Electric Traction Equipment (Sectt: France) — Text of the draft fourth edition of IEC Publication No. 48 Rules for Electric Traction Motors was approved for circulation.

IEC/TC 12 Radio-Communication (Sectt: Netherlands) — A document relating to safety requirements for television receiving apparatus was approved for publication. Four drafts relating to measurement of radiation, essential electrical properties of receiving aerials, safety requirements for electric mains-operated radio receiving apparatus, and safety requirements for mains-operated electronic and related equipment were approved for circulation. A noteworthy decision taken by the Technical Committee was to meet next in New Delhi in November 1960 along with some of its subcommittees (*see p. 90*).

IEC/SC 12-1 Radio Receiving Equipment (Sectt: Netherlands) — The preliminary documents discussed by this Subcommittee covered methods of measurement of sensitivity of receivers to interference in the frequency range 150-kHz-1605 kHz and revision of Publication No. 69.

IEC/SC 12-2 Safety (Sectt: Netherlands) — The Committee approved for circulation draft revision of Publication No. 65 Safety Requirements for Mains-Operated Electronic and Related Equipment for Domestic and Similar General Use. Another important document dealing with testing under tropical conditions was deferred for consideration at the next meeting of the Subcommittee to be held in New Delhi.

IEC/SC 12-6 Radio Transmitting Equipment (Sectt: Netherlands) — Two preliminary proposals considered by the Subcommittee covered recommendations for safety requirements for radio transmitters and transmitter rating plates.

IEC/SC 12-7 Climatic and Durability Tests for Radio-Communication Equipment (Sectt: Netherlands) — A preliminary draft relating to climatic and durability tests for radio-communication equipment was discussed by the Subcommittee and the Secretariat was requested to prepare a revised draft in the light of decisions taken for consideration at the next meeting.

IEC/TC 14 Transformers (Sectt: UK) — Good progress was made with the revision of IEC Publication on Power Transformers. Two new working groups, to deal with Chopped Wave Tests and Multi-Winding Transformers, were set up. The question of standardizing transformer terminal markings was also discussed, but it was felt that the work involved would be out of all proportion to the advantages gained.

IEC/TC 17 Switchgear and Controlgear (Sectt: Sweden) — The Committee approved for circulation a guide to the testing of circuit breakers with respect to the switching of overhead lines on no load. A draft recommendation for low-voltage distribution switchgear and proposals for amendment of Publication 56-1 concerning asymmetrical breaking capacity of circuit-breakers were approved for the same purpose.

IEC/TC 19 Internal Combustion Engines (Sectt: USA) — Draft recommendation for reciprocating internal combustion engines (excluding carburettor type) was approved for circulation. Another document covering rules for acceptance tests was discussed and the Secretariat was authorized to prepare a revised document in the light of decisions taken at the meeting. The Committee also recommended establishing proper liaison with the International Congress on Combustion Engines (CIMAC).

IEC/TC 20 Electric Cables (Sectt: U K) — The Committee revised its scope of work as under:

To prepare international recommendations for electric cables and their accessories, without limitation of voltage, current or form of construction but excluding cables used for telecommunication and electronic equipment and such other cables as fall specifically within the scope of other technical committees.

It also approved draft recommendations for tests on internal and external gas pressure and oil-filled paper-insulated metal-sheathed cables and accessories.

IEC/TC 21 Accumulators (Sectt: Czechoslovakia) — Three documents relating to overcharge test, resistance of batteries to bumping and

vibration and to current surges were discussed. The Committee also agreed upon dimensions for the height and width of batteries and for the terminals. A recommendation was also made to ISO/TC 47 Chemistry to prepare international standard for sulphuric acid for accumulator batteries.

IEC/TC 22 Static Power Converters (Sectt: Switzerland) — Recommendations for polycrystalline semi-conductor rectifier stacks and equipment were approved for publication.

IEC/TC 22-2 Semi-Conductor Rectifiers (Sectt: Sweden) — A document on monocrystalline semi-conductor rectifier cells, stacks, assemblies and equipment was discussed. Good progress was made during the meeting and agreement was reached on many important points.

IEC/TC 24 Electric and Magnetic Magnitudes and Units (Sectt: France) — Publication of the resolution concerning the sign of reactive power was approved and a revised version of document on rationalization of electro-magnetic field equations was agreed upon for circulation.

IEC/TC 30 Extra-High Voltages (Sectt: Switzerland) — The Committee referred the proposal for the introduction of new voltage steps 345 kV nominal voltage, 362 kV highest voltage to the National Committees. It also accorded its approval for consideration of step 500 kV as a nominal voltage above 380 kV. A proposal for standardization of voltages for direct current was deferred for consideration at the next meeting of the Committee.

IEC/TC 31 Electrical Apparatus for Explosive Gas Atmospheres (Sectt: UK) — A report on intrinsic-safety testing and recommendations for pressurized enclosures of electrical apparatus were approved for circulation. In addition, it was agreed to prepare revised draft recommendations for increased safety apparatus and for oil-immersed apparatus.

IEC/TC 34 Lamps and Related Equipment (Sectt: UK) — The four subcommittees, namely SC 34A (Lamps), 34B (Lamp Caps and Holders), SC 34C (Auxiliaries for Discharge Lamps), and SC 34D (Luminaires) and the main Technical Committee met and approved for circulation 11 documents relating to revision of publications No. 64 Tungsten Filament Lamps for General Lighting Service; No. 81 Tubular Fluorescent Lamps for General Lighting Service; No. 82 Ballasts for Fluorescent Lamps; and code for the designation of projector lamps, standard sheets for plug part of capless photo-flash lamp, lampholder and gauges; pre-focus cap, P 45 t-41, for the European asymmetric beam automobile head lamps, BA 7 automobile cap, E5, E17 and E27/51 × 39 Edison screw caps, glassware for lighting fittings and gauges for finished lamps fitted with E27 and E40 caps.

IEC/TC 36 Insulators (Sectt: Italy) — Publication of specification for bushings for alternating voltages above 1 000 V, and ball and socket couplings of string insulator units was approved. A draft specification for post insulators intended for use in installations of rated voltages up to 1 000 V and above was approved for circulation.

IEC/TC 37 Lightning Arresters (Sectt: USA) — Draft of Part II of Publication No. 99 Expulsion Type Lightning Arresters was approved for circulation to National Committees.

IEC/TC 38 Instruments Transformers (Sectt: UK) — Two draft proposals for revision of Sections I and II of Publication No. 44 Current Transformers for Measuring Purposes were approved for circulation. It was also agreed to start work on voltage transformers.

IEC/TC 39/40 Sockets and Accessories for Electronic Tubes and Valves (Sectt: Netherlands) — The documents discussed at the meeting of this Subcommittee dealt with velocity to be used during insertion and withdrawal force tests, test machine for the insertion and withdrawal force test, method of measurement of temperature dependence of socket and capacitances, compatibility of sockets with printed wiring boards, and specification for valve shields.

IEC/TC 39 Electronic Tubes and Valves and Analogous Semiconductor Devices (Sectt: Netherlands) — Three documents were approved for publication. These included additions to be made to Publication No. 67 Dimensions of Electronic Tubes and Valves. In addition, 9 documents were approved for circulation.

IEC/TC 40 Components for Electronic Equipment (Sectt: Netherlands) — The most important decision from Indian point of view taken by this Committee was to meet, along with some of its subcommittees, in New Delhi in November 1960. The corresponding Sectional Committee and subcommittees of ISI have been taking interest in the activities of TC 40 and those of its subcommittees, and the 1960 meetings in India will provide an opportunity for the concerned members from India to come in contact with leading experts from abroad.

On the basis of recommendations made by appropriate subcommittees, which also met during the year, eight documents were approved for publication and twelve for circulation. The former include specifications for sockets for electronic tubes and valves, r.f. cables, quartz crystal units for oscillators (standard values and dimensions), classification of ferromagnetic oxide materials, and revision of some of the tests in Publication No. 68 Basic Climatic and Mechanical Robustness Testing Procedures for Components. The latter cover draft specification for r.f. connectors, double-braided cables, non-wire-wound resistors, rotary wafer switches, flanges for waveguides, hollow metallic waveguides, connectors for T.V. and F.M. aeriels and for use in radio and sound reproducing equipment.

IEC/TC 42 High-Voltage Testing Techniques (Sectt: Sweden) — Recommendations for voltage measurement with sphere-gaps (one sphere earthed) and draft recommendations for high-voltage testing techniques were approved for publication and circulation respectively, at the meeting held in Oslo from 16-19 September 1959. Subject to the approval of Committee of Action, TC 42 expressed its willingness to expand its scope of work to include high-voltage testing apparatus.

IEC/TC 43 Electric Fans (Sectt: India) — Two draft recommendations for AC electric ceiling fans and regulators and AC electric table type fans and regulators proposed by India were discussed at the first meeting held in Madrid in July 1959. It was decided to prepare revised drafts in the light of discussions for consideration at the next meeting to be held in New Delhi. All National Committees were also requested to accumulate further experience in testing ceiling and table fans according to methods proposed in the two draft proposals.

IEC/TC 44 Electrical Equipment of Machine Tools (Sectt: Switzerland) — This Committee recommended its scope of work and the order of priorities when it met for the first time in Madrid on 8-9 July 1959. The Committee also appointed an Experts' Committee to make its recommendations on draft recommendations for electrical equipment of machine tools which had been prepared by the Secretariat.

2.3 IEC Meetings in India — Preparatory arrangements continued to be made during the year to play host to the International Electrotechnical Commission which will hold its annual grouped meetings at Vigyan Bhavan in New Delhi from 30 October to 12 November 1960. According to the latest information available, about 300 foreign delegates are expected to attend meetings of the following 22 committees on that occasion:

- IEC/SC 2B Dimensions of Motors
- IEC/SC 2F Dimensions of Carbon Brushes
- IEC/SC 2G Synchronous Machine Constants
- IEC/TC 12 Radio-Communication
- IEC/SC 12-1 Radio Receiving Equipment
- IEC/SC 12-2 Safety
- IEC/SC 12-7 Climatic and Durability Tests for Radio-Communication Equipment
- IEC/TC 15 Insulating Materials
- IEC/TC 17 Switchgear and Controlgear
- IEC/SC 17A High-Voltage Switchgear and Controlgear
- IEC/SC 17B Low-Voltage Switchgear and Controlgear
- IEC/TC 35 Primary Cells and Batteries
- IEC/TC 36 Insulators
- IEC/SC 39/40 Sockets and Accessories for Electronic Tubes and Valves
- IEC/TC 40 Components for Electronic Equipment

- IEC/SC 40-3 Piezo-Electric Crystals
- IEC/SC 40-4 Connectors and Switches
- IEC/SC 40-5 Basic Testing Procedure
- IEC/SC 40-5/WG 1 Shock and Bump Testing
- IEC/TC 43 Electric Fans
- IEC/TC 45 Electric Measuring Instruments Used in Connection with Ionizing Radiation
- C.A. Committee of Action

A provisional programme of meetings, technical visits and entertainment of delegates was drawn up and forwarded to the IEC Central Office. A representative All India Reception Committee was formed under the presidentship of Shri M. Hayath, Chairman, Central Water and Power Commission, for collection of funds from the Electrical and Allied Industries and for making other arrangements for the meetings. The response so far received from the Industry has been encouraging, and a sum of Rs 81 000-00 had been collected from the Industry by 31 March 1960.

3. FOURTH COMMONWEALTH STANDARDS CONFERENCE, 1959

3.1 In the Fourth Commonwealth Standards Conference held at Ottawa from 26 August to 3 September 1959, 71 delegates from 8 countries, namely Australia, Canada, India, Ireland, New Zealand, Pakistan, South Africa and United Kingdom attended the Conference.

The six-man Indian Delegation consisted of Dr. A. N. Ghosh, Joint Director, ISI (Leader) and Sarvashri J. G. Bodhe, M. S. Doshi, B. S. Krishnamachar, O. S. Murthy, and K. N. P. Rao. The largest delegation was from Canada consisting of 38 persons. The United Kingdom had sent a delegation of 16, Australia 5, New Zealand and Pakistan 2 each, and South Africa and Ireland 1 each.

The primary object of this Conference was to further collaboration among national standards organizations of the various Commonwealth countries and to secure agreement on common objectives and principles of co-operation in the interest of Commonwealth relations and trade. As at the New Delhi Conference last time, the Ottawa Conference also combined a General Session with Technical Sessions. While the General Session covered matters regarding administration of policy connected with the work of standardization, the three Technical Sessions dealt with steel, cranes, and air-receivers respectively.

3.2 General Session — The General Session of the Conference was held from 27 August to 3 September 1959 under the chairmanship of Mr. H. A. R. Binney, Director, BSI, with Mr. F. A. Sweet of Canada as co-Chairman. India was represented at this session by Dr. A. N. Ghosh.

Useful exchange of views took place on subjects of common interest at the session. Conclusions and recommendations of the Delhi Conference, 1957, were reviewed and a few new subjects came up for consideration.

3.2.1 Status and Work of National Standards Organizations — Recommendations No. 1-9 of the 1957 Conference, which are related to the status and work of national standards organizations, were generally reviewed and re-endorsed except for Recommendation No. 5 which pertained to legislative enforcement requirements.

Recognizing the difficulties of legislators in different countries to accept this recommendation as such, the Conference re-worded the resolution as follows :

‘That where legislative enforcement of the requirements of a national standard is necessary (for example, for considerations of safety or health, or for the purpose of avoiding gross deception or controlling exports), it should be done by citation of the standard by reference in a statutory instrument under an enabling act, rather than incorporating the text of the standard in the statutory instrument. Careful attention to the form of citation is desirable. Reference to the standard as a criterion of compliance may be preferable to a direct statement that products shall comply with the standard.

NOTE — In any case where the legislative procedure might require incorporation of the requirements of a standard in a statutory instrument, the relevant portion of the standard should be reproduced exactly in the statutory instrument. In any such instance, modification of the requirements of the standard should not be made unilaterally by the administering authority but should be effected through the national standards organizations.’

3.2.2 Procedure and Methods of Collaboration — All previous recommendations regarding the procedure and methods of collaboration among the Commonwealth Standards Organizations were endorsed, except for Recommendation No. 22 which was re-worded as follows :

‘That when new work is started by a Commonwealth Standards Organization, it should circulate a short précis of the work being undertaken.’

It was considered desirable for Commonwealth countries to become ‘P’ members of ISO and IEC Committees so that they could contribute towards the decisions of these committees.

3.2.3 Metric and Inch-Pound Systems of Measurement — Great interest was shown in the progress made by India towards the adoption of metric system. It was suggested that the Commonwealth Standards Organizations should consider adopting conversion factors in IS : 786-1956 and in B.S. 350 Part I : 1959 and should be guided by B.S. 2856 : 1957 and IS : 1105-1958 for precise conversion. Reference was also made to the work

being done by the ISO Committee for the Study of Scientific Principles of Standardization (STACO) about recommendation of a series of preferred sizes which are used both in inch and metric practices. It was suggested that the Conference might take note of work of ISO/STACO and offer support in principle.

3.2.4 Certification Marking — The problems associated with certification marking on the basis of the papers submitted by India and UK evoked lengthy discussions. Similar problems in varying degrees were also being faced by other organizations, and solution to the problems was considered to lie in greater publicity and understanding of the value of certification marking on the part of the common consumer. It was interesting to note that in South Africa the Government was giving as much as 2.5 percent price preference to goods certified by the South African Bureau of Standards (SABS), and the South African Railways were giving one percent preference. The Conference felt that it was clearly necessary to create, by some means or the other, confidence in certification marking and to make it a trading point. The significance of the mark varied with different authorities, and often even the fundamental point that certification marking implied independent inspection and testing was not clearly conveyed to the ordinary consumer. The importance of conveying this message was emphasized particularly in view of many other marks and seals of quality that are current. In view of the need to make clear the significance of the certification mark, it was agreed to adopt the following recommendation :

‘That the design of standards mark should, wherever practicable, be accompanied by words to convey to purchasers the message of their significance, i.e., that the production of the goods had been subject to control and supervision, by an authority independent of the manufacturer, to ensure compliance with the relevant standard.’

3.2.5 Certification Marking and Statistical Quality Control — Statistical Quality Control in relation to certification marking was discussed on the basis of the papers submitted by India and the United Kingdom. It was accepted that certification marking schemes must be based on quality control methods throughout production as envisaged in Recommendation 20(c). A certain amount of risk, even under the scheme of statistical quality control, both for the producer and the consumer, has to be accepted. A legal case in UK was the centre of a lot of discussion. It underlined the importance of seeing that at least the principles of quality control to be exercised should be written into the standards. On behalf of India, it was pointed out that, as far as possible, SQC principles of sampling were being included in standards in addition to being incorporated in certification marking schemes.

3.2.6 Certification Marking and Inspection — On the question of public and semi-public purchasing organizations relying more on certification marking schemes and avoiding duplicate inspection arrangements, which

was the subject of Recommendation No. 35 of 1957, a great deal of discussion took place. The Conference realized that the best possibility of its implementation was where there was no entrenched inspection arrangement.

It was being increasingly accepted that standards should cater for quality control inspection as well as manufacture by classifying defects as critical, major, minor and incidental, and specifying appropriate sampling and inspection procedures. It was agreed that the following recommendations be adopted :

‘That, in drafting standards for the manufacture and inspection of products, or alternatively, rules governing the application of certification marking, it is highly important to recognize that acceptable quality levels for the specified quality characteristics should be defined, and the criteria for acceptance should be specified on a statistical basis in terms of the kind and degree of evidence that will give the requisite assurance that the acceptable quality level in the inspected product has been met.

NOTE — It may be useful in defining the acceptable quality level to classify defects as to their relative importance, e.g., critical, major, minor, incidental, etc, and to specify the acceptable quality level for each classification of defects.’

3.2.7 CSA Approvals Scheme — An interesting talk explaining the CSA Approvals Scheme was given by Mr. G. B. Tebo, General Manager of the CSA Laboratory.

3.2.8 Publicity and Public Relations — These two subjects tabled separately were discussed together as it was felt that these were very closely related subjects though publicity activities of a standards organization were not directed primarily to securing financial support but to promoting the adoption of standards both for industrial and consumer goods, to providing information on certification marking schemes, etc.

Films sponsored by India were screened and the delegates appreciated quality of these films.

3.2.9 Standard Format and Layout of Standards — This question of common format and layout of standards of Commonwealth countries was discussed at length. It was noted that a revised Indian Standard Guide for Drafting Indian Standards (IS : 12-1958) had been published, and that an earlier issue had been used by ISI from the beginning of its work. Other countries had not published anything like this Indian Standard and doubt was expressed whether anything but the broadest guidance could be given. It was, however, agreed that the South African delegate in collaboration with the Indian delegate should prepare a guide for consideration of the next Commonwealth Standards Conference.

3.3 Technical Sessions

3.3.1 Steel — Australia, Canada, India and UK participated in this Technical Session. The Indian Delegation to the Steel Session consisted of Shri O. S. Murthy (Leader), Sarvashri J. G. Bodhe, M. S. Doshi, K. N. P. Rao and B. S. Krishnamachar. Mr. E. W. Senior (United Kingdom) was elected to the Chair. Apart from reviewing the progress of work with regard to six of the subjects agreed for intensive co-ordination at the 1957 Conference, detailed discussion was confined to the re-design of hot-rolled structural steel sections and co-ordination and rationalization of carbon, alloy and special steels.

Progress on items of work included for intensive co-ordination is recorded below :

- a) The Session noted that in the case of high strength friction grip bolts, there was a general agreement on specifications and the codes of practice for using the same. Canada offered to prepare a technical paper giving the latest development in this field, and circulate the same to other Commonwealth countries for their use.
- b) With regard to light gauge sections, UK have already published a standard, and they are, at present, formulating a code for the use of these sections in structures. Light gauge sections in structures are being used to a large extent in Canada and USA. Canada showed considerable interest in IS : 801-1958 Code of Practice for Use of Cold Formed Light Gauge Steel Structural Members in General Building Construction.
- c) It was noted that the use of high tensile structural steel throughout the Commonwealth was, at present, on a restricted basis but there was greater awareness and tendency for the increased use of high tensile steel for structural purposes. Considerable interest was also evinced by many of the countries in notch ductile steel.
- d) The codes of practice for the use of steel in general building construction and in bridges followed in Australia, India and UK were found to be generally in line except for the difference relating to the provisions with regard to the design of columns and beams and the impact factor (in the case of bridges). Note was also taken of the increase in the yield point of structural steel now allowed in the UK code.
- e) With regard to the use of tubes in steel construction, it was found that Australia and Canada had no national specifications. India and UK have laid down codes of practice for the use of tubes in general building construction, and there is a fair amount of co-ordination between them.

Hot-rolled steel sections — The United Kingdom reported that with the establishment of a universal mill in the country, there was greater likelihood of universal beams replacing most of the existing sections, as they were more efficient than the existing sections. The United Kingdom also reported that even among the European countries, there appeared to be a tendency to switch over to universal beam sections. In this connection, mention was made of the efforts of the countries of the European Coal and Steel Community (CECA) to establish common specifications among them. Both Australia and Canada reported that they were soon establishing universal mills in their countries and would naturally produce universal beam sections. The Indian Delegation pointed out that establishment of universal mills involved very heavy capital expenditure and it was to be considered whether all the other Commonwealth countries would be in a position to go in for these mills. Also, even if the universal mills were established in these countries, there was still the need for evolving a set of sections suitable for production in the existing mills. Even in the case of sections to be produced in the universal mills, it might be useful to make a study of the existing sections as was done in evolving the Indian Standard Sections with a view to improving them. The Indian suggestion was discussed, and it was agreed that :

- a) the series of sections to be rolled in universal mills may be examined from efficiency point of view, and
- b) another series of sections suitable for rolling in the existing mills be established.

India was entrusted with the work of evolving two trial series of sections — one with a 5° taper and the other with an 8° taper — for consideration of the inch-using Commonwealth countries for rolling in the existing mills.

Rationalization of carbon, alloy and special steels — On the subject of rationalization of carbon, alloy and special steels, India had submitted a paper and comments had been received from Australia. Canada was following mainly the American Specifications and did not appear to have the type of problems facing other Commonwealth countries in this regard. Australia and UK have also instituted work, similar to the one instituted in India, in their countries. The discussion revealed that it was not possible, at this stage, to agree to a common set of steels for use in Commonwealth countries, but it was decided that the Commonwealth countries should keep each other informed of the work done by them on this subject.

3.3.2 Cranes — Australia, Canada, India and UK participated in this Technical Session. The Indian Delegation consisted of Shri J. G. Bodhe (Leader), Shri O. S. Murthy and Shri B. S. Krishnamachar. Mr. J. Baker (United Kingdom) was elected to the Chair. The items for discussion included load rating of cranes, permissible stresses, stability requirements for mobile cranes, electric cables, and review of regulations governing the

use, safety requirements and construction of cranes in Commonwealth countries. Papers for discussion on this subject had been submitted by India and UK. Comments on these had been received from Australia and New Zealand.

On a proposal from the Chairman, it was agreed that India's paper should form the basic document for discussion on the subject of design of cranes and permissible stresses. The points of difference among the various codes enumerated by India were discussed in detail, and agreement reached on some of them. Other points were agreed to be studied further. It was also decided to draft a common terminology for the terms used in crane specifications. The work was entrusted to UK, and all the other Commonwealth countries were requested to suggest suitable terms for inclusion in the terminology. With regard to the basic question of classification of cranes, a fair amount of agreement was reached. Canada tabled a study draft of specification covering structural aluminium design of cranes and note was taken of the need to develop specification to cover the use of light alloys in structures.

It was agreed that Commonwealth countries should actively participate in the ISO Committee on Cranes, which was likely to be set up in the near future, and that countries unable to attend should nominate UK or other Commonwealth countries attending these meetings to vote on their behalf by proxy.

3.3.3 Air Receivers — In this Session, delegates discussed standards for welded steel air receivers, containers for paint and other substances, solid drawn air receivers and gas cylinders. The Session was presided over by Mr. W. A. Berriman (Canada). Indian Delegation did not take part in these deliberations.

4. THIRD INTERNATIONAL CONFERENCE ON NON-DESTRUCTIVE TESTING

4.1 India was represented at the Third International Conference on Non-Destructive Testing organized by the Science Council of Japan, which was held at Tokyo and Osaka from 15 to 21 March 1960. A brief review about the progress of non-destructive testing of metallic materials in India was made available to the delegate from India for reporting at this Conference. The following main technical subjects were discussed in this Conference:

- a) Relation between results of non-destructive testing of materials and their mechanical strength,
- b) Calibration and standard test methods of various types of apparatus and materials for non-destructive testing,
- c) Non-destructive testing of materials in relation to their quality,
- d) Non-destructive testing in ship-building as applied to structures and power equipment.

PART IV APPENDICES

APPENDIX A

(See page 5)

INDIAN STANDARDS PUBLISHED AND IN PRESS DURING 1959-60

(This list gives the new Indian Standards published during 1959-60 and those which were under print on 31-3-60. It does not include standards which were under print on 31-3-59 and printed during the year under report. The latter were included in a similar list published as Appendix A in last year's Annual Report.)

Sl No.	Rs
EC	
1. IS : 796-1959 Glossary of Cataloguing Terms	4-50
2. IS : 1358-1959 Practice for Layout of Library Catalogue Code	1-00
AGRICULTURAL AND FOOD PRODUCTS	
Storage Structures and Market Yards	
3. IS : 604-1959 Code of Practice for Construction of Food Grain Storage Structures Suitable for Trade and Government Purposes for the <i>Northern</i> Region	4-00
4. IS : 1497-1959 Layout for Regulated Market Yards for Agricultural Commodities	4-50
Sugar	
5. IS : 1168-1959 Cube Sugar	3-50
Cereal Products	
6. IS : 1483-1959 White Bread	2-00
7. IS : 1484-1959 Rolled Oats (Quick Cooking-Type)	3-00
8. IS : 1485-1959 Macaroni, Spaghetti and Vermicelli	2-50
9. IS : 1487-1959 Edible Groundnut Flour (Expeller Pressed)	2-50
Beehives and Beeswax	
10. IS : 1504-1959 Beeswax, Commercial	3-00
11. IS : 1515-1959 Beehives	2-50
Dairy Products & Equipment	
12. IS : 1000-1959 Lactose, Commercial	4-50
13. IS : 1373-1959 Tinned Mild Steel Milk Cans	2-00

APPENDIX A — Indian Standards Published and in Press — Contd

Sl. No.		Rs
14.	IS : 1392-1959 Glass Milk Bottles	2-00
15.	IS : 1479-1960 Methods of Test for Dairy Industry: Part I Rapid Examination of Milk	6-00
16.	IS : 1516-1959 Milk Strainers, Mild Steel, Tinned	1-50
17.	IS : 1517-1959 Milking Pails (Hooded Type), Mild Steel, Tinned	1-50
18.	IS : 1547-1960 Infant Milk Food	4-50
Poultry and Animal Feeds		
19.	IS : 1374-1959 Poultry Feeds	4-00
20.	IS : 1509-1959 Tapioca Chips for Animal Feed	2-50
21.	IS : 1510-1959 Tapioca Flour for Animal Feed	3-00
Pesticides		
22.	IS : 1486-1959 Copper Oxychloride, Technical	3-00
23.	IS : 1488-1959 2, 4-D Sodium	2-00
24.	IS : 1505-1959 BHC Smoke Generators	3-00
25.	IS : 1506-1959 Copper Oxychloride Dusting Powders	2-50
26.	IS : 1507-1959 Copper Oxychloride Water Dispersible Powders	2-00
BUILDING		
Aggregates		
27.	IS : 515-1959 Natural and Manufactured Aggregates for Use in Mass Concrete	4-00
28.	IS : 1542-1959 Sand for Plaster	1-00
Assembled Components		
29.	IS : 1361-1959 Steel Windows for Industrial Buildings	3-50
Builder's Hardware		
30.	IS : 1341-1959 Cold Rolled Mild Steel Butt Hinges	2-00
31.	IS : 1495-1959 Mild Steel Dust-Bins	2-50
Cement		
32.	IS : 269-1958 Ordinary, Rapid Hardening and Low Heat Portland Cement (Revised)	8-00
Fire Fighting		
33.	IS : 904-1959 2-Way and 3-Way Suction Collecting Heads for Fire Fighting Purposes	2-50
34.	IS : 907-1959 Suction Strainers, Cylindrical and Shoe Types, for Fire Fighting Purposes	2-00
35.	IS : 926-1959 Fireman's Axe	2-00
36.	IS : 929-1959 Hook Ladder for Fire Fighting Purposes	2-00
37.	IS : 930-1959 Extension ladders for Fire Fighting Purposes	1-50
38.	IS : 931-1959 Wheeled Fire Escape	2-00

APPENDIX A — Indian Standards Published and in Press — Contd

Sl. No.		Rs
39.	IS : 933-1959 Portable Chemical Fire Extinguisher, Foam Type ..	3-00
40.	IS : 934-1960 Portable Chemical Fire Extinguisher, Soda Acid Type ..	2-00
41.	IS : 935-1959 Portable Chemical Fire Extinguisher, Carbon Tetrachloride Type ..	2-00
42.	IS : 936-1959 Underground Fire Hydrant, Double Valve Type ..	2-00
43.	IS : 937-1959 Washers for Water Fittings for Fire Fighting Purposes ..	1-50
44.	IS : 943-1959 680-l/min (or 150-gal/min) Trailer Pump for Fire Brigade Use	2-00
45.	IS : 944-1959 1800-l/min (or 400-gal/min) Trailer Pump for Fire Brigade Use	2-00
46.	IS : 945-1959 1800-l/min (or 400-gal/min) Motor Fire Engine ..	3-50
47.	IS : 946-1959 3200-l/min (or 700-gal/min) Motor Fire Engine ..	3-00
48.	IS : 948-1959 Water Tender, Type A, for Fire Brigade Use ..	3-00
49.	IS : 949-1959 Emergency Tender for Fire Brigade Use ..	3-50
50.	IS : 950-1959 Water Tender, Type B, for Fire Brigade Use ..	3-00

Floor Coverings

51.	IS : 1237-1959 Cement Concrete Flooring Tiles	4-50
52.	IS : 1478-1959 Clay Flooring Tiles	2-50

General Civil Engineering

53.	IS : 965-1958 Equivalent Metric Units for Scales, Dimensions and Quantities in General Construction Work	5-00
54.	IS : 1191-1959 Glossary of Terms Used in Measurement of Flow of Water in Open Channels	3-50
55.	IS : 1192-1959 Velocity-Area Methods for Measurement of Flow of Water in Open Channels	5-00
56.	IS : 1193-1959 Methods for Measurement of Flow of Water in Open Channels Using Notches, Weirs and Flumes	2-00
57.	IS : 1194-1959 Forms for Recording Measurement of Flow of Water in Open Channels	3-00
58.	IS : 1498-1959 Classification and Identification of Soils for General Engineering Purposes	3-50

Pozzolana

59.	IS : 1344-1959 <i>Sukhi</i> for Use in Mortar and Concrete	3-00
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Reinforcement

60.	IS : 1139-1959 Hot Rolled Mild Steel and Medium Tensile Steel Deformed Bars for Concrete Reinforcement	2-50
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Roof Coverings

61.	IS : 1322-1959 Bitumen Felts for Waterproofing and Damp-Proofing ..	2-50
62.	IS : 1464-1959 Ridge and Ceiling Tiles	2-00

Service Equipment and Accessories

63.	IS : 781-1959 Sand-Cast Brass Screw-Down Bib Taps and Stop Taps for Water Services	4-00
64.	IS : 784-1959 Prestressed Concrete Pipes	2-00
65.	IS : 1474-1959 Commercial Refrigerators	2-50
66.	IS : 1475-1959 Self Contained Water Coolers	3-00
67.	IS : 1476-1959 Domestic Refrigerators (Mechanically Operated) ..	3-00

APPENDIX A — Indian Standards Published and in Press — Contd

Sl. No.	Rs
Stones	
68. IS : 1129-1959 Dressing of Natural Building Stones	2-00
Timber and Timber Products	
69. IS : 652-1959 Wooden Separators for Lead-Acid Storage Batteries (<i>Revised</i>)	2-50
70. IS : 1140-1959 Logs for Matches	1-50
71. IS : 1503-1959 Rectangular Solid Wood Packing Cases	5-00
72. IS : 1508-1959 Extenders for Use in Synthetic Resin Adhesives (Urea-Formaldehyde) for Plywood	2-50
Codes of Practice	
73. IS : 1343-1950 Code of Practice for Prestressed Concrete	
74. IS : 1346-1959 Code of Practice for Waterproofing of Roofs with Bitumen Felts	3-00
75. IS : 1443-1959 Code of Practice for Laying and Finishing of Cement Concrete Flooring Tiles	2-50
76. IS : 1477-1959 Code of Practice for Finishing of Iron and Steel in Buildings; Painting and Allied Finish (Workmanship)	6-00
77. IS : 1553-1950 Code of Practice Relating to Primary Elements in the Design of Library Buildings	3-50
Methods of Test	
78. IS : 516-1959 Methods of Test for Strength of Concrete	5-00
79. IS : 1199-1959 Methods of Sampling and Analysis of Concrete	7-50
CHEMICALS	
Chemicals, Inorganic	
80. IS : 1030-1959 Compressed Hydrogen	2-50
81. IS : 1420-1959 Light Magnesium Carbonate for Rubber Industry	3-00
82. IS : 1462-1959 Talc for Cosmetic Industry	3-00
83. IS : 1463-1959 Kaolin for Cosmetic Industry	2-50
84. IS : 1514-1959 Methods of Sampling and Test for Quick Lime and Hydrated Lime	3-00
85. IS : 1540-1959 Quick Lime and Hydrated Lime for Chemical Industries	1-00
Chemicals, Organic	
86. IS : 323-1959 Rectified Spirit (<i>Revised</i>)	5-00
87. IS : 324-1959 Denatured Spirit (<i>Revised</i>)	4-50
Coal and Coke	
88. IS : 1350-1959 Methods of Test for Coal and Coke—Proximate Analysis, Total Sulphur and Calorific Value	7-50
89. IS : 1351-1959 Methods of Test for Coal and Coke—Ultimate Analysis	4-00
90. IS : 1352-1959 Methods of Test for Coal and Coke—Special Impurities	5-00
91. IS : 1353-1959 Methods of Test for Coal Carbonization—Caking Index, Swelling Properties and Gray-King Assay (L.T.) Coke Types	4-50
92. IS : 1354-1959 Methods of Test for Coke—Special Tests	4-00
93. IS : 1355-1959 Methods of Test for Ash of Coal and Coke	6-50

APPENDIX A — Indian Standards Published and in Press — Contd

Sl No.		Rs
Glass and Glassware		
94.	IS : 1381-1959 Boiling Flasks (Narrow-Necked)	2-50
95.	IS : 1388-1959 Reagent Bottles	2-50
96.	IS : 1494-1959 Glass Containers for Preserved Fruits Industry	2-00
97.	IS : 1541-1959 Glass Filter Funnels	2-00
Metal Containers		
98.	IS : 1394-1959 Glossary of Terms Relating to Metal Containers Trade	2-50
99.	IS : 1406-1959 Rectangular Tins	2-00
100.	IS : 1407-1959 Round Paint Tins	2-00
101.	IS : 1413-1959 Round Vanaspati Tins	2-00
102.	IS : 1549-1960 Steel Drums and Kegs (Ungalvanized and Galvanized)	3-00
Office Stationery and Equipment		
103.	IS : 220-1959 Ferro-Gallo Tannate Fountain Pen Ink (0.1 Percent Iron Content) (<i>Revised</i>)	2-50
104.	IS : 1379-1959 Ink, Stencil, Oil Base, for Marking Non-Porous Surfaces, Colour as Required	2-50
105.	IS : 1380-1959 Ink, Finger Printing, Black	2-00
106.	IS : 1440-1959 Ink, Metal Stamp, Black	2-00
107.	IS : 1551-1960 Carbon Paper for Typewriter	2-00
Paints and Allied Materials		
108.	IS : 1404-1959 Anti-Corrosive Paint, Brushing, for Ships' Bottom and Hulls, Red, Chocolate or Black, as Required	2-00
109.	IS : 1419-1959 Anti-Fouling Paint, Brushing, for Ships' Bottom and Hulls, Red, Chocolate or Black, as Required	2-00
Petroleum Products and Lubricants		
110.	IS : 1459-1959 Kerosines	1-00
111.	IS : 1460-1959 Diesel Fuels	1-00
Plastics		
112.	IS : 1461-1959 Plastic Buttons (Thermosetting)	2-00
113.	IS : 1465-1959 Methods of Test for Plastic Buttons (Thermosetting)	3-00
Safety Standards		
114.	IS : 1446-1959 Classification of Dangerous Goods	5-00
Unclassified Items		
115.	IS : 317-1959 General Service Automotive Hydraulic Brake Fluid (<i>Revised</i>)	3-00
116.	IS : 1421-1959 Cellulose Nitrate Coated Fabrics	1-50
ELECTROTECHNICAL		
Appliances and Wiring Accessories		
117.	IS : 1401-1959 Accessibility Test Probes	1-50

APPENDIX A — Indian Standards Published and in Press — Contd

Sl No.		Rs
118.	IS : 1415-1959 Electric Hand-Lamps	1-50
119.	IS : 1416-1959 Extra Low Voltage Transformers	2-50
120.	IS : 1534-1959 Ballasts for Fluorescent Lamps : Part I for Switch Start Circuits	6 00
Batteries		
121.	IS : 268-1959 Leclanché Type Sack Cells (<i>Revised</i>)	2-00
122.	IS : 395-1959 Lead-Acid Storage Batteries (Light Duty) for Motor Vehicles (<i>Revised</i>)	3-00
123.	IS : 556-1960 Leclanché Type Radic Batteries (<i>Revised</i>)	3-00
124.	IS : 586-1959 Leclanché Type Dry Batteries for Telecommunication, Signalling and General Purposes (<i>Revised</i>)	2-00
Electronic Components		
125.	IS : 1490-1959 Recommendations for Minimum Performance Requirements of Mains-Operated Public Address Amplifiers	1-00
126.	IS : 1496-1959 Transformers Used in Vibrator Power Supplies	4-00
127.	IS : 1512-1959 Tests and General Requirements for I.F. Transformers and R.F. Coils Used in Amplitude Modulation Broadcast Receivers	3-00
Electroplating		
128.	IS : 1337-1959 Hard Chromium Plating on Steel	1-50
129.	IS : 1359-1959 Electro-Tin Plating	2-00
130.	IS : 1378-1959 Oxidized-Copper Finishes	1-50
Insulators and Accessories		
131.	IS : 283-1959 Porcelain Insulators for Telegraph and Telephone Lines (<i>Revised</i>)	3-00
132.	IS : 1441-1960 Insulator Stalks for Telegraph and Telephone Lines	4-50
133.	IS : 1445-1959 Porcelain Insulators for Overhead Lines with Nominal Voltage Below 1 000 Volts	5-00
Rotating Machinery		
134.	IS : 325-1959 Three-Phase Induction Motors (<i>Revised</i>)	5-00
135.	IS : 996-1959 Small AC and Universal Electric Motors with Class 'A' Insulation	4-00
Transformers and Switchgear		
136.	IS : 1336-1959 Recommendations for the Colour of Push-Buttons	1-00
Miscellaneous		
137.	IS : 1356-1959 General Requirements for Electrical Equipment of Machine Tools	3-50
ENGINEERING		
Tools		
138.	IS : 1511-1959 Chaff Cutter Blades	1-50

APPENDIX A — Indian Standards Published and in Press — Contd

Sl. No.		Rs
Weights and Measures		
139.	IS : 1432-1959 General Requirements for Weighing Instruments ..	1-50
140.	IS : 1434-1959 Counter Machines	1-50
141.	IS : 1437-1960 Automatic Weighing Machines
142.	IS : 1438-1960 Crane Weighing Machines	1-50
143.	IS : 1439-1959 Steelyards	1-50
Instruments		
144.	IS : 1360-1959 Engineers' Pattern Tee Squares	1-50
145.	IS : 1399-1959 Glossary of Terms Used in Optical Technology	5-50
146.	IS : 1444-1959 Engineers' Pattern Drawing Boards	1-50
147.	IS : 1491-1959 Metric Scales for Architectural Purposes	1-50
148.	IS : 1492-1959 Metric Surveying Chains	1-50
Machinery		
149.	IS : 529-1959 Solid-Woven Impregnated Cotton Belting for Power Transmission (<i>Revised</i>)	2-00
150.	IS : 530-1959 Solid-Woven Impregnated Hair Belting for Power Transmission (<i>Revised</i>)	2-00
151.	IS : 1362-1959 Dimensions for Screw Threads for General Purposes (Diameter Range 0.25 to 39 mm)	4-50
152.	IS : 1370-1959 Friction Surface Rubber Transmission Belting	3-00
153.	IS : 1520-1959 Horizontal Centrifugal Pumps for Clear, Cold, Fresh Water	6-00
154.	IS : 1543-1960 Single Cylinder Fuel Injection Pumps	2-00
Miscellaneous		
155.	IS : 1342-1959 Oil Pressure Stoves	3-00
156.	IS : 1375-1959 Black Lead Pencils	3-00
157.	IS : 1384-1959 Oil Pressure Lanterns	3-50
STRUCTURAL AND METALS		
Aluminium and Aluminium Alloys		
158.	IS : 20-1959 Cast Aluminium and Aluminium for Utensils (<i>Second Revision</i>)	1-50
159.	IS : 21-1959 Wrought Aluminium and Aluminium Alloy for Utensils (<i>Second Revision</i>)	1-50
160.	IS : 23-1959 99 Percent Primary Aluminium Notched Bars and Ingots for Remelting for Aircraft Purposes (<i>Revised</i>)	1-50
161.	IS : 202-1960 Aluminium Alloy Ingots and Castings for Aircraft Purposes (<i>Revised</i>)	2-50
162.	IS : 617-1959 Aluminium and Aluminium Alloy Ingots and Castings for General Engineering Purposes (<i>Revised</i>)	6-50
Chemical Analysis		
163.	IS : 228-1959 Methods of Chemical Analysis of Pig Iron, Cast-Iron and Plain Carbon and Low-Alloy Steels (<i>Revised</i>)	6-00
164.	IS : 998-1959 Methods of Chemical Analysis of Soft Solder	3-00
165.	IS : 999-1959 Methods of Chemical Analysis of Brazing Solder	3-00
166.	IS : 1327-1959 Methods of Testing Tin Coating on Tin-Plate	1-50

APPENDIX A — Indian Standards Published and in Press — Contd

Sl. No.		Rs
167.	IS : 1338-1959 Certified Samples for Metallurgical Analysis	1-00
168.	IS : 1409-1959 Methods of Chemical Analysis of Antifriction Bearing Alloys	4-00
169.	IS : 1493-1959 Methods of Chemical Analysis of Iron Ore	7-00
170.	IS : 1546-1960 Method for Determination of Arsenic in Iron and Steel ..	1-50
Copper and Copper Alloys		
171.	IS : 288-1960 Copper Rods for Boiler Stay Bolts and Rivets (<i>Revised</i>) ..	1-50
172.	IS : 531-1959 Leaded Brass Strip for Use in the Manufacture of Parts for Instruments	3-00
173.	IS : 1385-1959 Phosphor Bronze Rods and Bars, Sheet and Strip, and Wire ..	2-50
174.	IS : 1408-1959 Recommended Procedure for Inspection of Copper-Base Alloy Sand Castings	2-50
175.	IS : 1458-1959 Railway Bronze Ingots and Castings	2-50
176.	IS : 1545-1960 Solid Drawn Copper Alloy Tubes	2-00
177.	IS : 1550-1960 Copper Sheet and Strip for the Manufacture of Utensils and for General Purposes	2-00
Foundry		
178.	IS : 1513-1959 Wooden Pattern Equipment for Foundries	3-50
Lead, Zinc, Tin, Antimony and Their Alloys		
179.	IS : 1339-1959 Lead Cable Alloy	1-50
180.	IS : 1340-1959 Code of Practice for Protective Coating of Zinc Base Alloys ..	1-50
181.	IS : 1357-1959 Printing Metal	1-50
Metal Standard (General)		
182.	IS : 1137-1959 Thickness of Sheet and Diameters of Wire	1-00
183.	IS : 1387-1959 General Requirements for the Supply of Metals and Metal Products	1-00
Methods of Sampling		
184.	IS : 1472-1959 Methods of Sampling Ferro-Alloys	2-00
185.	IS : 1548-1960 Manual on Basic Principles of Lot-Sampling	7-00
Physical Tests		
186.	IS : 1403-1959 Method for Reverse Bend Test for Steel Sheet and Strip Less than 3 mm Thick	1-50
187.	IS : 1499-1959 Method for Charpy Impact Test (U-Notch) for Steel	1-50
188.	IS : 1500-1959 Method for Brinell Hardness Test for Steel	2-00
189.	IS : 1501-1959 Method for Vickers Hardness Test for Steel	4-00
Refractories		
190.	IS : 1522-1960 Fireclay Refractories for Glass Melting Tank Furnaces ..	1-50
191.	IS : 1524-1960 Sleeves for Steel Plants	1-50
Precious Metals		
192.	IS : 1417-1959 Grades of Gold and Gold Alloys	1-00

APPENDIX A — Indian Standards Published and in Press — Contd

Sl. No.		Rs
Welding		
193.	IS : 1261-1959 Code of Practice for Seam Welding in Mild Steel ..	2.50
194.	IS : 1323-1959 Code of Practice for Oxy-Acetylene Welding for Structural Work in Mild Steel ..	3.00
195.	IS : 1395-1959 1/2-Percent Molybdenum Steel Covered Electrodes for Metal Arc Welding ..	3.00
196.	IS : 1442-1959 Covered Electrodes for Metal Arc Welding of High Tensile Structural Steel ..	4.50
TEXTILES		
Textile Test Methods		
197.	IS : 1315-1959 Method for Determination of Universal Count of Cotton Yarn	2.00
198.	IS : 1348-1959 Method for Determination of Kemp Content of Raw Wool ..	1.50
199.	IS : 1349-1959 Method for Determination of Clean Wool Yield of Raw Wool	2.00
200.	IS : 1377-1959 Method for Determination of Mean Fibre Length of Wool ..	2.00
201.	IS : 1386-1959 Method for Testing Cotton Cordages for Resistance to Attack by Micro-Organisms ..	2.50
202.	IS : 1389-1959 Methods for Testing Cotton Fabrics for Resistance to Attack by Micro-Organisms ..	3.00
Cotton		
203.	IS : 293-1959 Code for Seaworthy Packaging of Cotton Cloth and Yarn (Revised) ..	2.50
204.	IS : 1347-1959 Code for Inland Packaging of Cotton Cloth and Yarn ..	2.00
205.	IS : 1376-1959 Cotton Sewing Thread, Bleached, for Aeronautical Purposes	2.00
206.	IS : 1402-1959 Braided Cotton Cord for Aeronautical Purposes ..	2.00
207.	IS : 1422-1959 Cotton Duck, Scoured, Dyed or Waterproofed ..	2.00
208.	IS : 1423-1959 Cotton Gaberdine, Bleached ..	2.00
209.	IS : 1424-1959 Cotton Canvas, Scoured, Dyed or Water-Proofed ..	2.00
210.	IS : 1431-1959 Cotton Mosquito Netting, Round Mesh, Dyed ..	1.50
211.	IS : 1450-1959 Handloom Cotton Floor Durries ..	2.00
212.	IS : 1451-1959 Handloom Cotton Drills, Bleached or Dyed ..	1.50
213.	IS : 1535-1960 Cotton Lining Cloth, Dyed ..	2.00
214.	IS : 1539-1960 Cotton Yarn, Grey, for Handlooms ..	1.50
215.	IS : 1544-1960 Cotton Calico, Bleached or Dyed ..	2.00
Wool		
216.	IS : 1530-1960 Cloth, Baize ..	2.00
217.	IS : 1531-1960 Cloth, Blanket ..	2.00
218.	IS : 1532-1960 Serge B'ue, Worsted ..	2.00
219.	IS : 1533-1960 Serge, D.ab Mixture, Water Resistant ..	2.00
Ropes		
220.	IS : 1371-1958 Shroud-Laid Sisal Rope ..	2.50
221.	IS : 1372-1958 Cable-Laid Sisal Rope ..	2.50
222.	IS : 1410-1959 Hawser-Laid Coir Rope ..	2.50
223.	IS : 1411-1959 Shroud-Laid Coir Rope ..	2.50
224.	IS : 1412-1959 Cable-Laid Coir Rope ..	2.50

DIX B

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THE YEAR ENDED 31 MARCH 1960

PAYMENTS

Sl. No.	HEADS OF PAYMENTS	AMOUNT Rs
1 & 2.	Pay and Allowances of Officers	575 497-85
3.	Provident Fund Contribution for Officers: i) Interest	15 462-00
	ii) Contribution	41 521-00
4.	TA for: i) Officers	113 769-23
	ii) Committee Members	28 717-90
5 & 6.	Pay and Allowances of Establishment	600 114-33
7.	Provident Fund Contribution for Staff: i) Interest	10 612-00
	ii) Contribution	33 628-00
8.	TA for Staff	13 189-04
9.	Subscription for ISO & IEC	—
10.	Printing	246 082-22
11.	Conferences: i) National	20 382-90
	ii) International (IEC & ISO Group Meetings in India)	—
12.	Exhibition	—
13.	Testing & Research: i) Research & Consultation	246-88
	ii) Certification Testing	11 865-92
14.	Publicity	17 699-43
15.	Laboratory Shop Equipment	—
16.	Other Charges: i) Stationery	51 810-93
	ii) Postage & Telegrams	82 643-04
	iii) Library	23 507-61
	iv) Telephones	14 869-82
	v) Furniture	21 533-98
	vi) Office Equipment	17 735-82
	vii) Rent	13 931-00
	viii) Electric & Water Charges	20 379-36
	ix) Advertisement	999-48
	x) Audit Charges	—
	xi) Maintenance of Building, etc	23 441-63
	xii) Medical Relief	26 472-97
	xiii) Maintenance & Purchase of Staff Car	24 142-17
	xiv) Miscellaneous	37 445-05
		2 087 701-56
17.	Miscellaneous Remittances	220 570-87
18.	K. L. Moudgill Prize Fund	500-00
19.	ISI Building (Manak Bhavan)	163 018-62
20.	Closing Balances: i) Deposits	619 750-00
	ii) Cash & Bank Balances	250 278-08
	TOTAL	3 341 819-13

APPEN

INCOME AND EXPENDITURE ACCOUNT FOR

EXPENDITURE

Sl No.	HEADS OF EXPENDITURE	AMOUNT Rs
1.	Pay of Officers	508 592-75
2.	Allowances of Officers	79 262-37
3.	Provident Fund Contribution for Officers: i) Interest	15 462-00
	ii) Contribution	41 521-00
4.	TA for: i) Officers	124 109-47
	ii) Committee Members	28 717-90
5.	Pay of Establishment	340 627-04
6.	Allowances of Establishment	269 385-35
7.	Provident Fund Contribution for Staff: i) Interest	10 606-00
	ii) Contribution	33 634-00
8.	TA for Staff	14 014-04
9.	Subscription for ISO and IEC	22 800-00
10.	Printing	267 523-18
11.	Conferences: i) National	15 024-40
	ii) International (IEC and ISO Group Meetings in India)	—
12.	Exhibition	—
13.	Testing and Research: i) Research and Consultation	15 698-70
	ii) Certification Testing	11 865-92
14.	Publicity	36 605-32
15.	Laboratory Shop Equipment	—
16.	Other Charges: i) Stationery	69 950-64
	ii) Postage and Telegrams	72 324-23
	iii) Library	24 288-98
	iv) Telephones	16 175-05
	v) Furniture	17 829-72
	vi) Office Equipment	17 400-34
	vii) Rent	13 191-88
	viii) Electric and Water Charges	20 379-36
	ix) Advertisement	2 937-24
	x) Audit Charges	1 200-00
	xi) Maintenance of Building, etc	23 441-63
	xii) Medical Relief	26 785-89
	xiii) Maintenance and Purchase of Staff Car	4 442-17
	xiv) Miscellaneous	36 307-32
	xv) Depreciation	14 002-24
	Excess of Income over Expenditure	2 196 106-13
		14 598-10
	TOTAL	2 210 704 23

DIX B—Contd

THE YEAR ENDED 31 MARCH 1960

INCOME

Sl. No.	HEADS OF INCOME	AMOUNT	
		Rs	Rs
1.	Income Other than Government Grants:		
i)	Subscription:		
a)	Collection During 1958-59	273 724-51	
b)	Collection During 1959-60	157 778-25	
			431 502-76
ii)	Sale Proceeds of ISI Publications (Net)		289 917-43
iii)	Commission on Sale of Publications Other than ISI Publications (Net):		
a)	BSI	42 220-04	
b)	IRS & ISD	263-84	
c)	ASTM	3 135-48	
d)	IEC	1 049-08	
e)	ISO	320-66	
f)	SAA	22-28	
g)	JIS	1 279-20	
h)	ICE & ISE	47-85	
j)	Miscellaneous	10 637-43	
			58 975-86
iv)	Certification Marks Fees and Inspection Charges		123 283-37
v)	Contribution by ISI Employees to CHSS		5 947-50
vi)	Interest on Investments		4 462-39
vii)	Miscellaneous Receipts		26 151-42
viii)	Advertisement in ISI Bulletin		33 963-50
ix)	Rent from ISI Building		
			974 204-23
2.	Government Grant for Recurring Expenditure		
i)	Total Grant Received	1 281 500-00	
ii)	Less Capital Grant C/o to Balance Sheet	45 000-00	
			1 236 500-00
		TOTAL	2 210 704-23

APPEN BALANCE SHEET AS

LIABILITIES

Sl. No.	Rs	AMOUNT Rs
1. a) Advance Subscription:		
i) For 1960	366 247-38	
ii) For 1961	50-00	
iii) For 1962	25-00	
		366 322-38
b) Industries' Contribution Towards Annual Group Meetings of IEC & ISO in India During 1960		69 500-00
2. Contributory Provident Fund:		
i) Opening Balance	679 247-00	
ii) Add Subscription (Less Withdrawals) During the Year	112 146-00	
iii) Add Contribution (Less Refunds) by ISI During the Year	78 484-00	
		869 877-00
3. Sundry Creditors:		
i) Inland	105 290-12	
ii) Abroad	104 115-77	
		209 405-89
4. ISI Building Fund:		
i) Collection Up to 31.3.59	2 080 817-58	
ii) Collection During 1959-60	3 908-29	
		2 084 725-87
5. 'K. L. Moudgill Prize' Fund:		
i) Collection Up to 31.3.59	11 511-94	
ii) Collection During the Year	1 141-69	
		12 653-63
6. Government Grant for Museum		45 000-00
7. Capital Account:		
i) Balance Brought Forward	483 195-76	
ii) Add Excess of Income Over Expenditure During the Year	14 598-10	
		497 793-86
		TOTAL 4 155 278-63

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 explanations given to me and as shown by the books of ISI.

Sd. A. K. SUD
Assistant Director of Audit
Food, Rehabilitation, Supplies, Commerce, Steel & Mines, New Delhi

DIX B—Contd
AT 31 MARCH 1960

ASSETS		Rs	AMOUNT Rs
Sl. No.			
1.	Cash: i) At the Banks:		
	a) State Bank of India, Delhi/Calcutta/Madras	89 925-45	
	b) Bank of Baroda, New Delhi/Bombay	158 801-65	
	ii) In Office (Including Imprest):		
	New Delhi/Bombay/Calcutta/Madras	1 550-98	
	iii) Postage Stamps	4 925-59	
			255 203-67
2.	Investments: i) Deposits with Banks	619 750-00	
	ii) 'K. L. Moudgill Prize' Fund (Shares of Jay Engineering Works)	11 400-00	
	iii) Contributory Provident Fund:		
	a) National Savings Certificates	725 000-00	
	b) Balance of Loans with Members	37 122-00	
	c) Balance in Bank (State Bank of India, Delhi)	107 755-00	
			1 501 027-00
3.	Sundry Debtors: i) Advances to Staff:		
	a) Conveyance	13 692-44	
	b) Miscellaneous	5 627-98	
	ii) Deposits:		
	a) P & T Deptt., Bombay, Delhi and Calcutta (Balance Sheet Item)	75-00	
	b) NDMC (Balance Sheet Item)	3 600-00	
	c) Madras Electricity Board, Madras	40-00	
	iii) Others:		
	a) Sale of Publications	169 348-07	
	b) Advertisement in ISI Bulletin	19 967-46	
	c) Miscellaneous	10 990-03	
			223 340-98
4.	Stock: i) Printing Paper in Hand	73 463-29	
	ii) Library Books	10 082-68	
	iii) Furniture & Office Equipment	83 363-33	
			166 909-30
5.	Staff Cars (Two)		24 259-65
6.	ISI Building Project (Construction & Preliminary Expenses):		
	a) Cost as at 31.3.59	1 789 874-95	
	b) Expenses During the Year	163 941-53	
			1 953 816-48
7.	Conference: International (IEC and ISO Group Meetings in India) Suspense A/c		7 118-48
8.	Museum: Expenses Kept in Suspense		15 450-00
9.	Expenses Pre-paid: i) Deputy Controller of Stationery, Calcutta	7 153-07	
	ii) Surveyor General of India, Calcutta	1 000-00	
			8 153-07
		TOTAL	4 155 278-63

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

APPENDIX C

(See page 67)

NEW LICENCES ISSUED UNDER ISI CERTIFICATION MARKS SCHEME DURING 1959-60

LICENCE No.	NAME AND ADDRESS OF THE LICENSEE	PERIOD OF VALIDITY	ARTICLE (NUMBER OF RELEVANT INDIAN STANDARD)	UNIT	MARKING FEE PER UNIT
CM/L-121 14.4.59	M/s. Hindustan Wire Products (P) Ltd., Patiala	1.5.59 to 30.4.60	Enamelled High-Conductivity Annealed Round Copper Wire (Oleo-Resinous Enamel) (IS: 449-1953)	One ton	Rs 5-00
CM/L-122 16.4.59	The United Chemical & Metal Works Private Ltd., Kanpur	do	Drums for Paints (IS: 442-1954)	One drum	6 np
CM/L-123 21.5.59	The Eastern Plywood Co. Private Ltd., Pappinisseri	1.6.59 to 31.5.60	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-124 21.5.59	M/s. Western India Plywood Ltd., Baliapatam	do	do	do	do
CM/L-125 29.5.59	M/s. Model Soap Company, Calcutta	16.6.59 to 15.6.60	Toilet Soap (IS: 284-1951)	One ton	50 np per unit for the first 3 000 units, with a minimum of Rs 1 000-00 for production during a calendar year 25 np per unit for 3001st unit and above

**APPENDIX C — NEW LICENCES ISSUED UNDER ISI CERTIFICATION MARKS SCHEME
DURING 1959-60 — 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-126 29.5.59	M/s. Power Cables Private Ltd., Kalyan (Bombay)	16.6.59 to 15.6.60	Hard-Drawn Standard Aluminium & Steel-Cored Aluminium Conductors for Overhead Power Transmission Purposes (IS: 398-1953)	One ton	Re 1-00
CM/L-127 29.5.59	M/s. Bhowra Coke Co., Bhowra	1.7.59 to 30.6.60	Road Tar, Grades RT2 RT3 & RT4 (IS: 215-1951)	do	Rs 2-00
CM/L-128 29.5.59	do	do	Creosote Oil for Use as Wood Preservative (IS: 218-1952)	One hundred gallons	Re 1-00
CM/L-129 23.6.59	The Alkali & Chemical Corpn. of India Ltd., Calcutta	do	BHC Emulsifiable Concentrates (IS: 632-1958)	One gallon	30 np
CM/L-130 24.6.59	M/s. Taj Plywood Products, 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-131 24.6.59	M/s. East India Distilleries and Sugar Factories Ltd., Madras	1.7.59 to 30.6.60	BHC Dusting Powders (IS: 561-1958)	One ton	Re 1-00
CM/L-132 24.6.59	do	do	DDT Dusting Powders (IS: 564-1955)	do	Rs 2-00
CM/L-133 ^e 15.7.59	The Travancore Sugars & Chemicals Ltd., Tiruvalla	1.8.59 to 31.7.60	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

**APPENDIX C — NEW LICENCES ISSUED UNDER ISI CERTIFICATION MARKS SCHEME
DURING 1959-60 — 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-134 15.7.59	M/s. Motor Industries Co. Ltd., Bangalore	1.8.59 to 31.7.60	14-mm Sparking Plugs (IS: 1063-1957)	One plug	1 np with a minimum of Rs 4 500-00 for the production during a calendar year
CM/L-135 15.7.59	M/s. Sarda Plywood Industries (P) Ltd., Jeyapore Road, Assam	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-136 3.8.59	M/s. Liberty Chemical Works, Bombay	17.8.59 to 16.8.60	Sodium Thiosulphate, Photographic Grade (IS: 246-1957)	One ton	Rs 4-00 with a minimum of Rs 1 200-00 for production during a calendar year
CM/L-137 3.8.59	The Assam Railways & Trading Co. Ltd., Margherita (Assam)	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-138 28.8.59	The Mysore Insecticides Company, Madras	16.9.59 to 15.9.60	BHC Water Dispersible Powder Concentrates (IS: 562-1958)	One ton	Rs 2-00
CM/L-139 28.8.59	M/s. Tata-Fision Private Ltd., Palluruthy, Cochin	do	DDT Water Dispersible Powder Concentrates (IS: 565-1955)	do	Rs 5-00
CM/L-140 28.8.59	do	do	BHC Water Dispersible Powder Concentrates (IS: 562-1958)	do	Rs 2-00

**APPENDIX C — NEW LICENCES ISSUED UNDER ISI CERTIFICATION MARKS SCHEME
DURING 1959-60 — 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-141 24.9.59	M/s. Tata-Fison Private Ltd., Calcutta	1.10.59 to 30.9.60	DDT Dusting Powders (IS: 564-1955)	One ton	Rs 2-00
CM/L-142 24.9.59	do	do	BHC Dusting Powders (IS: 561-1958)	do	Re 1-00
CM/L-143 24.9.59	The Travancore Plywood Industries, Punalur	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)
611 CM/L-144 23.9.59	M/s. Bharat Pulverising Mills Private Ltd., Bombay	16.10.59 to 15.10.60	BHC Dusting Powders (IS: 561-1958)	One ton	Re 1-00
CM/L-145 28.9.59	do	do	DDT Dusting Powders (IS: 564-1955)	do	Rs 2-00
CM/L-146 28.9.59	do	do	BHC Water Dispersible Powder Concentrates (IS: 562-1958)	do	Rs 2-00
CM/L-147 28.9.59	do	do	DDT Water Dispersible Powder Concentrates (IS: 565-1955)	do	Rs 5-00
CM/L-148 28.9.59	M/s. Flintrock Products Private Ltd., Bombay	do	BHC Dusting Powders (IS: 561-1958)	do	Re 1-00
CM/L-149 25.9.59	M/s. Enco Plywood & Sawmill Industries, Siliguri	1.10.59 to 30.9.60	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 C — NEW LICENCES ISSUED UNDER ISI CERTIFICATION MARKS SCHEME
DURING 1959-60 — 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-150 15.10.59	The Packing Materials Corporation, Bombay	1.11.59 to 31.10.60	Waterproof Packing Paper (IS: 293-1951)	One roll of 100 yards	6.5 np
CM/L-151 15.10.59	M/s. Synthetic Chemical Industries, Thana (Bombay)	do	Sodium Acetate, Technical (IS: 557-1954)	One cwt	50 np with a minimum of Rs 1 600-00 per calendar year
CM/L-152 15.10.59	The Alkali & Chemical Corporation of India Ltd., Calcutta	do	BHC Dusting Powders (IS: 561-1958)	One ton	Re 1-00
CM/L-153 15.10.59	do	do	BHC, Technical (IS: 560-1955)	do	Rs 5-00 with a minimum of Rs 2 000-00 per calendar year
CM/L-154 15.10.59	M/s. Mysore Commercial Union Ltd., Bangalore	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-155 16.11.59	M/s. Bombay Chemicals Private Ltd., Bombay	1.1.60 to 31.12.60	Pyrethrum Extracts (IS: 1051-1957)	One gallon	20 np per unit with a minimum of Rs 2 600-00 per calendar year
CM/L-156 16.11.59	M/s. Sulekha Works Ltd., Calcutta	1.12.59 to 30.11.60	Fountain Pen Ink, Blue-Black (IS: 220-1950)	do	10 np
CM/L-157 23.12.59	M/s. Shashi Brothers Private Ltd., Bombay	1.1.60 to 31.12.60	Rubber-Insulated Cables, TRS Type 250 Volts Grade (IS: 434-1953)	One thousand yards	12.5 np
CM/L-158 15.1.60	The Aluminium Industries Ltd., Hirakud	1.2.60 to 31.1.61	Steel-Cored and Plain Stranded Aluminium Conductors (IS: 398-1953)	One ton	Re 1-00

**APPENDIX C — NEW LICENCES ISSUED UNDER ISI CERTIFICATION MARKS SCHEME
DURING 1959-60 — 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-159 15.1.60	M/s. Hind Electric, Bombay	1.2.60 to 31.1.61	Threephase Induction Motors (IS: 325-1956)	One horse- power	15 np
CM/L-160 15.1.60	The Indian Iron & Steel Co. Ltd., Calcutta	do	Flushing Cisterns (IS: 774-1957)	One cistern	25 np
CM/L-161 15.1.60	M/s. Patiala Biscuit Manu- facturers Private Ltd., Rajpura	do	Biscuits (Excluding Wafer Biscuits) (IS: 1011-1957)	One ton	Rs 1.25
CM/L-162 5.2.60	M/s. National Pipes & Tubes Co. Ltd., Calcutta	1.3.60 to 28.2.61	Naval Brass Rods, Bars & Sections (IS: 291-1951), Free Cutting Brass Rods and Bars for Use in Screw Machine (IS: 319- 1951); High Strength Brass Rods, Bars & Sec- tions (IS: 320-1951)	do	Rs 3.00
CM/L-163 5.2.60	do	do	Copper Rods for Boiler Stays (IS: 288-1951) Copper Bars & Rods for Electrical Purposes (IS: 613-1954)	do	Rs 3.00
CM/L-164 5.2.60	do	do	Lead Sheets for General Purposes (IS: 405-1952)	do	Rs 3.00
CM/L-165 5.2.60	do	do	Brass Tubes for General Purposes (IS: 407-1952)	do	Rs 3.00
CM/L-166 8.2.60	M/s. Andamans Timber Industries Ltd., Calcutta	1.3.60 to 28.2.61	Tea-Chest Plywood Panels (IS: 10-1953)	One hundred square feet	Nil. (Contribution to the Plywood Industry Volun- tary Contribution Fund would continue to be made to the Development Wing, Ministry of Commerce & Industry)

**APPENDIX C — NEW LICENCES ISSUED UNDER ISI CERTIFICATION MARKS SCHEME
DURING 1959-60 — 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-167 22.2.60	M/s. Shalimar Biscuits Private Ltd., Bombay	1.3.60 to 28.2.61	Biscuits (Excluding Wafer Biscuits) (IS: 1011-1957)	One ton	Rs 1-25
CM/L-168 22.2.60	M/s. Tata-Fison Private Ltd., Calcutta	do	BHC Water Dispersible Powder Concentrates (IS:562-1958)	do	Rs 2-00
CM/L-169 22.2.60	M/s. Mysore Insecticides Company, Madras	do	BHC Dusting Powders (IS: 561-1958)	do	Rs 1-00
CM/L-170 11.3.60	The Britannia Biscuit Co. Ltd., Calcutta	1.4.60 to 31.3.61	Biscuits (Excluding Wafer Biscuits) (IS: 1011-1957)	do	Rs 1-25
CM/L-171 11.3.60	do	do	do	do	Rs 1-25
CM/L-172 11.3.60	M/s. Parle Products Mfg. Co. Private Ltd., Bombay	do	do	do	Rs 1-25
CM/L-173 11.3.60	M/s. Lily Biscuit Co. Private Ltd., Calcutta	do	do	do	Rs 1-25
CM/L-174 11.3.60	The Sathe Biscuit & Chocolate Co., Ltd., Poona	do	do	do	Rs 1-25
CM/L-175 14.3.60	M/s. Camlin Private Ltd., Bombay	do	Fountain Pen Ink, Blue-Black (IS: 220-1950)	One gallon	10 np
CM/L-176 14.3.60	do	do	Dye-Based Fountain Pen Ink, Blue (IS: 1221-1957)	do	10 np
CM/L-177 14.3.60	The Rampur Distillery and Chemical Co. Ltd., Rampur	do	Denatured Spirit (IS: 324-1952)	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 with a minimum of Rs 2 000-00 for production during a calendar year

**APPENDIX C — NEW LICENCES ISSUED UNDER ISI CERTIFICATION MARKS SCHEME
DURING 1959-60 — 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-178 14.3.60	The Ganges Plywood Mfg. Co. Private Ltd., Calcutta	1.4.60 to 31.3.61	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-179 30.3.60	M/s. Kamani Metals & Alloys Ltd., Bombay	15.4.60 to 14.4.61	Brass Sheets, Grade BS 63 (IS: 410-1959)	One ton	Rs 5-00
CM/L-180 30.3.60	M/s. Shiv Scientifics & Chemicals, Agra	do	Nitric Acid, Pure & Analytical Reagent Grades (IS: 264-1950)	One pound	2 np with a minimum of Rs 1 000-00 for production during a calendar year
CM/L-181 30.3.60	do	do	Hydrochloric Acid, Pure and Analytical Reagent Grades (IS: 265-1950)	do	do
CM/L-182 30.3.60	do	do	Sulphuric Acid, Pure and Analytical Reagent Grades (IS: 266-1950)	do	do
CM/L-183 31.3.60	M/s. Flintrock Products Private Ltd., Bombay	do	BHC Water Dispersible Powder Concentrates (IS: 562-1958)	One ton	Rs 2-00
CM/L-184 31.3.60	M/s. Padma Ltd. (Eastern 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)

APPENDIX D

(See page 67)

ARTICLES COVERED BY STANDARD MARKS SPECIFIED DURING 1959-60

Sl. No.	PRODUCT/CLASS OF PRODUCT	NO. AND TITLE OF THE RELEVANT INDIAN STANDARD	NO. AND DATE OF THE GAZETTE NOTIFICATION
1.	Drums for Paints	IS: 442-1954 Drums for Paints	SO 855 dated 25.4.59
2.	14-mm Sparking Plugs	IS: 1063-1957 14-mm Sparking Plugs	SO 1039 dated 9.5.59
3.	Road Tar	IS: 215-1951 Road Tar	SO 1292 dated 6.6.59
4.	Creosote and Anthracene Oil for Use as Wood Preservatives	IS: 218-1952 Creosote and Anthracene Oil for Use as Wood Preservatives	SO 1292 dated 6.6.59
5.	Toilet Soap	IS: 284-1951 Toilet Soap	SO 1292 dated 6.6.59
6.	BHC Emulsifiable Concentrates	IS: 632-1958 BHC Emulsifiable Concentrates (<i>Revised</i>)	SO 1437 dated 27.6.59
7.	Sodium Thiosulphate	IS: 246-1957 Sodium Thiosulphate (<i>Revised</i>)	SO 1740 dated 8.8.59
8.	Sodium Acetate, Technical	IS: 557-1954 Sodium Acetate, Technical and Photographic	SO 2400 dated 31.10.59
9.	Waterproof Packing Paper	IS: 293-1951 Code for Seaworthy Packaging of Cotton Textiles	SO 2400 dated 31.10.59
10.	Pyrethrum Extracts	IS: 1051-1957 Pyrethrum Extracts	SO 2722 dated 12.11.59
11.	Flushing Cisterns for Water Closets and Urinals	IS: 774-1957 Flushing Cisterns for Water Closets and Urinals	SO 197 dated 23.1.60
12.	Biscuits (Excluding Wafer Biscuits)	IS: 1011-1957 Biscuits (Excluding Wafer Biscuits)	SO 202 dated 23.1.60
13.	Copper Rods for Boiler Stays	IS: 288-1951 Copper Rods for Boiler Stays	SO 360 dated 13.2.60
14.	Naval Brass Rods, Bars and Sections	IS: 291-1951 Naval Brass Rods, Bars and Sections	SO 360 dated 13.2.60
15.	Free Cutting Brass Rods and Bars for Use in Screw Machines	IS: 319-1951 Free Cutting Brass Rods and Bars for Use in Screw Machines	SO 360 dated 13.2.60
16.	High Strength Brass Rods, Bars and Sections	IS: 320-1951 High Strength Brass Rods, Bars and Sections	SO 360 dated 13.2.60

APPENDIX D — *Contd*

ARTICLES COVERED BY STANDARD MARKS SPECIFIED DURING 1959-60

Sl No.	PRODUCT/CLASS OF PRODUCT	NO. AND TITLE OF THE RELEVANT INDIAN STANDARD	NO. AND DATE OF THE GAZETTE NOTIFICATION
17.	Lead Sheets for General Purposes	IS: 405-1952 Lead Sheets for General Purposes	SO 360 dated 13.2.60
18.	Brass Tubes for General Purposes	IS: 407-1952 Brass Tubes for General Purposes	SO 360 dated 13.2.60
19.	Copper Bars and Rods for Electrical Purposes	IS: 613-1954 Copper Bars and Rods for Electrical Purposes	SO 360 dated 13.2.60
20.	Dye Based Fountain Pen Inks (Blue, Green, Violet, Black and Red)	IS: 1221-1957 Dye Based Fountain Pen Inks (Blue, Green, Violet, Black and Red)	SO 732 dated 26.3.60
21.	Nitric Acid	IS: 264-1950 Nitric Acid	SO 879 dated 9.4.60
22.	Hydrochloric Acid	IS: 265-1950 Hydrochloric Acid	SO 879 dated 9.4.60
23.	Sulphuric Acid	IS: 266-1950 Sulphuric Acid	SO 879 dated 9.4.60
24.	Rolled Brass Plate, Sheet, Strip and Foil	IS: 410-1959 Rolled Brass Plate, Sheet, Strip and Foil (<i>Revised</i>)	SO 879 dated 9.4.60

APPENDIX E

(See page 74)

ISO RECOMMENDATIONS AND IEC PUBLICATIONS

ISO Recommendations

1. ISO/R 59-1958 Determination of the Percentage of Acetone in Phenolic Mouldings
2. ISO/R 60-1958 Determination of Apparent Density of Moulding Material That Can be Poured from a Specified Funnel
3. ISO/R 61-1958 Determination of Apparent Density of Moulding Material That Cannot be Poured from a Specified Funnel
4. ISO/R 62-1958 Plastics — Determination of Water Absorption
5. ISO/R 66-1958 Paper Vocabulary (First Series of Terms)
6. ISO/R 67-1958 Muscovite Mica Blocks, Thins and Films — Methods for Grading by Size
7. ISO/R 68-1958 Screw Threads
8. ISO/R 69-1958 Dimensions for 16-mm Motion-Picture Film (with Perforations Along One and Two Edges)
9. ISO/R 70-1958 Photographic Sound Record on 35-mm Prints
10. ISO/R 71-1958 Photographic Sound Record on 16-mm Prints
11. ISO/R 72-1958 Sound Records and Scanning Area of 35-mm Double Width Push-Pull Sound Prints (Normal and Off-Set Center Line Types)
12. ISO/R 73-1958 Image Produced by Camera Aperture and Projected Image Area for 35-mm Films
13. ISO/R 74-1958 Image Produced by Camera Aperture and Projected Image Area for 8-mm Films
14. ISO/R 75-1958 Plastics — Determination of Temperature of Deflection Under Load
15. ISO/R 76-1958 Ball and Roller Bearing — Methods of Evaluating Static Load Rating
16. ISO/R 77-1958 Bibliographical References — Essential Elements
17. ISO/R 91-1959 Petroleum Measurement Tables
18. ISO/R 92-1959 Definition of Side (Left or Right) of Spinning Machinery
19. ISO/R 93-1959 Cylindrical Silver Cans
20. ISO/R 94-1959 Spindle Gauges for Ring Spinning and Ring Doubling Frames
21. ISO/R 95-1959 Rings for Ring Spinning and Ring Doubling Frames for 'C' Travellers (Reversible)
22. ISO/R 96-1959 Rings for Ring Spinning and Ring Doubling Frames for 'C' Travellers (Non-Reversible)
23. ISO/R 97-1959 Rings for Ring Spinning and Ring Doubling Frames for Ear-Shaped Travellers
24. ISO/R 98-1959 Diameters of Drafting Rollers for Cotton, Wool, Spun Silk and Staple Fibre
25. ISO/R 99-1959 Diameters of Pulleys for Flat Transmission Belts
26. ISO/R 100-1959 Crown of Pulleys for Flat Transmission Belts
27. ISO/R 101-1959 Width of Sheets of Paper
28. ISO/R 102-1959 Gravity Filling Orifices for Aircraft
29. ISO/R 103-1959 Sizes and Mounting Dimensions of Aircraft Instrument Cases (Rear-Mounting Type)
30. ISO/R 108-1959 Weaving Looms: Definition of Side (Left or Right)
31. ISO/R 109-1959 Weaving Looms: Working Width
32. ISO/R 110-1959 Paper Cones for Yarn Winding (Cross Wound) Taper 9° 15'
33. ISO/R 111-1959 Paper Cones for Yarn Winding (Cross Wound) Taper 4° 20'
34. ISO/R 112-1959 Paper Cones for Yarn Winding (Cross Wound) Taper 3° 30'
35. ISO/R 128-1959 Engineering Drawing. Principles of Presentation
36. ISO/R 129-1959 Engineering Drawing. Dimensions

IEC Publications

1. Pub 34-1: 1960 Recommendations for Rotating Electrical Machinery (Excluding Machines for Traction Vehicles), Part I. 6th ed.
2. Pub 50 (08): 1960 International Electrotechnical Vocabulary (2nd ed.) Group 08: Electro-Acoustics
3. Pub 50 (70): 1959 International Electrotechnical Vocabulary (2nd ed.) Group 70: Electrobiolology
4. Pub 56-4: 1959 Specification for Alternating Current Circuit-Breakers
Chapter III: Rules for Strength of Insulation
Chapter IV: Rules for the Selection of Circuit-Breakers for Service
Chapter V: Rules for the Erection and Maintenance of Circuit-Breakers in Service. 1st ed.
5. Pub 72-1: 1959 Recommendations for the Dimensions and Output Ratings of Electric Motors, Part. I. Footmounted Induction Motors with Shaft Heights Between 56 and 315 mm ($2\frac{1}{8}$ and $12\frac{1}{2}$ in.). 3rd ed.
6. Pub 98-1: 1959 Recommendations for Stereophonic Commercial Disk Records (Supplement to Publication 98: Recommendations for Lateral-cut Commercial and Transcription Disk Recording). 1st ed.
7. Pub 103: 1959 Recommendations for Aluminium Electrolytic Capacitors for General Purpose Application. 1st ed.
8. Pub 106: 1959 Recommended Methods of Measurement of Radiation from Receivers for Amplitude-Modulation, Frequency-Modulation and Television Broadcast Transmissions. 1st ed.
9. Pub 107: 1960 Recommended Methods of Measurements on Receivers for Television Broadcast Transmission. 1st ed.
10. Pub 108: 1959 Recommendations for Ceramic Dielectric Capacitors Type I. 1st ed.
11. Pub 109: 1959 Recommendations for Fixed Non-Wirewound Resistors Type II. 1st ed.
12. Pub 110: 1959 Recommendations for Power Capacitors for Frequencies Between 100 and 20 000 Hz (c/s). 1st ed.
13. Pub 111: 1959 Recommendations for the Resistivity of Commercial Hard-Drawn Aluminium Electrical Conductor Wire. 1st ed.
14. Pub 112: 1959 Recommended Method for Determining the Comparative Tracking Index of Solid Insulating Materials Under Moist Conditions. 1st ed.
15. Pub 113: 1959 Classification and Definitions of Diagrams and Charts Used in Electro-technology. 1st ed.
16. Pub 114: 1959 Recommendation for Heat-Treated Aluminium Alloy Busbar Material of the Aluminium-Magnesium-Silicon Type. 1st ed.
17. Pub 115: 1959 Recommendations for Fixed Non-Wirewound Resistors Type I for Use in Electronic Equipment. 1st ed.
18. Pub 116: 1959 Recommendations for Receiver-Type Metallized Mica Capacitors for Use in Electronic Equipment. 1st ed.
19. Pub 117-1: 1960 Recommended Graphical Symbols, Part I: Kind of Current, Distribution Systems, Methods of Connection and Circuit Elements. 1st ed.
20. Pub 118: 1959 Recommended Methods for Measurements of the Electro-Acoustical Characteristics of Hearing Aids. 1st ed.

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 Agricultural and Food Products Division Council (AFDC), the Building Division Council (BDC), the Chemical Division Council (CDC), the Electrotechnical Division Council (ETDC), the Engineering Division Council (EDC), the Structural and Metals Division Council (SMDC) and the Textile Division Council (TDC).

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

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