1948
NEW ZEALAND

STANDARDS COUNCIL

(Department of Industries and Commerce)

ANNUAL REPORT FOR THE YEAR, 1947–48

Presented to both Houses of the General Assembly by Leave

The Hon. A. H. NORDMEYER, Minister of Industries and Commerce.

SIR,—

I have the honour to submit herewith the annual report of the Standards Council for the year ended 31st March, 1948.

I have, &c.,

L. J. MCDONALD,
Executive Officer.

REPORT

THE STANDARDS REGULATIONS 1947

Following upon the reconstitution of the Standards Council in terms of the Standards Act, 1941, and the consequent return to the normal standardization procedure as recorded in the last report, the Standards Regulations 1947 were gazetted on 22nd May, 1947, and came into force seven days after that date. These regulations supplement the Act by establishing the machinery and procedure necessary for its effective administration.

MEMBERS OF STANDARDS COUNCIL

During the year, Dr. E. Marsden and Mr. R. E. Dawson resigned from the Standards Council and were replaced by Messrs. F. R. Callaghan and D. I. Macdonald, who represent the Council of Scientific and Industrial Research and the New Zealand Manufacturers' Federation respectively. Mr. J. M. Dawson, who represented the New

Zealand Institute of Architects, also resigned towards the close of the year, but his successor was not appointed during the period under review. At the end of the year the personnel of the Standards Council was therefore as follows:—

Member.	Representing
A. R. Galbraith (Chairman)	Municipal Association of New Zealand.
F. W. Furkert (Deputy Chairman) ..	New Zealand Institution of Engineers.
R. C. Adams	Commissioner of Works.
L. Arcus	New Zealand Federated Builders' and Contractors' Industrial Association of Employers.
Mrs. H. Barnicoat	Dominion Federation of New Zealand Women's Institutes.
K. Baxter	New Zealand Federation of Labour.
W. Bryan	Associated Chambers of Commerce of New Zealand.
F. R. Callaghan	Council of Scientific and Industrial Research.
P. Ellerm	Stores Control Board.
J. Ferguson	New Zealand Federation of Labour.
Mrs. M. J. Forde	National Council of Women.
W. Gazley	Post and Telegraph Department.
Mrs. P. C. Jordan	Women's Division of Federated Farmers of New Zealand.
E. H. Langford	(Special appointment).
G. A. Lawrence	New Zealand Institute of Chemistry.
D. I. Macdonald	New Zealand Manufacturers' Federation.
L. J. McDonald	(Executive Officer).
W. W. Mulholland	Federated Farmers of New Zealand.
K. Pallo	New Zealand Manufacturers' Federation.
G. A. Pascoe	Department of Industries and Commerce.
G. S. J. Read	New Zealand Railways.
G. L. Riley	New Zealand Retailers' Federation.
J. E. Salmon	New Zealand Manufacturers' Federation.
C. W. Turner	(Special appointment).
(Appointment pending)	New Zealand Institute of Architects.

MEETINGS

During the year, 250 meetings were held, comprising 2 meetings of the Standards Council, 3 of its Executive Committee, 214 of standing committees, 8 formal conferences, and 23 meetings of *ad hoc* sub committees and panels.

STANDARD SPECIFICATIONS

Regular Standard Specifications.—Eighty-two regular standard specifications were adopted during the year, 19 relating to mechanical engineering, 7 to electrical engineering, 9 to chemistry, 32 to the timber industry, 3 to the textile industry, 5 to building construction, 1 to household commodities, 1 to primary industries, 1 to plumbing, and 4 miscellaneous. Of these, 36 were British standards and 33 were Australian standards endorsed as New Zealand standard specifications, in one case with a local amendment. The remainder were original New Zealand standard specifications. In addition, 12 revised British standards were adopted as revisions of the corresponding New Zealand standard specifications, and 17 original New Zealand standard specifications were revised. Amendments to 35 existing standard specifications were also adopted. The total number of existing regular standard specifications at the close of the year was therefore 580.

Government Purchasing Standard Specifications.—Two Government purchasing standard specifications relating to red-lead paint for structural steel and office furniture were adopted during the year.

Emergency Standard Specifications.—Seventeen emergency standard specifications relating to mechanical engineering were adopted during the year. Of these, 16 were British war emergency standards endorsed as New Zealand standard specifications. In addition, amendments to 12 existing emergency standard specifications were adopted. Seventy-two emergency standard specifications were withdrawn, 6 of which were superseded by regular standard specifications, the remainder being no longer required with the passing of the war emergency. This reduced the total of existing emergency standard specifications at the close of the year to 144.

Summary.—The year's work has thus increased the grand total of New Zealand standard specifications to 726, comprising 580 regular standard specifications, 2 Government purchasing standard specifications, and 144 emergency standard specifications. Details of the standard specifications adopted, revised, amended, and withdrawn during the year are shown in the Appendix hereto.

STANDARD MARK

Licences Issued.—During the year, 332 applications for licences to use the Standard Mark were received from applicants engaged in 17 different industries. Over the same period, 325 licences were issued, bringing the total number of licences granted since 1944 to 897, of which 17 were subsequently cancelled, leaving 880 in existence at the close of the year. Table A hereunder shows the industries through which the licences granted during the year have been distributed and also the total licences issued to date:—

Table A.—Licences to Use the Standard Mark

Industry.	Licences Granted, 1947–48.	Total Licences Granted.
Household furniture	44	496
Motor-car cleaning and lubrication services	237	253
Footwear	1	38
School paper stationery	2	14
Household tinware utensils	10	10
Hearing-aid equipment	9	10
Paua shell jewellery	8	10
Leather dress gloves	1	8
Ready-mixed paints	1	5
Regenerated lubricating-oil	..	5
Cow-covers	3	3
Fire-extinguishers	2	3
Preservative pretreatment of timber	..	3
Plywoods	..	3
Inks	..	3
Milking-machine rubberware	..	3
Shirt and pyjama sizes	2	2
Terrazzo work	1	2
Flushing-cisterns	..	2
Creosote for preservation of timber	..	2
Salt glazed-ware pipes	..	2
Soaps	..	2
Flock	..	2
Nylon toothbrushes	..	2
Ceiling roses	1	1
Fish-liver oils	1	1
Men's working garments	1	1
Oily canvas clothing	1	1
Precast concrete drainage pipes	..	1
Precast concrete pressure pipes	..	1
Earthenware roofing-tiles	..	1
Lubricating-cup greases	..	1
Fencing-wire	..	1
Electric plugs and sockets and ceiling roses	..	1
Rating and testing of heating elements	..	1
Garden tools	..	1
Joiners' glue	..	1
Asbestos-cement products	..	1
Totals	325	897

Use of Standard Mark.—The fact that the new licences issued during the year were more than twice the number issued during the previous year, and increased the total by more than 50 per cent., reflects the growing interest of both trading concerns and consumers in the principle of certification by means of Standard Marks based on national standard specifications, which is being firmly established and will progressively develop as manufacturers organize their production according to standard specifications and consumers seek the full advantage of this. The value of Standard Marks is not, however, determined solely by the number of licences granted, but rather by the growing awareness of the importance of the factor of quality which it engenders. This consideration is of paramount importance not only to the consumer public, but to the sound development of our manufacturing industries, which are increasingly responding to the urge to strive for and maintain quality standards as a means of reinforcing public confidence in the merit of commodities manufactured in New Zealand—a consideration of the utmost importance to the economy of the country.

Inspection.—The inspection and examination of commodities bearing the Standard Mark, referred to in the last report, has been consolidated and extended. The majority of licensees have shown genuine desire to conform fully to the relevant standard specifications and to preserve the validity of the Standard Mark as a hall-mark of quality. Although many cases have been found of failure to conform to the specification in minor respects, this has been due, generally, to oversight or misunderstanding, which a positive and constructive approach has corrected, with consequent improvement in the standard of quality of the commodities concerned.

STANDARDS COUNCIL

(Two meetings)

Executive Committee .. .. Three meetings.

Standard Specifications.—The reconstituted Standards Council at its first meeting endorsed and formally recommended to the Minister of Industries and Commerce, for declaration pursuant to the Standards Act, 1941, 432 standard specifications and 118 emergency standard specifications which had been adopted prior to 1st April, 1947. Fifty-four emergency standard specifications which had been adopted previously were withdrawn, as these related solely to war needs and were no longer required. Steps were also taken to have the remaining 118 emergency standard specifications reviewed with the object of including in the regular series of standard specifications those which should be retained and having the others withdrawn.

Standardization Projects.—The Standards Council considered the standardization projects in the course of development at the beginning of the year and authorized work in connection with 134, of which 45 had progressed to the stage of draft specifications, 58 others were under active consideration, and the remaining 31 were temporarily in abeyance. Subsequently the Standards Council and its Executive Committee authorized 32 new projects, bringing the total number of projects to 166 at the close of the year.

Standing Committees.—At its first meeting the new Standards Council reviewed the standing committees then in existence and formally reappointed 197 of these, pursuant to the Standards Act, 1941, to undertake the development of current projects or to remain as standing committees to review existing standard specifications as found necessary. Eight new committees were subsequently appointed, bringing the total to 205.

General.—The Standards Council and its Executive Committee considered all requests for the development of standard specifications, reviewed those received from overseas and directed the necessary action in connection therewith, examined the reports of all meetings held during the year and endorsed these, subject to their further directions.

TECHNOLOGICAL STANDARDIZATION

Civil Engineering Sectional Committee

(One meeting)

Household Septic Tanks Committee .. .. One meeting.

Parent Committee.—In addition to reviewing the work being carried out under its direction, this committee examined 6 draft British standards, 5 British standards, and 4 amendments to British standards which had been adopted as New Zealand standard specifications. In each case it directed circulation to affected interests and the other action necessary to determine the suitability of the specifications for adoption in this country. Three of the amendments were recommended for incorporation in the corresponding New Zealand standard specifications.

Household Septic Tanks.—At the direction of the parent committee, the proposed standard specification for household septic tanks was recast to incorporate general design, construction, and performance requirements, rather than specifications of particular types of tanks. The standard specification, when issued, will, however, include an appendix which will give details of types of tanks known to meet the general requirements incorporated in the specification itself. In this way, when cited in the proposed standard code of plumbing and drainage by-laws, it will ensure that such tanks will prove satisfactory in operation, without unnecessarily limiting freedom of design. On the other hand, it will provide, by means of the appendix, detailed designs for people who will find them of assistance. The recast specification will shortly be circulated to interested parties for comment.

Cement and Concrete Sectional Committee

(Three meetings)

Concrete Fencing-posts Committee .. .. One meeting.
Concrete Fencing-posts Panel .. .. One meeting.
Precast Concrete Pipes Committee .. .. Two meetings.

Parent Committee.—Besides reviewing the work being carried out under its direction, the parent committee examined 8 draft British standards, 12 British standards, and 4 Australian standards, and directed circulation of these to interested parties for review and comment, prior to considering their suitability for adoption in New Zealand.

Hollow Load-bearing Concrete Blocks.—The parent committee reviewed the draft standard specification referred to in the last report in the light of the comments received from its circulation to affected interests, and is now awaiting the results of absorption and moisture tests being carried out by the Dominion Physical Laboratory before recommending the specification for adoption. When issued, the standard specification will supplement the design requirements relating to concrete blocks already included in the Standard Code of Building By-laws.

Concrete Fencing-posts.—During the year a draft standard specification for concrete fencing posts and struts was circulated for comment. At the close of the year the committee was engaged upon the review of the comments received, which had indicated that further tests would be necessary before satisfactory provisions relating to testing could be formulated.

Precast Concrete Drainage Pipes.—The appropriate committee reviewed the existing standard specification for precast concrete drainage pipes in the light of comments received during the period of its initial use. Arising out of this review, it was decided that the corresponding Australian standard contained more suitable provisions, and consequently this was recommended for adoption in place of the existing standard specification, subject to minor amendments to suit local conditions.

Roadmaking Materials and Methods Sectional Committee

Road-binding Materials Committee	One meeting.
Road Materials Testing Committee	One meeting.

Glossary of Highway Engineering Terms.—The first project in the programme of work relating to standard specifications in respect of roadmaking was the formulation of a standard glossary of highway engineering terms which would eliminate the confusion and conflict which arise from the use of different terms to express the same meaning and, conversely, when various meanings are ascribed to the same term. Each of the working committees is to formulate definitions relating to the terms coming within its particular scope, the completed draft then to be reviewed by the parent committee. During the year, the drafting of the sections relating to materials, properties and tests was completed by the two committees concerned.

Road Traffic Sectional Committee

(Three meetings)

Road Traffic Control Signals.—This committee completed its review of the proposed standard code of practice for road traffic control signals formulated before the war emergency, which caused its promulgation to be withheld. Local authorities responsible for the installation, maintenance, and operation of these signals will welcome the issue of the standard code, which establishes a standard practice for the use of light signals for the control and regulation of traffic, including a statement of the conditions which warrant light signals and the principles which should govern their location and design. Drivers of motor-vehicles and pedestrians will also be greatly assisted by the uniformity of practice now established.

Mechanical Sectional Committee

(Eight meetings)

Fire-extinguishers Committee	Three meetings.

Parent Committee.—This committee reviewed the work being carried out under its control and, in addition, examined 124 draft British standards, 106 British standards, 1 draft Australian standard, 5 Australian standards, 2 American standards, 9 British Service specifications, and 77 amendments to overseas specifications which had previously been considered by the committee. Twenty-seven of the British standards were recommended for adoption as New Zealand standard specifications, and 51 amendment slips were recommended for incorporation in the corresponding New Zealand standard specifications. The committee also gave consideration to 2 projects of the International Organization for Standardization relating to the construction of boilers and identification colours for gas cylinders.

Fire-extinguishers.—The Fire-extinguishers Committee gave further consideration to the adoption of New Zealand standard specifications for new types of fire-extinguishers evolved during the war. In addition to the gas-pressure-operated type of carbon-tetrachloride extinguisher which has been provided for as recorded in the last report, further consideration was given to a British standard for the gas/water pressure type, but its adoption was deferred pending further investigations concerning the corrosion-resisting properties of steel bodies and the reliability of welded seams. The committee also gave attention to the air/foam and methyl-bromide types of extinguishers, but decided that sufficient information and technical data was not available to warrant the formulation of sound standard specifications.

Electrical Sectional Committee

(Five meetings)

Insulator Pins Committee	Two meetings.
Electrical Accessories and Appliances Committee	Five meetings.
Switches Sub-committee	Two meetings.
Grillers Panel	One meeting.
Appliance Connectors Panel	One meeting.
Electrical Hot-water Systems Committee	Three meetings.
Electrical Hot-water Systems Panel	Four meetings.

Parent Committee.—In addition to reviewing the work being carried out under its supervision, this committee considered 37 draft British standards, 58 British standards, 7 draft Australian standards, 1 American standard, and 33 amendments to overseas specifications it had previously considered. Fifteen of the British standards were recommended for adoption as New Zealand standard specifications, while 24 of the amendments were endorsed for incorporation in the corresponding New Zealand standard specifications. Arising out of this work, the committee also requested the Ceramics Sectional Committee to undertake the preparation of a standard specification for insulators.

Insulator Pins.—Further progress was made with the development of a standard specification for insulator pins and spindles for use in communications, signals, and low- and high-tension power transmission and distribution systems.

Domestic Electrical Appliances.—Good progress was made with the formulation of a comprehensive series of standard specifications for the commonly used domestic electrical appliances, the necessity for which has been strongly represented by Government and supply authorities, electricians, users, and other interested parties. Standard specifications were completed for non-metallic electric jugs and for electric jugs and kettles of the metallic type. Draft standard specifications which were circulated for comment during the year related to irons, immersion heaters, grillers, and cookers other than ranges and rangettes. In each case these specifications establish minimum requirements relating to materials, essential dimensions, assembly, basic design, and performance in a way that ensures adequate safety, durability, efficiency, and interchangeability. Certification of conformity with these specifications through the use of the Standards Mark on this equipment will provide a basis for control of its manufacture, sale, and use which has long been urged to lessen the dangers and economic loss which result from the use of inferior equipment.

Switches.—A draft standard specification was completed for flush-mounting wall switches, wall plates, and metal outlet boxes, and is now in the course of circulation for comment. This is the first of a series of specifications which will be prepared to cover all types of switches for use on circuits not exceeding 15 amps.

Plugs and Sockets.—A revision of the existing standard specification for electric plugs and sockets was commenced during the year, and proposed amendments, based upon experience of the use of the specification, are to be circulated in draft form for comment. The proposed amendments include the deletion of the provisions in respect of the two-pin parallel plug and socket and their replacement by similar provisions relating to the two-pin T type which has the advantage of polarizing the lines. It is also proposed to up-rate the current-carrying capacity from 10 amps. to 13½ amps.

Thermal-storage Electric Water-heaters.—At the request of the supply authorities, and with their full collaboration, a draft standard specification for thermal-storage electric water-heaters was formulated and circulated to interested parties for comment. It establishes minimum requirements in respect of the manufacture and installation of cylinders, pipe connections, cylinder elements, and thermostat connections. It also specifies insulation requirements, including the quality of the lagging-material and the

method of placing it around cylinders. The specification, when issued, will ensure satisfactory service and efficiency of operation, with minimum running-costs and maximum conservation of power.

Installation of Electric Water-heaters.—As a corollary to the proposed standard specification for thermal-storage electric water-heaters, the committee has agreed, at the instigation of the Electric Supply Authority Engineers' Institute, to undertake the development of a standard code of practice for the installation of these heaters.

Radio Industry Sectional Committee

Radio Components Committee	One meeting.

Radio Components.—At its meeting the Radio Components Committee continued its examination of standard specifications for radio components received from other countries. As a result, 7 American standards for various components were recommended for adoption as New Zealand standard specifications for purchasing in North America. As New Zealand obtains a large proportion of her radio supplies from this source, the adoption of the American standards as being suitable for use in this country will acquaint purchasers with the equipment available in the United States which will satisfy their requirements.

Hearing Aids Sectional Committee

(Two meetings)

Hearing Aids Technical Committee	Two meetings.

Hearing Aid Equipment (Valve Type).—The existing standard specifications for this type of equipment was revised in order to provide for improvements in the design and components of hearing aids which have resulted from recent research, particularly in connection with the use of midget batteries in smaller and lighter units. The New Zealand League for the Hard of Hearing has freely acknowledged the protection and benefit to its members afforded by this specification, with the aid of the Standard Mark, which has been adopted as the basis for social-security benefits to the hard of hearing.

Performance of Hearing Aids.—Following the issue of the foregoing standard specification, a separate standard code of practice for the measurement of performance of hearing aids was prepared to establish the means by which aids should be tested for conformity with the technical provisions of the main specification. The code of practice will serve as a valuable guide to manufacturers, testing laboratories, otological clinics, and others concerned with these tests.

Welding Sectional Committee

(Two meetings)

Resistance Welding Committee	Two meetings.

Parent Committee.—At the request of the Structural Welding Committee, which found that it was receiving numerous standard specifications from overseas relating to welding other than structural welding, a separate Welding Sectional Committee was set up to consider these specifications, to formulate any necessary original standard specifications, and to carry out allied activity. The new sectional committee examined 2 draft British standards, 5 draft Australian standards, 18 British standards, and 3 Australian standards, and in each case directed the circulation of these to ascertain their suitability for use in New Zealand. By the close of the year, 4 of the British standards had been found suitable for adoption as New Zealand standard specifications.

Resistance-welding Apparatus.—The proposed standard specification for resistance-welding apparatus, referred to in the last report, was brought to the draft stage and circulated to interested parties for comment. It will establish a uniform basis for the

rating and testing of apparatus which will replace the varying methods at present used by different authorities. In addition, it will incorporate clear definitions of the terms used and will specify a standard method of stating rating and output. It will also lay down tests for temperature rise, insulation resistance, applied high voltage, and induced high voltage. When completed, it will prove of valuable assistance to manufacturers, welding firms, supply authorities, and other people concerned.

Optical Glass Committee

(One meeting)

Protective Filters.—This committee commenced its programme of work by undertaking the formulation of a standard specification for protective filters for welding and other industrial operations. In the course of its work it examined the relevant British, Australian, and American standards, finally deciding to prepare an original New Zealand standard specification which would admit filters imported from both Great Britain and America satisfactory to our requirements.

Water-well and Structural Drilling Sectional Committee

(One meeting)

Drilling Operators Committee	One meeting.
Drilling Machinery and Equipment Committee	One meeting.
Water-well and Structural Drilling Conference	One meeting.

Water-well and Structural Drilling.—At the request of the New Zealand Water-well and Structural Drillers' Association, consideration was given to the formulation of a standard code of practice for water-well and structural drilling, to safeguard reputable operators and the general public, and also to assist to provide a basis for the registration of operators. A conference of the interested parties recommended that a sectional committee should be formed, and this committee, after careful consideration, decided that the standard code could best be prepared by dividing it into three sections dealing, respectively, with the qualifications of operators, the tools and machinery used, and the actual drilling methods to be followed. Working committees were set up to formulate these three sections and have given initial consideration to this work. At the same time, relevant information is being sought from overseas for the guidance of the working committees.

Drawing Office Practice Sectional Committee

(One meeting)

Engineering Drawing Practice.—The parent committee considered the recommendation of the Engineering Drawing Practice Committee to the effect that the British standard for engineering drawing practice should be adopted as a New Zealand standard specification, subject to an amendment incorporating the Australian standard sizes for paper, and that the corresponding Australian standard should be added as a supplement because of its fuller detail and its special suitability for teaching purposes. The parent committee decided, however, that the Australian standard was more suitable to New Zealand conditions in all respects and that it should be adopted as the New Zealand standard specification instead of the British standard, but a final recommendation in this respect was deferred to ensure that, where necessary, the provisions of the Australian standard have been modified to conform to established practice in New Zealand for specialized types of work.

Architectural and Building Drawing Practice.—A special sub-committee has been set up to prepare a standard code of practice for architectural and building drawing practice, based upon the corresponding British standard.

Chemical Sectional Committee

(Five meetings)

Glues Committee	Two meetings.
Glues Panel	One meeting.
Fish Oils Committee	Three meetings.
Rodent Poisons Committee	One meeting.
Electroplating and Protective Metal Finishes Committee	One meeting.

Parent Committee.—This committee reviewed the work being carried out under its direction, and also considered 54 draft British standards, 29 British standards, 3 Australian standards, and 10 amendment slips to British standards previously examined. Eleven of the British standards were found suitable for adoption in New Zealand and 6 of the amendments were endorsed for incorporation in the corresponding New Zealand standard specifications.

Capsules Containing Vitamins A and D.—After considering the comments received from the affected interests during the circulation of draft proposals, the Fish Oils Committee recommended the adoption of a standard specification for capsules containing vitamins A and D. This specification prescribes the minimum vitamin A and D potency of each capsule, incorporates the necessary methods by which this potency may be checked, and also includes requirements relating to the capsules themselves and to proper package and storage, which is important to prevent deterioration of the vitamin content. Adequate marking provisions are included so that purchasers may have a reliable basis to evaluate and compare the various products.

Fish-liver Oil.—The standard specification originally issued in the emergency series was reviewed in the light of comments received during its initial use and, with minor amendments, was endorsed for issue in the regular series of standard specifications.

Joiners' Glue.—The original emergency standard specification for joiners' glue was reviewed in the light of experience of its initial use and, after amendment, was recommended for issue in the regular series of standard specifications. In the course of the review, the provisions were extended to cover casein glue, in addition to the animal glues previously dealt with. When it is realized that most furniture and other work in which glues are used are ultimately no stronger than the glued joints, the importance of an adequate specification for this product is readily apparent.

Rat and Mouse Poisons.—A draft standard specification for rat and mouse poisons was completed, except that further investigation is necessary in relation to certain of the tests specified. When these investigations have been completed, draft proposals will be circulated to interested parties for comment.

Metal Coatings.—A draft standard specification for electro-deposited metal coatings was circulated for comment during the year. This specification establishes minimum requirements in respect of zinc, cadmium, copper, tin, brass, lead, nickel, and chromium coatings in a way that ensures that plating with these metals will provide an adequate protective coating.

Camelback Retread Rubber Committee

(One meeting)

Tire Retreading.—The draft standard code of practice for the repair, retreading, and recapping of tires, referred to in the last report, was circulated to affected interests for comment, and the comments received were reviewed by the responsible committee. After considering the comments, the committee made extensive alterations to the draft provisions, and withheld the issue of the completed standard specification pending further examination of the revised provisions.

BUILDING STANDARDS

Building Code Sectional Committee

(Four meetings)

Building Code Technical Committee	Eleven meetings.
Structural Welding Committee	Two meetings.
Fire-prevention Committee	Ten meetings.
Theatre By-law Sub-committee	Four meetings.
Panic Prevention By-law Committee	One meeting.
Building Code Conference	One meeting.
Housing Improvement Conference	One meeting.
Conference with Sir Reginald E. Stradling	One meeting.

Parent Committee.—In addition to supervising and reviewing the work carried out under its control, the parent committee examined 5 draft British standards, 1 draft Australian standard, and 28 British standards, and directed the action to be taken to determine the suitability of these for adoption in New Zealand. One of the British standards was recommended for adoption as a New Zealand standard specification.

Chimneys.—Good progress was made with the revision of Section IX, Chimneys, of the original Standard Model Building By-law, Sections I–X, published in 1936 by the New Zealand Standards Institution. The original section is in course of complete revision in light of the experience gained since it was issued, and the revised provisions will be issued as a separate part of the Standard Code of Building By-laws. When completed, they will ensure that chimneys will be so designed and constructed as to resist, within practical limits, stresses to which they may be subjected, including those due to earthquake forces; also to provide insulation adequate to prevent fire risks. Specific provisions will be included in respect of chimneys built of unit masonry, brickwork, reinforced concrete, precast pumice concrete, and fire-resisting metals. The code will also establish provisions relating to minimum reinforcement and linings, in addition to essential dimensions, including those of shafts, breasts, fireplace projections, chimneys, &c., according to the story height and the number of fireplaces served.

Fire Prevention By-law.—During the year a draft standard fire prevention by-law was circulated to interested parties for comment, and the comments received were considered by the Fire Prevention Committee preliminary to reviewing the draft provisions before they are recommended for issue as a standard specification. When issued, this standard specification will incorporate by-law requirements in respect of the control of fires near and in buildings, the storage of materials in buildings, and the provision of first-aid fire-fighting equipment, in addition to special fire hazards arising from the storage and manufacture of inflammable materials and the carrying-out of high-hazard industrial operations, including those which involve the production of explosive and toxic gases and dusts. In this way the relevant provisions of the Standard Code of Building By-laws will be supplemented so as to furnish local authorities with a complete set of adequate and up-to-date by-law requirements relating to fire protection and prevention.

Steelwork and Masonry Construction.—Two further parts of the Standard Code of Building By-laws dealing with steelwork, and masonry buildings of bearing-wall construction, together with the supplementary code of practice for the workmanship of metal arc welding in building construction, were submitted during the year, first to a conference of City Engineers, and subsequently to the Building Code Sectional Committee, which approved them for issue as New Zealand standard specifications. The issue of these further parts will complete the series of standard codes of practice relating to the main methods of building construction.

Theatre By-law.—Further progress has been made with the drafting of the proposed standard theatre by-law referred to in the last report, and it is hoped that during the coming year the draft proposals will be circulated to affected interests for comment.

Panic Prevention By-law.—This code will establish provisions designed to prevent danger from panic in theatres and similar places of assembly due to such causes as earthquake or fire. It will describe the duties of the manager in an emergency, and in appropriate cases will require all performances in theatres over a certain size to be under the supervision of fire-protection watchmen, whose qualifications and duties will be prescribed. Further provisions will relate to panic drill and panic-prevention training of the staff, emergency communication systems, and the display of exit notices.

Adoption of Standard Code of Building By-laws.—At the close of the year Parts I–VI of the Standard Code of Building By-laws had been incorporated in the by-laws of sixty-seven cities and boroughs, in some cases with minor amendments to meet local conditions, so that the provisions of the standard code are now in operation in all municipalities with a population of five thousand or more, with seven exceptions, as well as in many of the smaller districts. This means that some two-thirds of the total urban population now have the protection of comprehensive, uniform modern building by-law requirements, while many of the remaining authorities, including four of the seven larger ones already referred to, are known to have the adoption of the Standard Code under consideration. The adoption of Parts VII–IX of the Standard Code by local bodies is now proceeding on a similar scale, and at the close of the year fifty-nine cities and boroughs had incorporated these parts in their own by-laws. From the interest expressed and inquiries received, it is clear that the further parts to be published during the coming year will also be widely adopted as they are issued.

Following representations from the Municipal Association and the Counties Association to the Government, amending legislation was enacted last year to give Town Boards and County Councils the same power to adopt the standard by-laws in respect of buildings as are enjoyed by cities and boroughs, and this will ensure their still wider use in their present, or modified, form. Indeed, the Counties Association has already requested that the Standard Code of Building By-laws should be reviewed in order to ascertain whether its provisions are entirely suitable for adoption in both semi-urban and rural areas, with the object of modifying it, if this is found necessary or desirable, for either or both of these areas. In this way, any variation of the requirements necessitated by conditions in rural and semi-rural areas will be provided for in a way that will not be inconsistent with the remainder of the standard code and will ensure practical uniformity of requirements. The advantage of this is clearly evident when it is realized that, prior to the enactment of the amending legislation last year, some Town Boards and County Councils, as, for instance, the Johnsonville Town Board and the Heathcote County, included heavily built up urban areas which, in effect, were portions of the adjacent cities of Wellington and Christchurch, but, in the absence of the necessary by-law making powers, could not enforce building by-laws in line with those adopted by the adjoining cities. Apart from the conflict and confusion this situation has involved, it has caused serious difficulties when such urban areas have been incorporated in the adjoining cities.

There is a growing weight of opinion in favour of the enforcement of the Standard Code of Building By-laws over the whole Dominion in order to ensure adequate protection for the whole population against avoidable hazards which may arise anywhere, at any time, due to earthquake, fire, and other conditions which constitute a danger to life and limb. The growing weight of opinion supports the recommendation, contained in the report of the Parliamentary Local Government Committee presented in 1945, that—

> The Standards Institute should be encouraged to continue its work on the preparation of model local body by-laws, particularly in the field of building by-laws. These model by-laws should be made mandatory throughout the Dominion.

Following the tragic fire in the Ballantyne building in Christchurch last year, similar recommendations were made by the committees of the Standards Council responsible for the formulation of the standard building by-laws and by the New Zealand Institute of

Architects. These representations, which urged the enforcement over the whole country of not only the fire protection and prevention codes, but also those relating to earthquake resistance and other hazards to people and property, were referred to the Royal Commission set up to inquire into the fire in Christchurch and necessarily remain *sub judice* pending its report, when the whole matter will receive the attention of the Government.

Housing Improvement.—By agreement of the parties concerned, the Standards Institute undertook the secretarial duties in connection with a conference of representatives of local and Government authorities, convened at the instigation of the Minister of Works and the Minister of Health, to examine the housing standards provided for in proposed regulations under the Housing Improvement Act, 1941, in the light of comments received from their circulation to interested parties. The draft regulations, as amended by the conference, were further circulated for comment by the Housing Division of the Public Works Department.

Sir Reginald E. Stradling.—During the year a visit was paid to the Dominion by Sir Reginald E. Stradling, Director of Building Research in Great Britain, and a member of the General Council of the British Standards Institution. The opportunity was taken to call a conference of members of the committees in the building division, at which Sir Reginald outlined the manner in which standardization had assisted to alleviate the housing shortage in Great Britain, and emphasized its value as a means of putting the results of scientific and other research into practical application with the least possible delay. He also discussed with those present some aspects of the application of standardization to the building industry.

Measurement of Buildings Committee

(Seven meetings)

Measurement of Building Work.—During the year this committee completed the drafting of the remaining twelve parts of the proposed standard method for the measurement of building work, which relate to roof coverings, plumbing work, drainage work, solid-plaster work, fibrous-plaster work, floor and wall tiling work, terrazzo work, resilient floor-covering work, electrical work, painting and decorating work, glazing work, and specified adjustable sums. These twelve parts will be circulated to the interested parties for review and comment, and while this circulation is being carried out the committee will review the first eleven parts in the light of the comments received during their circulation, now completed. The extensive comments on the first eleven parts received from interested professional and trade organizations overseas as well as from within New Zealand soundly indicate that the uniform method of measurement for building work, as a basis for estimating costs and charges, which this standard specification will provide will be of the utmost value to quantity surveyors and to the building trade generally.

Building Materials Sectional Committee

(One meeting)

Glass and Glazing Committee	One meeting.
Terrazzo Products Committee	One meeting.

Parent Committee.—Besides reviewing the work coming under its direction, this committee examined 6 draft British standards and 15 British standards, and directed their circulation to affected interests for comment concerning their suitability for adoption in New Zealand.

Glass and Glazing.—A special committee was set up to consider several British standards which had been received relating to glass and glazing, to direct action necessary to determine whether these were suitable for adoption in New Zealand, and to prepare any such original New Zealand standard specifications as may be found necessary. Attention was given first to the British standard code of practice for glazing and fixing glass in buildings, which was found to be suitable for adoption in New Zealand.

Terrazzo Work.—In accordance with the usual procedure, the emergency standard code of practice for terrazzo work, issued in 1946, was reviewed in the light of the experience gained during its initial use. This review showed that, with a few comparatively minor amendments, the provisions were suitable for retention, and the specification, so amended, was recommended for issue in the regular series of standard specifications.

Building-boards.—With a view to amplifying the existing standard specifications for building-boards and fibrous-plaster wallboards and so making their provisions more effective, arrangements were made for two series of tests to be conducted by the Dominion Physical Laboratory. Samples are to be tested to arrive at a basis for suitable moisture content, impact, and transverse strength tests.

Asbestos Cement Sectional Committee

Asbestos Cement Roofing-sheets Committee	Two meetings.

Asbestos Cement Roofing-sheets.—The standard specification for asbestos cement unreinforced flat sheets and corrugated sheets was amended by the inclusion of provisions relating to corrugated sheets with a 7 in. pitch, in view of the fact that experience has shown sheets with this pitch to be satisfactory. In addition, the committee considered representations from manufacturing interests asking that provision be made for the use of an admixture of alternative mineral fibre in lieu of asbestos fibre only, this request being necessitated by the present shortage of asbestos. Before making any decision in this connection, the committee directed that some tests should be carried out on products made of the substitute admixture in order to determine whether their strength or quality was reduced below safe or satisfactory limits.

Paints and Coatings Sectional Committee

(Four meetings)

Paints and Coatings Executive Committee	One meeting.
Paints and Coatings Technical Committee	One meeting.
Paints Technical Panel	Three meetings.
Conference of Government Purchasing Departments	Two meetings.

Ready-mixed Paints.—As recorded in the last report, the original emergency standard specifications for ready-mixed paints for finishing coats and undercoats for woodwork were reviewed in the light of further serious deterioration in the supply position, and it was decided to withdraw these specifications and to replace them with a new specification framed along different lines. In consultation with the Dominion Laboratory and other authorities, a completely new specification was prepared. This new specification places more stress upon the performance of the product than upon its composition, and is based upon pigment volume instead of the usual basis of weight per gallon. The specification stipulates general composition requirements, quality of raw materials, ratio of pigment to oil, permissible amount of thinner, the manner in which the various materials may be combined, and consistency and performance requirements, including drying and brushing properties, spreading rate, and hiding power. Appendices establish the methods by which the various tests are to be performed. Finally, the new specification provides for the type marking of paint to

indicate the types of pigments used. It has been issued with the concurrence of all the affected interests, and in the opinion of those best qualified to judge, paint conforming to its requirements will provide an adequate protective coating and give satisfactory service. To the extent it is used, therefore, it should avoid the serious economic loss, referred to in the last report, which results from the use of inferior paint.

Code of Painting Practice.—The committee which prepared the standard specification for paint fully realized that even a completely satisfactory paint would not provide an adequate protective coating if it was not applied in accordance with sound trade practice. Consequently, it decided to proceed with the formulation of a standard code of practice for painting which would establish the necessary requirements relating to such matters as preparation of surfaces for painting, selection and preparation of paints, and methods of their application.

Paint Ingredients.—In the course of the formulation of the standard specification for ready-mixed paints it was found that, while separate specifications were in existence for almost all of the ingredients used, there were a few of these for which there was no standard specification. Consequently, it was decided to prepare additional specifications to cover all the raw materials used.

Timber Sectional Committee

(Two meetings)

National Grading Rules Panel	One meeting.
Pinus radiata Grading Rules Committee	One meeting.
Kiln Drying Practice Committee	One meeting.
Plywoods Committee	One meeting.
Timber Ladders Committee	Two meetings.
Timber Ladders Panel	One meeting.
Timber Preservation Committee	One meeting.
Hardwoods Committee	One meeting.

Parent Committee.—The parent committee reviewed the work being carried out under its supervision and also gave initial consideration to 1 draft British standard, 2 British standards, and 1 Australian standard.

National Grading Rules.—The existing standard specification for the classification and grading of New Zealand building timber (National Grading Rules) was amended to include some additional definitions of timber section sizes.

Pinus radiata *Grading Rules.*—Following upon the issue of an addendum to the National Grading Rules which establishes grading rules for *Pinus radiata* framing timbers, the formulation of a similar addendum for *Pinus radiata* weatherboards, flooring, and other boards was undertaken, at the request of the Department of Housing Construction, in order to facilitate the use of *Pinus radiata* boards, which will augment the supply of properly graded timber.

Kiln Drying Practice.—Extensive comments received during the circulation of the draft standard code of practice for the kiln drying of timber necessitated its complete revision by a special subcommittee.

Commercial Plywoods.—Consideration was given by the Plywoods Committee to comments received from affected interests arising out of their initial experience of the use of the existing emergency standard specification for commercial plywoods, with the result that a proposal for an additional grade suitable for high-quality finishing and other special purposes should be included. There is clear evidence that the existence of the standard specification for plywoods has been instrumental in raising the quality of this product, notwithstanding the severe difficulties under which the industry is working due to inadequate supplies and shortage of labour.

Timber Ladders.—The draft standard specification for timber ladders, referred to in the last report, was completed during the year and recommended for adoption as a New Zealand standard specification, subject to review after one year in the light of the experience of its initial use. It was found necessary, however, to restrict its scope to general-purpose ladders because general agreement could not be reached concerning provisions relating to insulated ladders suitable for electrical work. Nevertheless, the specification was prepared in close collaboration with the supply authorities, with the result that ladders conforming to its provisions will be acceptable to these authorities and will afford a valuable protection against accident to all workers and others who have occasion to use them.

Timber Preservation.—The Timber Preservation Committee gave further consideration to the development of standard specifications for other methods of timber preservation in addition to the cold dipping process, which has already been provided for in an existing standard specification. It was found, however, that it was still impracticable to make any further progress with this work until a report was available upon the research work recently carried out by the Plant Diseases Division of the Department of Scientific and Industrial Research, which it is understood is now completed and awaiting printing.

New South Wales Hardwoods.—The existing standard specification for New South Wales hardwood poles was reviewed, and the provisions in respect of marking, branding, and inspection amended to bring these into line with the corresponding requirements in the separate standard specification for other New South Wales hardwoods.

Western Australian Hardwoods.—After careful consideration of the Australian standard grading rules for jarrah and karri, the Hardwoods Committee endorsed these as suitable for adoption as New Zealand standard specifications, thus providing in respect of Western Australian hardwoods grading provisions similar to those already adopted for New South Wales hardwoods. As New Zealand is very substantially dependent upon Australian supplies of essential hardwood timbers, the adoption of these specifications provide a clear definition of what is acceptable to both suppliers and users and thus eliminate the confusion and loss which must otherwise inevitably arise.

Plumbing Sectional Committee

Plumbing By-laws Committee	Seventeen meetings.
Plumbing Supplies Committee	Three meetings.
Vent Horn Panel	One meeting.

Plumbing By-laws.—Throughout the year, the Plumbing By-laws Committee gave consistent attention to the final drafting and editing of the proposed standard code of plumbing and drainage by-laws, which will unify and codify plumbing and drainage by-law requirements throughout the Dominion—a work of some magnitude, due to the comprehensive nature of the code. The proposed standard code is, however, now in a form that embodies to the greatest extent practicable the consensus of experience and opinion, both within New Zealand and overseas. An early opportunity will be taken to refer the completed code to City Engineers in order to acquaint them with its provisions before it is issued for adoption by local authorities.

Plumbing Supplies.—The Plumbing Supplies Committee examined 22 draft British standards, 17 British standards, 5 Australian standards, and 1 Canadian standard. In each case, action was directed to ascertain the suitability of these specifications for use under New Zealand conditions. By the close of the year, 3 of the British standards had been found suitable for use in this country and had been recommended for adoption as New Zealand standard specifications.

Taps.—The draft standard specification for bib, pillar, hose, and globe taps and stop-taps was circulated to the interested parties for comment, as indicated in the last report, and as a result of the consideration of the comments received it was recommended for adoption as a standard specification. It establishes a standard range of sizes and essential dimensions, as well as minimum requirements relating to materials, construction, and finish, and will thus ensure that taps made to its provisions will prove satisfactory in service.

W.C. Pans.—During the year, further attention was given to the drafting of a suitable addendum to the British standard for ceramic washdown W.C. pans which has been adopted as a New Zealand standard specification with the addition of requirements relating to vent horns and intermediate and juvenile pans.

Traps and Wastes.—A draft standard specification for non-ferrous (excluding lead) traps and wastes was circulated for comment during the year.

Ceramics Sectional Committee

Sanitary Ware Committee	Two meetings.

Fireclay Urinals.—A draft standard specification for fireclay urinals was circulated during the year for comment by the affected interests, which included minimum requirements relating to materials, dimensions, construction, and essential features of design.

Ceramic Lavatory Basins.—After careful consideration of the comments received during the circulation of the draft standard specification for ceramic lavatory basins for review and comment, the responsible committee decided that the British standard, B.S. 1188–1944, should be adopted in New Zealand, subject to minor amendments to meet local conditions, thereby contributing towards uniformity of requirements between Great Britain and New Zealand.

COMMERCIAL STANDARDIZATION

Packaging Divisional Committee

Non-metal Containers Sectional Committee	One meeting.
Metal Containers Sectional Committee	One meeting.
Containers Marking Sectional Committee	One meeting.
Dangerous Goods Marking Committee	One meeting.
Commodity Marking Committee	Two meetings.

Parent Committee.—In view of the wide scope of its activities, the Packaging Sectional Committee was reconstituted as a divisional committee, and at its first meeting as such decided to divide its work into three main sections: non-metal containers, metal containers, and marking of containers.

Non-metal Containers.—At its inaugural meeting, the Non-metal Containers Sectional Committee decided to proceed with the formulation of standard specifications for wooden, glass, cardboard, and fibreboard containers, and set up working committees to undertake the drafting of the relevant standard specifications in each case. These specifications will establish requirements in relation to materials, workmanship, construction, size, and capacity for each type of container.

Metal Containers.—Similarly, the Metal Containers Sectional Committee undertook the formulation of standard specifications for tins, cans, canisters, drums, barrels, and large metal containers, and set up two working committees, one to deal with the smaller containers and one with the larger types.

Marking of Containers.—The Containers Marking Sectional Committee divided its work between two working committees, one dealing with ordinary commercial marking and the other with the marking of dangerous commodities, taking the relevant sections of the British Standard Packaging Code as the basis for their work. Ample evidence has been brought forward by shipowners, workers, and other affected interests, based on actual experience, to establish the danger to life and property which exists in the absence of the proper packing and labelling of poisons, corrosive, inflammable, explosive, and other deleterious substances. In view of the urgent need for some control over this aspect of packaging, a tentative standard code is being formulated consolidating the existing requirements in this respect. It is intended that this should later be followed by a more comprehensive codification of all the requirements which are necessary to ensure safety in transport.

Government Purchasing Standards Committee

(Three meetings)

Radiators Panel	One meeting.
General Hardware Panel	One meeting.
Ranges Conference	Two meetings.
Armed Services Stores Subcommittee	One meeting.

Parent Committee.—The parent committee has endorsed all existing New Zealand standard specifications as suitable for use in Government purchasing, subject to any variation which may be stipulated to satisfy special needs not specifically provided for therein. In addition, it has directed the work in connection with the formulation of original Government purchasing standard specifications for items for which there are no regular standard specifications. The importance and value of the work of this committee is evidenced by the substantial economies, which the most competent authorities, supported by factual experience, estimate to average from 15 per cent. to 25 per cent. of total expenditure.

Carbon Paper.—A draft standard specification for carbon paper was prepared and circulated to interested parties for comment.

Red-lead Paint for Structural Steelwork.—A Government purchasing standard specification for red-lead paint for structural steelwork was recommended for adoption. The specification is based upon the long experience of the Public Works Department with the use of this class of paint and will ensure that paint conforming to its provisions will provide an adequate and effective protective coating.

Electric Radiators.—A special panel set up for the purpose prepared a draft Government purchasing standard specification for electric radiators, which was circulated for comment to affected interests. After consideration of the comments received, which resulted in some amendment of the original provisions, the specification was recommended for issue in the Government purchasing series.

Domestic Electric Ranges.—At the request of the Housing Division of the Public Works Department, work proceeded upon the drafting of a Government purchasing standard specification for domestic electric ranges. Preliminary proposals were prepared, in full collaboration with the manufacturing interests, which prescribe minimum requirements relating to dimensions, quality of materials, tests for performance of ovens, in addition to the usual electrical tests for the wiring, elements, and switches, &c.

Armed Services Stores.—A subcommittee, set up by the Government Purchasing Standards Committee to prepare standard specifications for non-warlike stores for the Armed Services, decided at its inaugural meeting that it should await the decision of the

Joint Services Stores Committee as to the items which should be standardized, and confine its activities to the actual formulation of the necessary standard specifications as requested. Arising out of representations made by the Standards Council, arrangements were made for a representative of the Standards Institute to be co-opted to the Joint Services Stores Committee while matters relating to standardization are under consideration. This procedure will ensure, as far as practicable, that personnel service stores will be purchased to standard specifications for similar commodities and so avoid manufacture to service specifications, which are only immaterially different from those for civilian requirements, and so retard production and considerably increase costs.

Publications Sizes and Format Committee

(Two meetings)

Government Publications.—This committee completed the formulation of a standard specification for the format and sizes of Government publications. The specification reduces to six the number of sizes to be used for all Government publications, with the exception of a few other sizes for special purposes. In addition, it sets out the essential information which should be incorporated in each publication. In this way, it will simplify printing, filing, indexing, and reference to the publications concerned.

Hospital Temperature Charts Committee

(One meeting)

Clinical Charts.—The draft standard specification for clinical charts, referred to in the last annual report, was completed during the year. It has been formulated in full consultation with the Hospital Boards, medical, and other authorities concerned, and will be instrumental in introducing a very desirable uniformity throughout the Dominion that will facilitate the marking and reading of the information recorded.

Cost Accounting

Cost Accounting Terminology Panel	One meeting.
Footwear Costing Subcommittee	Two meetings.

Cost Accounting Terminology.—A special panel met to attend to the final editing of the proposed standard code of cost accounting terminology, in the course of which it included two further definitions relating to marginal costing, an aspect of cost accounting which has recently been given increased attention.

Footwear Costing.—The Footwear Costing Sub committee completed a draft standard method of presenting footwear costs that will provide a uniform method of presentation of all costs incurred in the manufacture of footwear up to and including its preparation for distribution, and include a model cost sheet the use of which should greatly assist the analysis of footwear-production costs on a comparative basis and also prove of great convenience to manufacturers in their factory accounting.

DOMESTIC COMMODITY STANDARDIZATION

Commodity Divisional Council

(One meeting)

Parent Committee.—The parent committee reviewed and directed the work of the commodity standardization being carried out under its control. It also considered 2 British standards and referred them to appropriate working committees for detailed consideration.

Furniture

Household Furniture Committee	One meeting.
Household Furniture Executive Committee	Two meetings.
Government Office Furniture Committee	Three meetings.
Bedding Mattresses Committee	One meeting.

Household Furniture.—Some minor amendments were made to the standard specification for household furniture, arising from consideration of comments received from interested parties. Consideration was also given to the formulation of a standard specification for the preservative treatment of furniture timbers in order to afford protection against insect and fungi attack in a way that would not impair surface polish and finish. After initial investigation, arrangements were made for samples of preservatives to be tested in actual use as a basis for further deliberation.

Government Office Furniture.—Part I, Tables and Desks, of this proposed standard specification was reviewed and revised in the light of the comments received as a result of its circulation, and it was recommended for issue in the Government purchasing series. A further part of the specification, relating to desk chairs and casual-interview chairs, was completed to the draft stage.

Bedding Mattresses.—Good progress was made with the drafting of a standard specification for bedding mattresses which, by establishing minimum requirements in relation to such factors as quality of ticking, filling and sewing materials, tufting, and workmanship, will supplement the standard for household furniture.

Footwear Sectional Committee

(Three meetings)

Slippers Committee	One meeting.
Slippers Panel	One meeting.
Canvas and Rubber Footwear Committee	One meeting.
Gum Boots Committee	One meeting.
Footwear Survey Advisory Panel	Two meetings.

Parent Committee.—In addition to supervising and directing the work being carried out under its control, the parent committee gave careful attention to the existing standard specifications for footwear, which, in the light of experience of their use, were revised and consolidated into one comprehensive document in a way that will facilitate the use of its provisions and of the Standard Mark in relation to almost all classes and types of footwear. All reference to the pre-welt method of sole attachment was deleted, as it was not considered to be a suitable type of construction to bear the Standard Mark.

Slippers.—At the request of a manufacturing interest, minimum requirements relating to men's and women's woolly-lined slippers are being formulated for incorporation in the standard specification for footwear. They will specify the quality of the uppers, linings, and bottoms, the method of sole attachment, workmanship, and finish.

Canvas and Rubber Footwear.—A draft standard specification for canvas and rubber footwear, which stipulates requirements deemed adequate to ensure satisfactory service and performance, was recommended for circulation to affected interests for review and comment.

Rubber Footwear.—The draft standard specifications for goloshes and rubber boots, including gum boots, referred to in the last report, were revised in the light of comments received during their circulation, and recommended for adoption as standard specifications. They will establish minimum requirements which will ensure that footwear conforming to them will be of the high standard which has come to be associated with New Zealand manufacture in this industry.

Survey of Children's Feet.—Good progress has been made with the measuring of the feet of five thousand children representing a cross-section of the community. Notwithstanding interruptions due to the poliomyelitis epidemic, measurements of the feet of two thousand eight hundred children had been taken at the close of the year under review. Also, during the year, a preliminary analysis was made of some of the measurements then available in order to check the accuracy of the work and to arrive at some tentative conclusions before undertaking the main analysis of the measurements when these are complete. Experimental lasts in three widths for one length of foot were made, and shoes manufactured on these lasts will be fitted to the corresponding feet in order to establish a reliable relationship between actual foot measurements and the last measurements. This will facilitate the main examination of the measurements when the survey is completed and the interpretation of this data on a practical basis.

Textiles Sectional Committee

(One meeting)

Textiles Testing Committee	One meeting.
Women's and Girls' Underwear Sizes Subcommittee	One meeting.
Girls' Outerwear Sizes Committee	Two meetings.
Industrial Clothing Committee	One meeting.
Shirt and Pyjama Sizes Committee	One meeting.
Gloves Committee	One meeting.
Gloves Approvals Advisory Panel	One meeting.

Parent Committee.—The parent committee considered the reports of the committees working under its direction and examined 1 draft British standard and 2 British standards, which were directed to the relevant working committees for detailed consideration. In response to a request from the International Organization for Standardization, it submitted comment relating to a uniform definition of the term "rayon."

Textiles Testing.—The proposed standard specification for general methods for the testing of woven textiles, referred to in the last report, was completed in draft form during the year and recommended for circulation for review and comment. This standard specification will establish uniform methods of test in respect of all the factors which affect the quality of textiles and will thus prepare the way for the formulation of standards for textile materials generally. In the meantime, the standard methods of test will be of valuable assistance to testing and research authorities, manufacturing, distributing, and consumer interests.

Women's and Girls' Underwear Sizes.—The Women's and Girls' Underwear Sizes Committee made further progress with the preparation of a draft standard specification establishing minimum basic measurements in relation to size designations. It is increasingly evident, from the numerous representations being received from retailers and consumers, that the adoption of standard sizes will be much appreciated by these interests. Apart from the confusion and conflict which results when different terms are used by different manufacturers to designate the same sizes, and conversely, when the same term has different meanings, it is a matter of considerable importance that the basic measurements relating to each size should be adequate. Otherwise, undue strains are imposed upon the garment, which greatly reduce its wearing life and involve substantial economic loss.

That the adoption of standard sizes is desirable, and, indeed, essential, is clearly indicated by advice coming to hand from overseas concerning the extent to which the clothing trades in other countries are undertaking this work. One of the main features

of the reports of all the working parties which were set up in England to examine the clothing industries and to recommend the manner in which they could be rendered most efficient was the emphasis laid upon the need for standards for sizes, quality of materials, and making. Of particular interest are the following recommendations contained in the report on the light clothing industry :—

11. The standards which are now in operation under the Utility scheme in respect of quality of materials, method of making, and size measurements should be continued. If the Utility scheme is withdrawn, unless some general system of standards has been brought into operation in the meantime, standards similar to those under the Utility scheme should be promulgated and enforced.

12. The proposed Clothing Industries Joint Development Council should deal continuously with the question of standards for the products of the industry. It should encourage the United Committee to continue the excellent work they are doing for all sections of the Light Clothing Industry in conjunction with the British Standards Institution on the problem of sizes and standards for the products of the industry, and the investigation into what standards should be established for the various kinds of garments, and for the provision of suitable stands, in conjunction with the appropriate authorities and organizations.

Girls' Outerwear Sizes.—At the meeting of the Girls' Outerwear Sizes Committee, agreement was reached to proceed with the formulation of a standard specification for sizes of frocks, gym frocks, blouses, and coats, and to this end a panel was set up to undertake the necessary preliminary investigation and drafting.

Men's Working Garments.—The original emergency standard specification for men's working garments was reviewed in the light of experience of its initial use and, in a slightly amended and more effective form, was recommended for issue in the regular series of standard specifications.

Shirt and Pyjama Sizes.—Similarly, the original emergency standard specifications for sizes for men's and boys' shirts and pyjamas was reviewed and recommended for issue in the regular series of standard specifications, subject to some minor amendments.

Leather Dress Gloves.—The standard specification originally issued in the emergency series was reviewed and endorsed for reissue in the regular series of standard specifications. Also, the Gloves Approvals Advisory Panel continued to examine specimen tranks and gloves submitted with applications for licences to use the Standard Mark.

Household Utensils

Household Tinware Utensils Committee	Two meetings.
Pressed Steel Household Utensils Committee	Two meetings.
Mincers Committee	Two meetings.
Carpet Sweepers Committee	One meeting.

Household Tinware Utensils.—The emergency standard specification for household tinware utensils was reviewed prior to being recommended for incorporation in the regular series of standard specifications. Subject to minor amendments, the provisions were endorsed as being suitable for retention on a permanent basis. The specification establishes minimum requirements for eight classes of household tinware utensils, including cooking utensils, saucepans, milk billies, colanders, watering cans, meat safes, and babies' baths.

Pressed Steel Household Utensils.—Draft standard specifications were completed for pressed steel kitchen sinks and frying pans and enamelled pressed steel saucepans and pie dishes. These draft specifications establish minimum requirements relating to quality and utility, including such factors as nature and thickness of the base metal, and the quality of the enamel coating and its resistance to acids, as well as the methods of attaching handles, and the like. In the case of sinks, the position and diameters of tap holes and wastes, and over-all sizes, are also specified, to facilitate planning and installation.

Mincers, Bean Slicers, and Juice Extractors.—A draft standard specification for mincers, bean slicers, and juice extractors was circulated for comment to the interested parties, and during consideration of the comments received it was found necessary to refer it to a special sub-committee to examine the dimensions to be specified and to formulate the necessary test requirements. Further action was deferred pending the report of the sub committee and comments from overseas manufacturers.

Carpet Sweepers.—Good progress was made with the consideration of the comments received upon the draft standard specification for carpet sweepers following its circulation to the interested parties for comment.

School Stationery and Requisites Sectional Committee

(One meeting)

School Paper Stationery Committee	One meeting.
School Requisites Committee	Two meetings.

School Paper Stationery.—The standard specification for school paper stationery was reviewed, and it was found necessary, in view of the critical position relating to paper supplies, to provide for two grades of paper until such time as the supply position eases.

School Requisites.—As the initial project in its programme of work relating to school requisites, the School Requisites Committee completed a draft standard specification for school rulers, which was circulated for review and comment. The draft specification provides for two types of rulers, one with simple gradations, for junior classes, and other suitable for use up to Form II. The nature of the gradations, the accuracy of both linear and angle measurements, and the quality of the timber and its finish are specified in a way that will materially assist manufacturers, distributors, education authorities, and the parents of the children. By specifying a standard type of ruler, it will avoid the confusion and handicap which exists when different children in the same class obtain rulers of different design and with different gradations.

Paua Shell Committee

(Three meetings)

Paua Shell Subcommittee	One meeting.

Paua Shell Jewellery.—The original emergency standard specification for paua shell jewellery and ornaments was amended by deleting reference to ornaments and to include provision for unmounted jewellery. Subject to review after a period of six months, the specification was recommended for issue in the regular series of standard specifications.

Foodstuffs

Bread Committee	One meeting.
Bread Approvals Committee	Three meetings.
Bread Panel	One meeting.

Bread Weights.—The standard specification for bread was reviewed in the light of representations received from affected interests, and it was recommended that the weights at present specified should be amended so as to stipulate a minimum weight of 1 lb. 12 oz. and multiples thereof for all loaves of ordinary bread.

Special Breads.—The Bread Approvals Committee continued to examine applications for the approval of special breads in terms of the standard specification for bread, and to grant approvals in appropriate cases subject to conditions which would ensure that the breads concerned were in fact substantially different from ordinary bread and were baked in loaves of suitable weights.

PRIMARY INDUSTRY STANDARDS

Spray-pumps Committee	Two meetings.
Milk Bottles Committee	One meeting.
Butchers' Knives Committee	One meeting.
Cow Covers Committee	One meeting.

Spray-pumps.—At the request of a manufacturer, a standard specification for hand-operated spray-pumps of the type used by horticulturists and fruitgrowers was completed and recommended for issue as a standard specification.

Milk Bottles.—A standard specification establishing minimum requirements for the type of milk bottle at present in use was completed in draft form during the year, subject to the carrying-out of tests as a basis for strength requirements. The specification will be amended to provide for an improved type of bottle with a more hygienic closure as soon as sufficient data can be obtained to enable the requirements to be formulated.

Butchers' and Slaughtermen's Knives.—The proposed standard specification for butchers' and slaughtermen's knives was completed in draft form and circulated to the affected interests for review and comment. It prescribes minimum requirements relating to quality of steel, grinding and polishing of the blade, security of the handle, and the general finish of the knife.

Cow Covers.—The original emergency standard specification for cow covers was reviewed in the light of experience of its initial use and, subject to minor amendments, was recommended for issue in the regular series of standard specifications.

Farm Implements Sectional Committee

Tillage Machinery Parts Committee	One meeting.
Tillage Machinery Parts Panel	One meeting.

Tillage Machinery Parts.—Initial investigation of the question of preparing standard specifications for tillage machinery parts revealed that this involved a considerable amount of exploratory work to determine those items to which standardization could be first applied with the most advantage. Good progress was made with the survey during the year, and it is anticipated that in the coming year it will be possible to proceed with the formulation of draft standard specifications. The appropriate committees have supported the proposal to establish a farm machinery testing station, since this will greatly assist research relating to the development of standard specifications and the testing of machinery for conformity with such specifications after they have been issued.

Dairy Sectional Committee

Dairy Machinery and Plant Committee	One meeting.
Dairy Products and Requisites Committee	One meeting.
Alkaline Cleaners Panel	One meeting.

Dairy Machinery and Plant.—During the year, the Dairy Machinery and Plant Committee resumed activity after being necessarily in recess since the outbreak of war. Its initial programme of work includes the formulation of standard specifications for dairy

equipment manufactured in New Zealand, such as milking-machines, cheese and milk vats, milk and cream cans, strainers, buckets, and other utensils used in the milking-shed. A special sub committee was set up to prepare standard specifications for sheet-metal dairy plant.

Dairy Products and Requisites.—The Dairy Products and Requisites Committee continued its work of formulating standard specifications for the testing of dairy products and for the materials used in dairy factories. This work has proceeded in full collaboration with the corresponding committees of the British Standards Institution under the reciprocal arrangement initiated prior to the war and resumed last year. This involved the receipt and study of the minutes of forty-five meetings of British committees and the despatch of comments to these committees incorporating the results of experience in New Zealand and the needs of this Dominion. This collaboration, which leads to the adoption of uniform Empire standards as far as practicable, greatly facilitates both the procurement of materials and equipment from Great Britain and the sale of our produce in that country.

Sampling and Chemical Analysis of Butter.—The draft standard specification referred to in the last report was circulated to interested parties for comment and reviewed in the light of the comments received. Subject to final checking of the "wet-ashing" and filtration methods for estimating the copper and iron content, the standard specification is ready for issue.

Sampling and Chemical Analysis of Cheese.—Draft proposals were circulated for comment during the year and recommended for adoption as a standard specification, subject to amendments found necessary after consideration of the comments received.

Reductase Test on Milk.—The comments received from the circulation of a draft standard specification, as referred to in the last report, were considered during the year. These comments indicated that further examination and consultation with affected interests would be necessary before agreement could be reached concerning a standard method which would be acceptable for all the purposes for which this test is used. Consequently, a final recommendation concerning the adoption of the standard specification was deferred until this aspect could be clarified.

Alkaline Cleaners.—A draft standard specification was circulated during the year for comment by the interested parties and was reviewed by a special panel in the light of the comments received. The panel's report has yet to be considered by the parent committee before the standard specification is recommended for adoption.

Other Projects.—The Dairy Products and Requisites Committee also gave attention to the development of standard specifications for coated tinfoil, anatto and other dyes, vegetable parchment for wrapping dairy products, plastic and other protected type dairy thermometers, the analysis of acid and rennet casein, cheese-cloth, butter-muslin, cheese-bandages, and cheese-caps.

INTERNATIONAL STANDARDIZATION

The Council of the International Organization for Standardization (I.S.O.), of which the New Zealand Standards Institute is a member, met in Zurich in June, 1947, to review the work of the organization and to discuss its collaboration with other international bodies, including the International Civil Aviation Organization, International Labour Organization, United Nations Educational, Scientific and Cultural Organization, Federation Internationale de Documentation, International Commission on Illumination, and International Dairy Federation. Representatives of these bodies, who attended the meeting, expressed the need for intensification of international standardization within their respective spheres and the willingness of their organizations to collaborate fully in this work.

The Council sanctioned the establishment of 67 Technical Committees to undertake international standardization projects, as follows :—

ISO/TC/1	Screw Threads.
*ISO/TC/2	Bolts, Nuts, and Accessories.
*ISO/TC/3	Limits and Fits.
ISO/TC/4	Ball and Roller Bearings.
*ISO/TC/5	Pipes and Fittings.
*ISO/TC/6	Paper Sizes.
*ISO/TC/7	Rivets.
*ISO/TC/8	Shipbuilding Details for Sea Navigation.
*ISO/TC/9	Shipbuilding Details for Inland Navigation.
*ISO/TC/10	Drawings (General Principles).
ISO/TC/11	Test Pressures for the Acceptance of Stationary Boilers and Unification of Boiler Construction Codes.
*ISO/TC/12	Quantities, Symbols, Units, Conversion Tables.
ISO/TC/13	Axle Heights for Machines.
ISO/TC/14	Shaft Ends.
ISO/TC/15	Couplings.
ISO/TC/16	Keys.
*ISO/TC/17	Iron and Steel.
ISO/TC/18	Commercial Zinc.
*ISO/TC/19	Standard Diameters and Preferred Numbers.
ISO/TC/20	Aircraft.
ISO/TC/21	Fire Fighting Equipment.
*ISO/TC/22	Automobiles.
ISO/TC/23	Agricultural Machines.
ISO/TC/24	Sieves.
ISO/TC/25	Cast Iron and Cast Steel.
ISO/TC/26	Copper and Copper Alloy.
ISO/TC/27	Solid Mineral Fuels.
ISO/TC/28	Petroleum Products.
*ISO/TC/29	Small Tools.
*ISO/TC/30	Measurement of Fluid Flow.
ISO/TC/31	Tires, Rims, and Valves.
*ISO/TC/32	Splined Shafts and Hubs.
ISO/TC/33	Refractories.
*ISO/TC/34	Agricultural Products.
*ISO/TC/35	Raw Materials for Paints, Varnishes, and Lacquers.
*ISO/TC/36	Cinematography.
ISO/TC/37	Terminology.
*ISO/TC/38	Textiles.
*ISO/TC/39	Machine Tools.
ISO/TC/40	Upholstery Materials.
*ISO/TC/41	Pulleys and Belts.
*ISO/TC/42	Photography.
ISO/TC/43	Accoustics.
*ISO/TC/44	Welding.
*ISO/TC/45	Rubber.
*ISO/TC/46	Documentation.
*ISO/TC/47	Chemistry.
*ISO/TC/48	Laboratory Glassware.
*ISO/TC/49	Thread Tolerances.
*ISO/TC/50	Shellac.
ISO/TC/51	Pallets for Unit Load Method of Materials Handling.
*ISO/TC/52	Metal Food Containers.
*ISO/TC/53	Packaging of Frozen Foods.
ISO/TC/54	Essential Oils.
ISO/TC/55	Timber (Sizing, Defects).
ISO/TC/56	Mica.
ISO/TC/57	Surface Finish.
*ISO/TC/58	Gas Cylinders.
*ISO/TC/59	Building Construction.
*ISO/TC/60	Gears.
ISO/TC/61	Plastics.
*ISO/TC/62	Sheet and Wire Gauges (Designations of Diameters and Thicknesses).
ISO/TC/63	Screw Threads for Glass Containers.
ISO/TC/64	Methods of Testing for Performance and Efficiency of Fuel-using Equipment, excluding Internal Combustion Engines.
ISO/TC/65	Manganese Ore.
ISO/TC/66	Determination of Viscosity.
ISO/TC/67	Material for Pipe Lines and Other Fixed Installations in the Field of the Petroleum Industry.

International committees have been instituted for the 35 projects marked * above. In 27 cases, New Zealand has agreed to participate in the development of the projects, in 6 cases the projects are still being examined to determine the extent to which participation is desirable, and in the remaining 2 cases (photography and motion pictures) it has been decided that the Dominion can make no useful contribution.

EXCHANGE OF STANDARD SPECIFICATIONS

Under the reciprocal exchange arrangement which exists among the English-speaking and several other countries, copies of all specifications formulated in New Zealand were sent to the standardizing bodies in these countries. In return, during the year under review, New Zealand received 4,314 similar documents from 25 standards and other organizations, as set out in Table B hereunder. This reciprocal arrangement assists to ensure that, in so far as is practicable and desirable, uniform standard specifications are adopted by the countries concerned. Following the increased attention that has been

given to international standardization, the exchange of specifications was extended during the year to the national standards organizations in Austria, Belgium, Brazil, Finland, Holland, Hungary, Russia, and Switzerland.

Table B.—Specifications Received from Other Countries

Source of Supply.	New, Revised, and Interim Standards.	Draft Standards.	Total.
National Standardizing Bodies			
British Standards Institution	114	194	308
Standards Association of Australia	38*	14	52
Canadian Standards Association	15	..	15
South African Bureau of Standards	4	28	32
American Standards Association	53	..	53
Association Francaise de Normalisation (France)	1,935	15	1,950
Associacas Brasileira de Normas Teonicas (Brazil)	70	..	70
Dansk Standardiseringsraad (Denmark)	62	3	65
Hoofdcommissie Voor de Normalisatie in Nederland (Holland)	12	4	16
Institut Belge de Normalisation (Belgium)	11	9	20
Institute for Industrial Research and Standards (Eire)	..	12	12
Instituo Uruguayo de Normas Tecnicas (Uruguay)	21	..	21
Magyar Onszagas Szabnanyok (Hungary)	17	..	17
Norges Standardiserings Forbund (Norway)	26	..	26
Österreichischer Normenausschuss (Austria)	6	..	6
Schweizerische Normen-Vereinigung VSM-Normalienbureau (Switzerland)	1,218	..	1,218
Standards Institution of Palestine	5	28	33
Sveriges Standardiseringskommission (Sweden)	63	..	63
Vsesojuznyj Komitet Standardtov (U.S.S.R.)	77	..	77
Other Organizations			
American Society for Testing Materials	81	..	81
Canadian Government Purchasing Standards Committee	30	..	30
Indian Railway Board	27	..	27
Society of Automotive Engineers	9	..	9
United States Department of Commerce (National Bureau of Standards)	17	..	17
United States Treasury Department (Federal Specifications)	96	..	96
Totals	4,007	307	4,314

* Includes 4 emergency standards.

SALES OF STANDARD SPECIFICATIONS

Sales of standard specifications totalled 7,922 volumes, representing some 13,000 individual specifications, to a value of £1,218 4s. 9d.

ACKNOWLEDGMENTS TO MEMBERS OF COMMITTEES AND ORGANIZATIONS

In conclusion, it is desired to acknowledge and to record appreciation of the valuable service rendered gratuitously by the members of the various committees of the Standards Council and by the many other persons representing Government Departments, local authorities, professional, trade, and industrial organizations, including those from distant centres who have spent considerable time in travelling, all of whom have contributed so generously towards the work reviewed in this report.

A. R. GALBRAITH, F.R.S. (Edin.), M.Inst.C.E.,
Chairman, Standards Council.

APPENDIX

NEW ZEALAND STANDARD SPECIFICATIONS ADOPTED, REVISED, AMENDED, AND WITHDRAWN DURING THE YEAR

1. New Zealand Standard Specifications Adopted

Mechanical Engineering

N.Z.S.S.

524 Cold rolled copper sheets and strip (half-hard and annealed) for general purposes up to and including 3 S.W.G. (0·252 in.) thick and 42 in. wide; being B.S. 899–1940.

525 Dial gauge for linear measurements; being B.S. 907–1940 (including Amendments Nos. 3 and 4, PD 445 and PD 497).

526 Malleable cast iron and cast copper alloy pipe fittings for steam, water, and gas; being B.S. 1256–1945.

527 Flat bottomed railway rails; being B.S. 11–1936.

528 Wrought steels (carbon and alloy steels) T.A.C. 1–33 steels E.N. 1–58; being B.S. 971–1944.

529 Taping drill sizes; being B.S. 1157–1944 (including Amendment No. 1, PD 304).

530–532 Deoxidised and arsenical coppers; being B.S. 1172/1174–1944.

530 Phosphorous deoxidised non-arsenical copper for general purposes; being B.S. 1172–1944.

531 Tough pitch arsenical copper; being B.S. 1173–1944.

532 Phosphorous deoxidised arsenical copper; being B.S. 1174–1944.

533 High carbon steel gas cylinders for carbon dioxide, nitrous oxide and ethylene; being B.S. 1287–1946.

534 Manganese steel gas cylinders for carbon dioxide, nitrous oxide and ethylene; being B.S. 1288–1946.

535 Screen analysis of coal (other than pulverised coal) for performance and efficiency tests on industrial plant; being B.S. 1293–1946.

536 Manila ropes for general purposes; being B.S. 431–1946 (*amended to meet New Zealand requirements*).

537 Wrought iron and mild steel hooks of the "C" or Liverpool type; being B.S. 591–1935 (including Amendment No. 1, CE(ME) 2780, and Amendment No. 2, PD 327).

538 Carbon steel castings for ships and for marine engine and general engineering purposes; being B.S. 592–1940.

590 Wrought iron for general engineering purposes; being B.S. 51–1939.

591 General purpose Acme screw threads; being B.S. 1104–1943.

592 Electrodes for metal arc welding in the construction of ships; being B.S. 782–1938.

605 Method for direct reading hardness testing (Rockwell Principle); being B.S. 891–1940.

Electrical Engineering

539 Dimensions of prefocus lampcaps and lampholders: being B.S. 1164–1944.

540 Jute insulated cables for electricity supply at voltages not exceeding 660 volts: being B.S. 1216–1945 (including Amendment No. 1, PD 519).

541 Colours for signal glasses for railway signalling purposes: being B.S. 623–1940.

542 Micanite for commutator separators; being B.S. 626–1946.

543 Cored solder, resin filled; being B.S. 441–1932 (including Amendment No. 1, PD 21).

544 Synthetic resin (amonoplastic) moulding materials and mouldings; being B.S. 1322–1946.

545 Air depolarised primary cells: being B.S. 1335–1946.

Chemistry

581 Code for temperature measurement; being B.S. 1041–1943 (including Amendment No. 1, PD 437).

582 Symbols for use on diagrams of chemical plant; being B.S. 974–1941.

583 Test code for horizontal retorts and intermittent vertical chambers; being B.S. 819–1938.

584 Technique for determining the Rideal-Walker co-efficient of disinfectants; being B.S. 541–1934 (including Amendment No. 1, PD 141).

585 Modified technique of the Chick–Martin test for disinfectants; being B.S 808–1938.

601 Fish liver oils. (*Superseding* N.Z.S.S. E.216.)

603 Special salt glazed ware pipes with chemically resistant properties for use for drains for effluents from chemical works in cases where pipes complying with B.S. 65 are unsuitable; being B.S. 1143–1943.

604 Lac; being B.S. 954–1941.

609 Capsules containing vitamins A and D.

1. New Zealand Standard Specifications Adopted—*continued*

Timber Industry

N.Z.S.S. 547–548, 551–580 — Grading rules for jarrah and karri; being S.A.A. O.10, 11, 14, 43–1938.

Textile Industry

586 Moisture in relation to textile materials; being B.S. 1051–1942 (subject to amendment).
587 Designation of twist in single yarns, folded yarns and cables; being B.S. 946–1941 (subject to amendment).
588 Shrinkage of laundering of woven cotton and linen fabrics; being B.S. 1118–1943.

Building Construction and Materials

95 N.Z. standard code of building by-laws.
Part X.—Masonry buildings of bearing wall construction.
Part XI.—Steelwork.
521 Ready mixed paint. (*Superseding* N.Z.S.S. E.229.)
523 Joiners' glue. (*Superseding* N.Z.S.S. E.205.)
595 Hollow load-bearing concrete masonry blocks.

Household Commodities

610 Paua shell jewellery and ornaments. (*Superseding* N.Z.S.S. E.218.)

Primary Industries

607 Cow covers. (*Superseding* N.Z.S.S. E.230.)

Plumbing

594 Drainage pipes; being S.A.A. A.35–1937 with amendment.

Miscellaneous

522 Clinical charts.
596 Spray pumps.
598 Sizes and format of Government publications.
608 Measurement of performance of hearing aids.

2. Revised New Zealand Standard Specifications

11 Wrought iron and mild steel hooks for cranes, chains, slings and general engineering purposes, excluding building operations; being B.S. 482–1945.
22 Nomenclature, definitions and symbols for welding and cutting; being B.S. 499–1939.
80 Traction motors and associated rotating electrical machines; being B.S. 173–1941 (including Amendment No. 1, PD 559).
106 Photo electric type portable photometers; being B.S. 667–1946.
180 Acceptance tests for steam turbines; being B.S. 752–1940.
191 Sampling and analysis of coal and coke for performance and efficiency tests on industrial plants; being B.S. 735–1944.
276 Forms and dimensions of boiler rivets as manufactured ½ in. to 2 in. diameter; being B.S. 425–1943.
329 Capillary fittings and compression fittings of copper or copper alloy, for use with light gauge copper tube; being B.S. 864–1945.
361 Rubber hose with woven fabric reinforcement; being B.S. 924–1943 (including Amendment No. 1, PD 360, and Addendum, PD 492).
379 Flameproof enclosure of electrical apparatus; being B.S. 229–1946 (including Amendment No. 1, PD 535).
405 Sockets for wire ropes for general engineering purposes; being B.S. 463–1946.
431 Visual indicator lamps; being B.S. 1050–1945.
452–467 Footwear.
486 Hearing aid equipment (valve type).

3. Amendments to New Zealand Standard Specifications

N.Z.S.S.	
10	Lancashire and Cornish boilers; being B.S. 537–1934 (including Amendment No. 3, PD 235).
19	Steel eye-bolts with collars; being B.S. 529–1945 (including Amendment No. 1, PD 394).
25	Truncated Whitworth form threads; being B.S. 84–1940 (including Memorandum No. 1, PD 328, and Amendment No. 3, PD 377).
30	High tensile brass bars and sections; being B.S. 250–1940 (including Amendments Nos. 1 and 2, PD 135 and PD 317).
31	Naval brass (Admiralty mixture) bars and sections (suitable for machining and forging) and forgings; being B.S. 251–1940 (including War Emergency Amendment No. 1, PD 136, and Amendment No. 2, PD 318).
32	Naval brass (special mixture) bars and sections (suitable for machining and forging) and forgings; being B.S. 252–1940 (including War Emergency Amendment No. 1, PD 136, and Amendment No. 2, PD 318).
49	Brass bars (high speed screwing and turning); being B.S. 249–1940 (including Amendments Nos 1 and 2, PD 135 and PD 317).
71	Enamelled copper wire; being B.S. 156–1943 (including Amendment No. 1, PD 313).
75	Motors and generators with Class "A" insulation; being B.S. 168–1936 (including Amendments Nos. 1, 2, and 3, PD 299, PD 418, and PD 604).
77	Electrical performance of fractional horse-power electric motors; being B.S. 170–1939 (including Amendments Nos. 1 and 2, PD 298 and PD 605).
86–87	Overhead line-wire material (non-ferrous); being B.S. 179/180–1938 (including Amendment No. 4, PD 105).
134	The testing of the zinc coating on galvanized wire; being B.S. 443–1939 (including Amendment No. 2, PD 340).
136	Identification colours for gas cylinders; being B.S. 349–1932 (including Amendment No. 3, PD 578).
141	Galvanized articles other than wire; being BS 729–1937 (including Amendment No. 2, PD 339).
164	Internal combustion engines (excluding carburettor type engines); being B.S. 649–1935 (including Amendment No. 1, PD 514).
165	Mild steel rigging screws and stretching screws and turnbuckles; being B.S. 716–1936 (including Amendments Nos. 1 and 2, CE (ME) 2662 and PD 526).
167	Flameproof electric motors; being B.S. 741–1937 (including Amendment No. 2, PD 296).
168	New South Wales desapped or dressed desapped hardwood poles (including Amendment No. 2).
196	Test sieves; being B.S. 410–1943 (including Amendment No. 2, PD 495).
213	Paper insulated cables for use in mines; being B.S. 760–1937 (including Amendment No. 2, PD 334).
259	Code for commercial tests for steam boilers; being B.S. 845–1939 (including Amendment No. 1, PD 111).
288	Pump tests; being B.S. 599–1939 (including Amendment No. 1, PD 368).
305	Graduated pipettes and straight pipettes; being B.S. 700–1937 (including Amendments Nos. 1 and 2, PD 372 and PD 549).
323	Toolmakers' straight edges; being B.S. 852–1939 (including Amendment No. 1, PD 541).
328	Steel straight edges; being B.S. 863–1939 (including Amendment No. 1, PD 387).
339	Engineers parallel (steel); being B.S. 906–1940 (including Amendment No. 1, PD 577).
356	Portable chemical fire extinguishers of the carbon tetrachloride type (1 quart), (including Amendment No. 1, July 1947).
371	Round strand and flattened strand steel wire ropes for colliery winding purposes; being B.S. 236–1941 (including Amendments Nos. 2 and 3, PD 345 and PD 412).
372	Round strand and flattened strand steel wire ropes for colliery haulage purposes; being B.S. 330–1941 (including Amendments Nos. 3 and 4, PD 346 and PD 411).
385	Rubber mats for electrical purposes; being B.S. 921–1940 (including Amendments Nos. 3 and 4, PD 375 and PD 492).
396	Paper insulated cables for electricity supply; being B.S. 480–1942 (including Amendments Nos. 2, 3, and 4, PD 332, PD 511, and PD 576).
404	Workhead spindles for guiding machines; being B.S. 1089–1942 (including Amendments No. 1, PD 98).
436	Manganese steel gas cylinders; being B.S. 1045–1942 (including Amendment No. 1, PD 403).
437	Methods for testing glues (bone, skin and fish glues); being B.S. 647–1938 (including Amendment No. 2, PD 434).

4. Government Purchasing Standard Specifications Adopted

N.Z.S.S.	
G.P.1	Red lead paint for structural steel.
G.P.2	Government office furniture, Part 1—Desks.

5. New Zealand Emergency Standard Specifications Adopted

N.Z.S.S.

E.238–241 Phosphor bronze and leaded bronze ingots and castings; being B.S. 1058/61–1942.
- E.238 Phosphor bronze ingots; being B.S. 1058–1942.
- E.239 Phosphor bronze castings; being B.S. 1059–1942.
- E.240 Leaded phosphor bronze ingots; being B.S. 1060–1942.
- E.241 Leaded phosphor bronze castings; being B.S. 1061–1942.

E.242 Mild steel wire for general engineering purposes; being B.S. 1052–1942.

E.250 B.A. bolts, screws, nuts and washers; being B.S. 57–1944.

E.251–260 Coppper alloy ingots and castings—leaded gunmetal castings; being B.S. 1021/28–1944 and B.S. 1158–1944 (including Memorandum, PD 226).
- E.251 Gunmetal ingots; being B.S. 1021–1944.
- E.252 Gunmetal castings; being B.S. 1022–1944.
- E.253 Leaded gunmetal ingots; being B.S. 1023–1944.
- E.254 Leaded gunmetal castings; being B.S. 1024–1944.
- E.255 Cast brass ingots. Type A; being B.S. 1025–1944.
- E.256 Brass castings. Type A; being B.S. 1026–1944.
- E.257 Cast brass ingots. Type B; being B.S. 1027–1944.
- E.258 Brass castings. Type B; being B.S. 1028–1944.
- E.259 Leaded gunmetal ingots; being B.S. 1158–1944.
- E.260 Leaded gunmetal castings; being B.S. 1159–1944.

E.261 Fusion-welded mild steel tanks for fresh water-pressure supply systems.

6. Amendments to New Zealand Emergency Standard Specifications.

E.86 Screw gauge tolerances; being B.S. 919–1940 (including Amendment No. 1, PD 207).

E.149 Rubber conveyor and elevator belting; being B.S. 490–1943 (including Amendments Nos. 1 and 2, PD 265 and PD 468, and Addendum, PD 492).

E.151 Rubber joint rings for gas mains; being B.S. 772–1942 (including Amendment No. 1, PD 326, and Addendum, PD 492).

E.152 Rubber joint rings for water mains and sewers; being B.S. 674–1942 (including Amendment No. 1, PD 325, and Addendum, PD 492).

E.165 Bronze oil retaining bearings; being B.S. 1131/1943 (including Amendment No. 1, PD 248).

E.169 Rubber suction and discharge hose with woven fabric and wire reinforcement; being B.S. 1102–1943 (including Amendment No. 1, PD 361, and Addendum, PD 492).

E.173 Rubber hose with cotton braided reinforcement; being B.S. 796–1943 (including Amendment No. 1, PD 359, and Addendum, PD 492).

E.224 Friction surface rubber transmission belting; being B.S. 351–1944 (including Amendment No. 1, PD 365, and Addendum, PD 492).

E.177 Synthetic resin bonded fabric sheet; being B.S. 972–1941 (including Amendment No. 1, PD 410).

E.226 Metric screw threads, System Internationale; being B.S. 1095–1943 (including Amendment No. 1, PD 249, and Memorandum No. 1, PD 329).

E.227 Bolts, nuts and set-screws (machine bolts), B.S.W. and B.S.F.; being B.S. 1083–1943 (including Amendment No. 1, PD 250).

E.187 Circular screwing dies; being B.S. 1127–1943 (including Amendment No. 1, PD 401).

7. New Zealand Emergency Standard Specifications Withdrawn

N.Z.S.S.

E.2 Raid shelter (domestic).

E.3 Galvanized iron or steel binding wire.

E.4 Steel sheets for transformers.

E.5 Tinplate.

E.6 Galvanized barbed steel fencing wire.

E.7 Rolled steel sections for structural purposes.

E.8 Black and hot dipped zinc-coated (galvanized) welded and seamless steel pipe for ordinary uses.

E.9 Seamless steel boiler tubes for high pressure service.

E.10 Lap-welded and seamless steel and lap-welded iron boiler tubes.

E.11 Stranded galvanized steel guy and messenger wire.

E.12 Hard-drawn copper wire.

E.13 Zinc-coated (galvanized) iron or steel telephone and telegraph line wire.

E.15 Plain galvanized steel fencing wire.

E.16 Tempered steel spring wire.

E.18 Rolled steel bars for concrete reinforcement.

E.19 Cold drawn steel wire for concrete reinforcement.

E.20 Structural steel for shipbuilding.

E.21 Structural steel for bridges and general building.

7. New Zealand Emergency Standard Specifications Withdrawn—*continued*

N.Z.S.S.	
E.22	Cold rolled mild steel strip.
E.23	Copper tape (annealed).
E.24	Copper wire (annealed).
E.25	Cadmium-copper wire (hard drawn or annealed).
E.26	Cadmium-copper tape (annealed).
E.28	Code for raid shelter.
E.28	Supplement No. 1, Review and discussion in the light of recent information, together with notes on the protection of window openings.
E.31	Stirrup pump fire extinguishers.
E.33	Code of practice for protection against flying glass.
E.49c	Memorandum to consumers and purchasers regarding the standardization of alloy steel with the object of alloy conservation.
E.53	Bituminous paint and bituminous compound for the protection of steelwork; being BS/ARP. 2.
E.62	Closet for use in air-raid shelters; being BS/ARP. 43.
E.75	Diameters of filter pads for gas producers for motor vehicles.
E.76	Free-cutting brass rod.
E.77	Black steel bars for the production of machined parts for general engineering purposes.
E.78	Bright steel bars for the production of machined parts for general engineering purposes.
E.81	Steel for cooperage hoops.
E.97	Simplified practice for the manufacture of handkerchiefs.
E.100	Battery containers for carbon type hearing aids.
E.101	Simplified practice for the manufacture of corsetry.
E.110	Single loop bale wire.
E.111	Safety matches.
E.112	Precast concrete drainage pipes. (*Superseded by* N.Z.S.S. 594.)
E.115	Calcium carbide.
E.116	Zinc base alloys for die casting.
E.117	Brass rods for cold riveting.
E.119	Vegetable parchment for butter wrapping.
E.128	Oxalic acid (technical grade).
E.129	Turpentine.
E.130	Hydroquinone (paradihydroxybenzene).
E.131	Aluminium alloy ("Y" alloy).
E.132	Aluminium powder (Aluminium-bronze-powder).
E.133	Metol (Mono-methyl-paraminophenol sulphate).
E.136	Book papers, fine writing papers, chemical wood pulp tablet paper, white wove envelope paper (excluding extra strong sulphate).
E.141	Paraffin wax.
E.142	Ingot tin.
E.143	Terne plate (long ternes).
E.205	Joiners' glue. (*Superseded by* N.Z.S.S. 523.)
E.216	Fish liver oils. (*Superseded by* N.Z.S.S. 601.)
E.218	Paua shell jewellery and ornaments. (*Superseded by* N.Z.S.S. 610.)
E.229	Ready mixed paint for exterior finishing coats for woodwork (white and light tints). (*Superseded by* N.Z.S.S. 521.)
E.230	Cow covers. (*Superseded by* N.Z.S.S. 607.)
PD5	Steel for steel tips for army boots.
PD6	Hollow drilled steel for use in metalliferous mines.
PD8	"Monel" metal sheets for the manufacture of hospital sterilisers.
PD10	Galvanized, corrugated roofing sheets and plain galvanized sheets.
PD11	Soft brass rods for riveting.
PD12	Antimony ingots.
PD13	3 per cent. nickel steel round bars (annealed).
PD14	Special self-hardening tool steel (Armstrong).
PD16	Enamelled quality steel sheets.
PD17	Stainless steel sheets.
PD18	Cast steel for the manufacture of cutlery.
PD21	Hot rolled black steel sheets.

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