

1945
NEW ZEALAND

NEW ZEALAND STANDARDS COUNCIL

(DEPARTMENT OF INDUSTRIES AND COMMERCE)

ANNUAL REPORT FOR THE YEAR 1944-45

Presented to both Houses of the General Assembly by Leave

The Hon. D. G. SULLIVAN, Minister of Industries and Commerce.

SIR,—

I have the honour to submit herewith the annual report of the New Zealand Standards Council for the year ended 31st March, 1945.

I have, &c.,

L. J. SCHMITT,

Permanent Head, Department of Industries and Commerce.

A. R. GALBRAITH, M.Inst.C.E., F.R.S.E., Chairman, New Zealand Standards Council.

L. J. McDONALD, Secretary, New Zealand Standards Council.

REPORT

ALTHOUGH it has been possible to present a somewhat fuller report this year, the continued need to conserve paper prevents more than a general review of the activities of the Standards Council.

MEETINGS OF COMMITTEES

During the year, 158 meetings of standing committees were held, in addition to 25 formal conferences, a total of 183 meetings.

STANDARD SPECIFICATIONS ISSUED

Regular Standard Specifications.—During the year 15 additional Regular Standard Specifications were adopted, of which 7 relate to electrical engineering, 5 to mechanical engineering, and 3 to chemistry. These are all British Standards which have been found suitable for adoption in New Zealand after careful examination by the appropriate committees and by the affected interests. In addition, a revision of a British Standard previously adopted as a New Zealand Standard Specification has been endorsed as a revision of the New Zealand Standard Specification. Two other British Standards which were adopted as New Zealand Standard Specifications have now been superseded by War Emergency British Standards which have been adopted as New Zealand Emergency Standard Specifications in place of the two regular Standards. Three Standard Specifications have been withdrawn during the year, bringing the total of existing Regular Standard Specifications to 433.

Emergency Standard Specifications.—Thirty-five additional Emergency Standard Specifications were adopted during the year, of which 15 are British Emergency Standards, the remaining 20 being original New Zealand Standard Specifications. The 35 additional Emergency Standards comprise 15 commodity standards, 10 relating to mechanical engineering, 4 to electrical engineering, 1 to civil engineering, and 5 to chemistry. In addition, 2 original Emergency Standard Specifications have been revised.

The total number of Regular and Emergency Standard Specifications adopted during the year, as listed in the Appendix hereto, is therefore 50. The year's work has increased the number of Emergency Standard Specifications to 197 and the Regular Standard Specifications to 433, making a grand total of 630 New Zealand Standard Specifications at the conclusion of the year under review.

STANDARD MARK



Trading interests have shown a growing appreciation of the value of the Standard Mark as a reliable means of certifying the quality of their goods. During the year, 220 applications for licenses to use the Standard Mark were lodged by applicants engaged in 15 different industries. Licenses have been issued in 193 cases, while the remaining applications were still under consideration at the close of the year. The following table sets out the industries concerned, together with the number of licenses granted in each case:—

Industry.	Licenses granted.	Industry.	Licenses granted.
Household furniture	150	Flock	2
School-paper stationery	9	Plywoods	2
Footwear	9	Electric plugs and sockets and ceiling-roses ..	1
Paints	4	Fire-extinguishers	1
Regenerated lubricating-oil	4	Flushing-cisterns	1
Leather dress gloves	3	Cup-greases	1
Milking-machine rubberware	3	Fencing-wire	1
Soaps	2		

In addition, under the Board of Trade (Meat Grading) Regulations 1943, all meat sold in abattoir districts throughout New Zealand is required to be graded in accordance with the relevant Standard Specification and marked with a Standard Mark in the form of coloured stripes. As a result, graded meat is now sold in all the retail shops in these districts, while footwear, furniture, and school stationery bearing the Standard Mark is coming on to the retail market in increasing quantities. The certification scheme based on Standard Marks is therefore operating in respect of commodities in such general use that its advantages and benefits are being fully appreciated by manufacturers, distributors, and consumers.

There is a growing appreciation on the part of manufacturers of the value of the Standard Mark as a means of protecting them against the false competition of inferior goods which simulate high-quality goods. The Standard Mark is also demonstrating its value as a means of establishing fuller confidence and more harmonious relationships between producers, distributors, and consumers. Finally, consumers are showing a keen appreciation of the facility offered, which enables them to know and compare the quality and utility of the commodities they purchase.

The introduction of a certification scheme based on the use of the Standard Mark has aroused considerable interest in other English-speaking countries, as has been evidenced by requests for information concerning the manner in which the scheme operates which have been received from the United States of America, the United Kingdom, and Australia. Canada and South Africa have also shown an interest in this matter, while the view has been expressed by responsible standardization authorities overseas that the certification scheme now in operation in New Zealand will provide valuable experience which the United Nations Standards Co-ordinating Committee might use at a forthcoming international conference as a basis for the consideration of the adoption of similar certification schemes by the other participating countries.

The purpose of such certification schemes is well stated in the *Bulletin of the Canadian Standards Association* of 30th September, 1944, which states:—

“The practice of certification may be described as the displaying of evidence that certain materials or products conform to accepted standards of quality and/or performance.

“ . . . The evidence may be in the form of a label, attached to the product, or in a statement in a producer's or agent's catalogue, or in a published record of certified products. The value of the certification is no greater than the recognized integrity of the issuer of the certificate.

“Whatever form the procedure may follow, the importance of the principles of certification is becoming more and more recognized by producer and consumer alike. There is a growing appreciation of the fact that the consumer is entitled to know upon what basis of quality and performance his investment in a product is made.

“Many departmental stores, packing-houses, and food-producers, particularly, have long recognized the value of well-advertised brands, but unfortunately modern advertising practices have in many cases been misleading, and, without independent confirmation, there can be no assurance to the purchaser, except by the process of practical experience, that the claims for any product are justified.

“Consequently certification can best be practised by an independent agency that possesses or has access to a qualified testing laboratory and is willing to issue evidence that certain products have met the required tests prescribed by accepted standards which, preferably, are nationally recognized.

* * * * *

“The acceptance of a voluntary certification practice on manufactured articles, generally, could not help but be of value to both producer and consumer. The manufacturer may sell his wares as ‘certified’ products, the advertising value of which is generally accepted, and the consumer, on the other hand, may purchase with confidence.”

TECHNOLOGICAL STANDARDIZATION

The technical committees have again been occupied mainly with the examination of draft and Standard Specifications received from the national Standards organizations in the other English-speaking countries, with the object of forwarding comments from New Zealand for the consideration of the originating bodies and ascertaining the suitability of the specifications for adoption as New Zealand Standard Specifications.

Civil Engineering Sectional Committee.—This committee considered seven British Standards and one Australian aircraft Standard. Of the British Standards, one was recommended for adoption as a revision of an existing New Zealand Standard Specification, and one was referred to a special committee for further examination.

Septic Tanks.—Draft proposals have been completed for an original Standard Specification for septic tanks for ordinary domestic use. By establishing minimum requirements for materials, dimensions, and design, this Specification will facilitate the most economic construction of septic tanks which are known to be adequate and efficient.

Mechanical Sectional Committee.—Twenty-five British Standards and four draft British Standards were considered by this committee during the year. Eleven War Emergency British Standards were recommended for adoption as New Zealand Emergency Standard Specifications, and eight British Standards for adoption as Regular New Zealand Standard Specifications, one with a local amendment to suit New Zealand conditions.

Bucket-pump Fire-extinguishers.—The 4-gallon bucket pump specified in the existing Specification has been found to be too heavy for use by women and children in schools, hospitals, and the like. As bucket pumps are considered to be the most efficient first-aid fire-fighting appliances, the existing Standard Specification is now being revised with the object of providing for a 2½-gallon size, in addition to the 4-gallon size.

Fusion-welded Steel Tanks.—At the request of the interested parties, a Standard Specification is being prepared for fusion-welded steel tanks, which are widely used in country districts throughout New Zealand for fresh-water pressure supply systems. It has been found that, in the absence of adequate minimum requirements in respect of design and construction, many of these tanks are unable to withstand the necessary pressure, with the result that several tanks have burst due to this cause. The Standard Specification when issued will avoid the potential source of injury and the economic loss which such defective equipment involves.

Electrical Sectional Committee.—During the year twenty-two British Standards were examined by this committee. Of these, five were recommended for adoption as regular New Zealand Standard Specifications, and two as New Zealand Emergency Standard Specifications. One amendment to a British Standard already adopted in New Zealand was recommended for incorporation in the corresponding New Zealand Standard Specification.

Domestic Electrical Appliances.—Arising out of requests from several widely representative responsible interests, attention has been given to the question of preparing Standard Specifications for the complete range of domestic electrical equipment with the object of eliminating the fire and shock hazards involved. The establishment of such Standard Specifications would enable the Standard Mark to be used as a means of certifying that equipment on which it appeared was so constructed as to be safe, efficient, and economical in use.

Chemical Sectional Committee.—This committee has examined eleven British Standards, four amendment slips, two Australian Standards, and nineteen American Standards. Of these, two British Standards have been recommended for adoption as New Zealand Standards, while four amendments to British Standards previously adopted in New Zealand have been recommended for incorporation in the New Zealand Standards.

Inks.—Five Standard Specifications for Writing Inks, Drawing Inks, Stamp Pad Inks, and Ink Powder have been completed and issued. These Specifications have been prepared in consultation with the local manufacturers, who have been called upon to supply the whole of the Dominion's requirements in view of the fact that imported inks are no longer available.

Rot-proofing.—A special committee has continued to consider the question of preparing Standard Specifications for the rot-proofing of textile materials. Throughout the year, further testing of various textiles treated with different preservatives has been carried out with the object of obtaining the basic data necessary for the establishment of sound conclusions upon which to base the appropriate Standard Specification.

Timber-preservation.—The necessity to utilize non-heart timber for building-construction makes this project of the utmost urgency, as it is only by effective preservative treatment that sap timbers can be rendered sufficiently durable and resistant to insect and fungi attack. An investigatory committee representative of the various interested Government Departments, was formed during the year to examine all the available information and to reach agreement upon the nature of the provisions which should be included in a Standard Specification. After a thorough examination of the whole position, the committee concluded that although pressure impregnation constitutes the most effective treatment, in the absence of adequate and suitable equipment for this type of treatment, it should proceed with the formulation of an interim Emergency Standard for the dipping process which will ensure the use of the most satisfactory treatment permitted by the equipment available. A draft Specification has been completed for submission to a committee fully representative of all the affected interests.

Paints and Coatings Sectional Committee.—With the establishment of New Zealand Standard Specifications for the complete range of paint ingredients and also for the more commonly used ready-mixed paints, the work of this committee has become largely a matter of revising and extending the existing Standard Specifications from time to time, and reviewing similar specifications received from Standards organizations overseas. During the year under review the committee has examined two British Standards, two British A.R.P. Standards, thirteen British amendment slips, two Australian draft Standards, fifteen Australian Standards, one Australian A.R.P. Standard, two American Standards, and one South African Standard. Preliminary consideration has also been given to the formulation of original New Zealand Standard Specifications for priming paints for use on matai and totara timbers, roof paints, pigments for colouring tiles, spray painting, and surface finishes. The existing Standard Specifications for white traffic paint and paint for use on Service vehicles have also been revised in the light of the experience gained during their initial use.

Wellington District Committee for Paint Investigation.—The appointment of a representative of the Standards Institute to the Wellington District Committee for Paint Investigation has provided a valuable liaison whereby the results of the investigations carried out by the committee are conveyed to the Standards organization and related to the work of the Paints and Coatings Sectional Committee.

BUILDING STANDARDS

Building Code Sectional Committee.—During the year progress has been made with the formulation of three further Parts of the Standard Code of Building By-laws, in addition to which a Standard by-law in respect of boardinghouses has been completed, and a draft Standard Fire Prevention By-law approved for circulation for comment.

Masonry Buildings of Bearing Wall Construction.—The revision of Section IV of the original Standard Model Building By-law has been completed in draft form, and will be issued as a Part of the new Standard Code of Building By-laws. A comprehensive report on the damage suffered in the Wellington District during the earthquakes of 1942 has assisted the committee to formulate provisions which will eliminate methods of design and construction which are inadequate to resist seismic stresses. Attention has also been given to different forms of masonry construction for which approval has been sought in terms of the Standard Code of Building By-laws. It is important to encourage rather than hinder the development of these types of construction, since in some cases they provide in some degree alternatives to timber construction, and offer a means of overcoming the limitation on building-construction, and housing in particular, which might otherwise be occasioned by diminishing timber resources. The use of hollow-concrete-block construction has already been approved for single-story dwellings, while its extension to other types of buildings and the use of other similar constructions are now being investigated.

Monolithic Concrete Construction.—Proposals for an additional Part of the Standard Code of Building By-laws dealing with monolithic concrete construction have been completed. This is a type of construction which has not been fully exploited either in New Zealand or overseas, but which seems to offer considerable advantages both in simplification of design and conservation of materials. In particular, this type of construction makes full use of the walls and floors of a building to carry the loads and stresses, instead of relying upon independent columns and beams. This means that all the materials and cost entering into the construction of a building are utilized for strength and stability, whereas in framed construction a considerable proportion of the materials and cost serves only to provide non-structural elements such as walls and partitions. Moreover, by taking full advantage of the compressive strength of the concrete, substantial economies are effected in reinforcing-steel, thereby reducing the demand for imported material. Finally, the work of the designer is facilitated, because he is able to determine the amount and arrangement of the reinforcement according to arbitrary rules instead of computing the stresses in each case.

Steelwork.—Owing to the demands made upon the Standards organization and the committee members by other more pressing projects, it has not been possible to proceed further with the steelwork Part of the Standard Code of Building By-laws, or the related Code of Practice for the Workmanship of Metal Arc-welding, referred to in the last report. The importance attached to the issue of these two Standards at an early date has, however, in no way diminished, and the earliest opportunity will be taken to proceed with them with the object of bringing them to completion.

Licensing and Control of Boardinghouses.—As a corollary to Part VIII—Residential Buildings—of the Standard Code of Building By-laws, a separate Standard By-law for the Licensing and Control of Boardinghouses and Similar Premises has been issued. This by-law establishes minimum requirements in respect of accommodation, services, and facilities, in addition to which it provides for the licensing of all boardinghouses in which there are more than five boarders. This Standard By-law completes a series of Standards designed to give local authorities adequate control over all residential buildings, with the object of ensuring satisfactory living conditions. The joint effect of the by-laws is to place residential buildings in their various categories—*i.e.*, boardinghouses, lodging-houses, and private hotels, on the one hand, and private dwellings, semi-detached dwellings, and self-contained flats on the other. In this way residential buildings are required to be either adequate, self-contained dwelling units, or boardinghouses licensed by the local authority. Thus, the so called “rooming-houses” and other undesirable types of residential buildings which have caused so much concern to the authorities have been eliminated.

Fire Prevention By-law.—A draft Standard Fire Prevention By-law has been completed for circulation for comment. This by-law, which will be published separately from the Standard Code of Building By-laws, lays down requirements which will minimize fire hazards arising from the storage of inflammable materials in unsuitable places, the lighting of fires near buildings, and so on. The

new by-law is based to a large extent upon various regulations at present in force, which have been co-ordinated and amplified where necessary. In this way the requirements of different authorities, which may in some cases be confusing and even conflicting, are embodied in one comprehensive document, which will enable more effective control.

Standard Method for the Measurement of Buildings.—At the request of the Quantity Surveyors' Institute, a committee has been set up to formulate a Standard method of measurement for building-work. In the absence of a method of measurement for building-work, according to the nature of the work and the varying conditions and circumstances under which it is carried out, there can be no common basis upon which to estimate costs and charges, with the result that disputes and conflict must necessarily arise in this regard. Although a British Standard method of measurement has been available for some years, this is not entirely suitable for use in New Zealand owing to the different materials used and the different trade practices followed here. The committee therefore took the British Standard as the basis for its deliberations, and is amending this where necessary to bring it into line with local practice.

Plumbing Sectional Committee.—During the year the review of the draft Standard Code of Plumbing and Drainage By-laws, in the light of the extensive comments received during its circulation to affected interests, has continued. As anticipated in the last report, this has proved a lengthy undertaking, with which, however, the committee has made very satisfactory progress.

Adoption of Standard By-laws by Local Authorities.—Parts I to VI of the Standard Code, which were issued in 1939, have now been adopted by fifty boroughs and cities, which, with seven exceptions, include all municipalities with a population of five thousand or over. There is every indication that Parts VII to IX will be adopted on at least as wide a scale, and probably more extensively, since Parts VIII and IX in particular apply to the great majority of small buildings, of the type with which the smaller boroughs are mainly concerned. Already forty-two boroughs and cities have intimated that they intend to adopt Parts VII, VIII, and IX, and have placed orders for reprints of these Parts in the form of their own by laws. In this way each local authority concerned avoids the necessity to make its own printing arrangements, thereby saving the cost of resetting the type for each job.

The preparation of the Standard Code by each local authority independently would greatly increase the cost to the community, since the preparation of comprehensive and up-to-date building by-laws requires the services of highly trained technical experts. In the absence of the Standard Code, each local authority would be in the position of having to arrange for its own by-laws to be prepared at considerable cost. Moreover, no single local authority can draw upon the collective experience and knowledge of the most competent engineers and architects, both in New Zealand and overseas, which is made available through the Standards procedure. Consequently, even at greatly increased cost, by-laws prepared independently could not be nearly so comprehensive in scope.

The economic savings to the country as a whole resulting from the preparation of a single Standard Code by the Standards organization, and its adoption by the various local authorities on a wide scale, are incalculably greater than the savings in the cost of preparing and printing the by-laws referred to above. Since each local authority would otherwise prepare a different set of by-laws citing different specifications and calling for the use of different materials, dimensions, types of equipment, and methods of installation and construction, architects, engineers, and builders would be called upon to work to these different requirements, involving varying costs for the same class of work. This, in turn, would result in needless diversification of the types and classes of material and equipment required to satisfy the by-laws of each separate authority, and would mean that manufacturers and distributors would be called upon to make and stock an unnecessarily wide range of commodities, with consequently greatly increased production and distribution costs.

Prior to the formulation of the Standard Code of Building By-laws, the majority of local-body by-laws were seriously out of date and did not include provisions for modern methods of construction. Consequently, they did not take into account many of the hazards involved, and, in particular, very few by laws required buildings to be earthquake-resistant. This is well illustrated by the experience in Wellington during the earthquake shocks experienced some two or three years ago, which caused damage amounting to some £1,000,000 in Wellington City alone, and to approximately £2,000,000 in the Wellington Province. It is noteworthy, however, that buildings which complied with the Standard Code of Building By-laws suffered, at the most, superficial damage only which did not require structural repairs. For example, chimneys constructed in accordance with the principles laid down in the Standard Code suffered relatively little damage, whereas the cost of replacing the thousands of other chimneys which were destroyed must have been considerably in excess of £100,000. There could be no clearer evidence of the value of the Standard Code in monetary terms alone than the established fact that the Dominion would have been saved perhaps £2,000,000 if all buildings had been constructed in accordance with its principles. Of far greater importance, however, is the value of the Building Code as a safety precaution against injury and loss of life. Had the recent earthquake been of longer duration the monetary loss would have been very much greater, while the loss of life and personal injury would have reached catastrophic proportions.

Building Materials Sectional Committee.—Complementary to the formulation of the Standard Code of Building By-laws and the related Standard by-laws, the standardization of building materials, processes, and methods of test has proceeded with the object of providing the various Standard Specifications which are required for citation in the Standard by-laws in order to ensure the use of the most suitable and adequate materials and methods.

Roofing-tiles.—The Standard Specification for Earthenware Roofing-tiles, referred to in the last report, has been completed, while that for concrete roofing-tiles, and also the Code of Practice for the Fixing of Roofing-tiles, are nearing completion.

Asbestos-cement Roofing-sheets.—Good progress has been made with the drafting of a Code of Practice for the Fixing of Asbestos-cement Roofing-sheets.

Plywoods.—A Standard Specification providing for three grades of commercial plywoods has been issued. By laying down minimum requirements in respect of the number and thickness of plies, the thickness of the finished plywood, the assembly of the plywood, including glueing and pressing, and the defects which are permitted in the various grades, this Standard Specification will prove of valuable assistance to manufacturers and users, and will do much to ensure the satisfactory use of a local product as part of the building programme.

Fire-resistance Ratings.—Consequent upon the adoption of the British Standard for Small-scale Tests to determine Fire Resistance, the question of providing for full-scale tests has been further examined. The completion of a Standard Specification for these larger tests is dependent upon the installation of suitable testing equipment, the erection of which, it is understood, is now receiving consideration.

Joinery and Profiles.—A committee has been set up to undertake the standardization of profiles for weatherboards, flooring, matchlining, and mouldings, and is basing its work upon a comprehensive survey of the profiles at present being produced which is being carried out by the State Forest Service. On the basis of this information the committee is selecting the profiles which, according to experience, will prove most satisfactory in use without unduly hampering production. A draft Standard Specification for Profiles for Joinery and Mouldings has been approved for circulation for comment, while a similar specification in respect of weatherboards, flooring, and matchlining is now being drafted.

The diversity of profiles at present called for by users, together with the lack of uniform practice in machining profiles, has created a problem which has long exercised all concerned with the timber industry. Manufacturers have been obliged to carry an excessive number of cutter heads and to set up machines for the production of uneconomical runs of various patterns, or, alternatively, to carry excessive stocks to meet the unduly diversified demand. The user, too, has been equally inconvenienced by the delay and expense entailed in obtaining matching sizes for extension and repair work. It is hoped, however, that 80 per cent. of the dimension requirements for flooring, weatherboarding, and matchlining will be met by the Standard profiles now being selected. There will, of course, be a continued demand for special profiles for repair and extension work, but the establishment of a Standard Specification will have the effect of gradually eliminating non-standard profiles.

The importance of standardization in relation to joinery and timber generally is well indicated by the fact that one of the biggest local manufacturers of joinery has stated that the full application of standardization to joinery would reduce the cost of this item by an average of £75 for each house.

Builders' Hardware.—At the request of the Organization for National Development, Standard Specifications are being prepared for builders' hardware in order to facilitate the transfer of production from munitions to civilian requirements as a phase of post-war reconstruction, and to enable our local industries to operate on the most economic basis. By specifying an adequate, yet not unduly diversified, range of hardware, the Standard Specifications will assist to maintain local production at a high level, while at the same time reducing production costs to a minimum.

Timber Ladders.—A special committee has been set up to prepare a Standard Specification for Timber Ladders suitable for general use, including use by electric linesmen. In addition to specifying the dimensions and strength of the runners and rungs, the Standard Specification will provide for reinforcing in such a way that the reinforcing-wire will not involve the risk of shock to linesmen using the ladders in electrical installation and repair work.

PRIMARY INDUSTRIES

Farm Implements Sectional Committee.—After consultation with the manufacturing and other affected interests, a Farm Implements Sectional Committee has been set up to explore the whole question of the application of standardization to farm implements with the object of securing for the farming industry the benefits which can be achieved in this way. At its initial meeting the sectional Committee set up two working committees, one dealing with tillage-machinery parts, and the other with harvesting machinery.

The advantages which will accrue to the users of agricultural machinery through standardization of wearing parts are very substantial. Standardization would probably mean a reduction in the cost of these parts and elimination of costly and annoying delays in cultivation, harvesting, &c., due to inability to obtain replacements for parts which are not interchangeable. In particular, these considerations apply to such parts as plough-shares, knife sections for mowers and binders, points for the various types of cultivators, teeth and bolts for diamond harrows, disks for disk ploughs, threads for grease and oil cups, and so on. Manufacturers will also benefit progressively by the elimination of an unnecessary multiplicity of types, since concentration of production upon a limited but adequate range will permit longer production runs with consequently reduced production costs. It will also avoid the necessity for manufacturers and distributors to carry stocks of an unnecessary diversified range of wearing parts.

Garden Implements.—Draft Standard Specifications have been prepared for shovels, rakes, spades, and hoes. These draft Specifications establish minimum requirements in respect of such factors as the strength of handles, the attachment of blades, &c., to the handles, composition and thickness of metal, with the object of ensuring that garden implements conforming to these provisions will prove efficient in use and have an adequate service life.

Produce Sacks.—The Standard Specification for Produce Sacks, referred to in the last report, has been completed and issued, and is now in use. This Specification establishes minimum requirements for sacks for the packing of grain or other heavy produce, but does not relate to sacks used for packing fertilizer, lime, cement, or grain weighing less than 45 lb. to the bushel. It will shortly be reviewed with the object of making provision for a larger sack for the packing of light produce.

DOMESTIC COMMODITY STANDARDIZATION

Footwear Sectional Committee. The sixteen Emergency Standard Specifications for footwear referred to in the last report have been revised and extended so as to cover the greater part of the footwear being manufactured in New Zealand. In the course of the revision the opportunity has been taken to amend one or two minor provisions which, while not affecting materially the quality of the footwear, prevented some manufacturers from conforming strictly to the provisions of the Standard Specifications, with the result that they were unable to use the Standard Mark as a reliable certification of quality. The revision has been carried out in full collaboration with the interested parties, including manufacturers and consumers, and according to reliable information on the part of manufacturers the revised specifications will now bring within their scope approximately 90 per cent. of the footwear normally produced. It is anticipated that the issue of the revised specifications will lead to the use of the Standard Mark by a correspondingly greater number of manufacturers.

Infants' Footwear.—Further progress has been made with the drafting of a separate Standard Specification for Infants' Footwear below size 7, and a draft Specification has now been prepared. With the completion of the revision of the general-footwear Specifications referred to above, it will be possible to concentrate attention upon special types of footwear such as infants' footwear and nurses' footwear, referred to in the following paragraph.

Nurses' Footwear.—The need to complete the revision of the general-footwear Specifications at an early date has limited the attention which it has been possible to give to the formulation of a Standard Specification for Nurses' Footwear. Progress has, however, been made with this project, and shoes manufactured in accordance with the provisions of a draft Specification are being tested in the main nurses' training centres in order to test their suitability before the Standard Specification is issued.

Footwear Lasts.—Continued attention has been given to the formulation of uniform basic measurements for footwear lasts with the object of ensuring that an adequate range of properly graded sizes will be available as the basis for the manufacture of correctly fitting footwear. As a corollary to the preparation of this Standard Specification, arrangements have been made for a survey to be conducted of the feet of five thousand children representing an adequate cross-section of the community. The data obtained from this survey will indicate the basic measurements and the range and gradation of sizes which are necessary to meet all requirements.

Gum Boots.—Preliminary proposals for a Standard Specification for Gum Boots have been prepared and submitted to the manufacturing interests for initial review.

Textiles.—*Garment Sizes:* A Standard Specification for sizes for Men's and Boys' Shirts and Pyjamas has been completed. In addition, much preliminary work has been carried out in connection with garment sizes generally, as a result of which it is hoped that the formulation of suitable Standard Specifications will shortly be proceeded with.

Oiled Canvas Clothing.—As a result of representations received from a branch of the New Zealand Farmers' Union, a committee has been set up to prepare Standard Specifications for oilskins, leggings, sou'-westers, and other oiled canvas clothing. A draft Specification has been completed and circulated for comment.

Vegetable Grades.—During the year the seven Standard Specifications for swedes, carrots, parsnips, kumaras, pumpkins, cabbages, and silver beet, referred to in the last report, were revised in the light of the experience gained during their initial use. In addition, similar Specifications were prepared and issued for a further seven vegetables (cauliflowers, celery, peas, beans, leeks, rhubarb, and beetroot), so that Standard grades are now available for almost all vegetables. The Government Departments concerned have continued to use these Standard Specifications in connection with contract purchasing, while the Specifications are, of course, available for use by other institutions and purchasers generally, and in the course of time will doubtless come into general use.

Meat Grades.—After a period of initial application in the Wellington District, the grading of meat for the retail market in accordance with the Standard meat grades has been extended to all abattoir districts in the Dominion, so that consumers generally are now in a position to purchase meat according to grade, with a 20-per-cent. and 40-per-cent. discount for second and third grades respectively.

Bread.—Throughout the year all bread baked in New Zealand has been required to conform to the Standard Specification in terms of the Breadmaking Industry Control Order 1943. The Bread Approvals Committee has held regular meetings to consider applications from bakers for the approval of special breads which they consider to be sufficiently different from ordinary breads to warrant their being baked and sold under different names at different prices. As a result of the work of this committee, consumers are no longer confused by a multiplicity of so-called special breads, many of which could not readily be distinguished, and are now afforded a reliable basis for the exercise of their discrimination in the purchase of these breads.

EXCHANGE OF SPECIFICATIONS AND RELATED DOCUMENTS

In accordance with the reciprocal arrangement with the other national standardizing bodies, the regular exchange of draft and Standard Specifications has continued throughout the year. In this way each country concerned benefits from the investigation and research work carried out in the other countries, and thereby avoids the necessity of investigating problems which have already been solved by the corresponding authorities overseas. It is desired to record the fullest appreciation of the generous co-operation and assistance which has been extended at all times by the relevant overseas organizations and institutions, as well as the valuable help which has been derived from their various publications and documents.

Specifications received from other Countries

	Standard Specifications.	Draft Specifications.	War Emergency Specifications.	Draft War Emergency Specifications.	Totals.
British Standards Institution	85	139	26	3	253
Standards Association of Australia	36	9	7	..	52
Canadian Standards Association	24	..	..	..	24
South African Standards Institution	3	..	..	..	3
American Standards Association	98	..	44	..	142
United States Department of Commerce (National Bureau of Standards)	38	..	1	..	39
United States Treasury Department (Federal Standards)	193	..	2	..	195
Canadian Government Purchasing Standards	219	..	..	..	219
Commonwealth Food Control Specifications	21	..	..	..	21
Indian Railway Standard Specifications	4	..	..	..	4
Totals	721	148	80	3	952

CIRCULATION OF DRAFT AND STANDARD SPECIFICATIONS

Draft Standard Specifications

	Great Britain.	Australia.	American Standards Association.	Totals.
Under consideration at beginning of year	38	7	..	45
Draft Standards received during year	142	9	..	151
Totals	180	16	..	196
Unsuitable for New Zealand	5	2	..	7
Deferred pending receipt of final Standard	2	..	..	2
Still under consideration	173	14	..	187
Totals	180	16	..	196

Standard Specifications

	Great Britain.	Australia.	American Standards Association.	Totals.
Under consideration at beginning of year	60	29	120	209
Standards received during year	85	36	98	219
Totals	145	65	218	428
Recommended for adoption	15	..	..	15
Unsuitable for New Zealand	2	..	..	2
Still under consideration	128	65	218	411
Totals	145	65	218	428

War Emergency Standard Specifications

	Great Britain.	Australia.	American Standards Association.	Totals.
Under consideration at beginning of year ..	55	36	38	129
Standards received during year	26	7	44	77
Totals	81	43	82	206
Recommended for adoption	15	..	..	15
Unsuitable for New Zealand	19	..	..	19
Still under consideration	47	43	82	172
Totals	81	43	82	206

SALES OF STANDARD SPECIFICATIONS

Standard Specifications to the value of £1,502 17s. 10d. were sold during the year, as detailed in the following table:—

	Number.	Amount. (Gross).
		£ s. d.
Original New Zealand Standards	4,136	431 3 0
New Zealand Emergency Specifications	4,147	196 7 0
New Zealand Standards (being British Standards adopted)	1,600	225 19 3
New Zealand Standards (being British A.R.P. Standards adopted)	26	0 8 6
Ordinary British Standards	3,801	549 12 9
British Standard Aircraft Specifications	43	2 13 9
British Standard A.R.P. Specifications	7	0 3 9
Australian Standard Specifications	248	26 16 10
Australian reprints of D.T.D. Specifications	864	28 0 0
American Standard Specifications	8	2 0 4
Canadian Standard Specifications	2	0 6 2
S.B.A.C. Standard Sheets	89	2 4 6
Meat Grade Charts	742	37 2 0
Total	15,713	£1,502 17 10

The foregoing figures are based on the sales of volumes of Standard Specifications. In many cases, however, several Standard Specifications appear in the same volume. Taking this into account, the total sales of individual Standard Specifications during the year amounted to 26,501.

ACKNOWLEDGMENTS TO MEMBERS OF COMMITTEES AND ORGANIZATIONS

In concluding this report it is fitting that there should be placed on record an acknowledgment and appreciation of the valuable services gratuitously rendered by members of committees during the year under review. The generous manner in which their time and knowledge are given to advancing the important work of standardization and simplification is worthy of the highest commendation. It is desired also to acknowledge the co-operation and assistance which has been freely given by other Government Departments, local authorities, professional, manufacturing, trading, and industrial organizations, and their executives.

A. R. GALBRAITH, Chairman, Standards Council.

APPENDIX

LIST OF NEW ZEALAND STANDARD SPECIFICATIONS, ETC., ADOPTED DURING THE YEAR

New Zealand Standard Specifications

N.Z.S.S.	MECHANICAL ENGINEERING
443	Valves, Gauges, and other Safety Fittings for Air Receivers and Compressed Air Installations (with local amendment): being B.S. 1123 1913.
444	Flexible Traction Cables for Quarries or Metalliferous Mines: being B.S. 1116 1913.
448	"High Carbon" Steel Cylinders for Permanent Gases (including Amendments Nos. 1 and 2 and War Emergency Amendment No. 3): being B.S. 339-4150.
449	"Low Carbon" Steel Cylinders for the Storage and Transport of Permanent Gases (including Amendments Nos. 1 and 2 and War Emergency Amendment No. 3): being B.S. 400 1931.
450	Non-ferrous Metals: Summary of British and American Specifications: being B.S. 1007 1942.
451	Testing of Bars for General Purposes (excluding Mine Bars): being B.S. 848 1939.

New Zealand Standard Specifications—continued

- ELECTRICAL ENGINEERING
- N.Z.S.S.
- 438 Steel-cored Copper Conductors for Overhead Transmission Purposes ; being B.S. 837-1939.
- 439 Components for Radio-interference Suppression Devices (excluding Devices for Traction Equipment) ; being B.S. 613 1940.
- 440 Mains-operated Apparatus for Radio, Accoustic, and Visual Reproduction (Safety Requirements) ; being B.S. 415 1941.
- 441 Electrical Performance of High Tension Transformers for X-ray Purposes ; being B.S. 326-1941.
- 445 Flameproof Hand-held Electric Drilling Machines—Primarily for Use in Mines ; being B.S. 1090-1943.
- 446 Galvanized Steel Wire Strand for Signalling Purposes ; being B.S. 163, Part 1-1943.
- CHEMICAL
- N.Z.S.S.
- 437 Methods of Testing of Glues (Bone, Skin, and Fish Glues) ; being B.S. 647-1938.
- 447 Sanitary or Disinfectant Powders ; being B.S. 1013 1942.
- PLUMBING
- N.Z.S.S.
- 442 Lead Pipes (B.N.F. Ternary Alloy No. 2) ; being B.S. 603-1941.

New Zealand Emergency Standard Specifications**MECHANICAL ENGINEERING**

- N.Z.S.S.
- E. 157 Summary of British and American Standard Specifications for Iron and Steel ; being B.S. 1111-1943.
- E. 166 Diamond-tipped Boring Tools ; being B.S. 1120-1943.
- E. 168 Cotton Fabrics for the Reinforcement of Rubber Hose ; being B.S. 1103-1943.
- E. 169 Rubber Suction and Discharge Hose with Woven Fabric and Wire Reinforcement ; being B.S. 1102-1943.
- E. 172 Rubber and Insertion Jointing for Flange and Similar Joints, subject to—
 (i) Water Pressure at Normal Atmospheric Temperatures ;
 (ii) Low Pressure Steam (under 30 lb. to Square Inch) ;
 (iii) High Pressure Steam (30 lb. to Square Inch and over) ;
 Being B.S. 945-1943 (superseding B.S. 945 1941, N.Z.S.S. 369).
- E. 173 Rubber Hose with Cotton Braided Reinforcement ; being B.S. 796-1944 (superseding B.S. 796-1938, N.Z.S.S. 287).
- E. 185 Silicon Bronze Ingots ; being B.S. 1029 1942
- E. 186 Silicon Bronze Castings ; being B.S. 1030-1942
- E. 187 Circular Screwing Dies ; being B.S. 1127-1943.
- } One volume.

ELECTRICAL ENGINEERING

- N.Z.S.S.
- E. 155 Lead Acid Storage Batteries.
- E. 167 Alternators and D.C. Generators (Internal Combustion Engine Driven) ; being B.S. 1084-1942.
- E. 177 Synthetic Resin-bonded Fabric Sheet for Electrical and Mechanical Purposes ; being B.S. 972 1941.
- E. 179 Fine Resistance Wire for Telecommunication and Similar Purposes ; being B.S. 1117-1943.
- E. 180 Aluminium Alloy Bars for the Manufacture of Fuses and Fuse Parts ; being B.S. 1080-1942.

CHEMICAL

- N.Z.S.S.
- E. 188 Writing, Fountain-pen and Record Inks and Ink Powder.
- E. 189 Stamp Pad Ink.
- E. 190 Marking Ink.
- E. 191 Black Waterproof Drawing Ink.
- E. 192 Coloured Waterproof Drawing Ink.

BUILDING AND RELATED INDUSTRIES

- N.Z.S.S.
- E. 160 Commercial Plywood.
- E. 163 Dwellinghouse Construction.

PRIMARY INDUSTRIES

- N.Z.S.S.
- E. 154 Second-hand Sacks and Bags.
- E. 158 Produce Sacks.

New Zealand Standard Specifications—continued

CONSUMER COMMODITIES

N.Z.S.S.	
E. 153	Leather Dress Gloves.
E. 159	Household Furniture.
E. 161	Definitions of Furnishing Fabrics and Miscellaneous Textile Merchandise for the
E. 162	Distributive Trades ; being B.S. 982/983 1941.
E. 164	Lettuces.
E. 170	Cauliflowers and Broccoli.
E. 171	Celery.
E. 174	Peas.
E. 175	Beans.
E. 176	Leeks.
E. 178	Rhubarb.
E. 181	Beetroot.

Revised New Zealand Standard Specifications

N.Z.S.S. 258..	} Ferrous Pipes and Piping Installations for and in connection with Land Boilers.
B.S. 806-1942	

Revised New Zealand Emergency Standard Specifications

N.Z.S.S. E. 74	} Milking Machine Rubberware.
(January, 1945)	
N.Z.S.S. E. 114	} Soft Solder.

New Zealand Standard Specifications withdrawn

N.Z.S.S. 287	} Cotton Braided Reinforcement.
B.S. 796-1938	
N.Z.S.S. 369	} Rubber and Insertion Jointing for Flange and Similar Joints subject to Water Pressure.
B.S. 945-1941	
N.Z.S.S. E. 80		} Camouflage Paints.

Emergency Revision Slips Incorporated in Existing New Zealand Standard Specifications

N.Z.S.S. E. 162	} Definitions of Miscellaneous Textile Merchandise.	
B.S. 983-1941..		Slip C.F. (DS) 9207.
	Slip P.D. 8.	
N.Z.S.S. 123 ..	} Tungsten Filament Electric Lamps other than General Service.	
B.S. 555-1939..		Slip P.D. 107.
		Slip P.D. 133.
N.Z.S.S. 437 ..	} Methods for Testing Glues (Bone, Skin, and Fish Glues).	
B.S. 647-1938..		Slip P.D. 165.
N.Z.S.S. 213 ..	} Paper Insulated Cables for Use in Mines.	
B.S. 760-1943..		Slip P.D. 120.
N.Z.S.S. E. 49	} Wrought Steels.	
B.S. 970-1942..		Slip P.D. 144.
N.Z.S.S. E. 49B	} Memorandum to Consumers and Producers regarding the Standardization of Alloy	
B.S. 970B ..		Steels with the object of Alloy Conservation.
	Slip P.D. 145.	

Addenda, Amendment, Corrigenda, and Revision Slips

N.Z.S.S. 411 ..	} Radio-interference Suppression for Automobiles and Stationary Internal-Combustion
B.S. 833-1939..		Engines (Limits and Methods of Suppression).
	Slip C.F. (EL) 2565.
N.Z.S.S. 20 ..	} Note with regard to the Correlation of Izod and Charpy Test Results.
B.S. 131-1933..		Slip P.D. 52.
N.Z.S.S. 286 ..	} Cast Iron Pipes (Vertically Cast for Gas, Water, and Sewage).
B.S. 78-1938 ..		Slip P.D. 155.

Approximate Cost of Paper.—Preparation, not given ; printing (1,440 copies), £27 10s.

By Authority: E. V. PAUL, Government Printer, Wellington.—1945.

Price 6d.]

