

were critically examined by a Timber Committee of the New Zealand Standards Institute, and, as forecasted in last year's annual report, the revised rules have been adopted and issued by the New Zealand Standards Institute as New Zealand Standard Specification No. 169, "New Zealand Standard Specification for Classification and Grading of New Zealand Building Timber (National Grading Rules)."

Mention was also made in last year's report of the fact that a specification covering the supply of New South Wales desapped hardwood poles was ready for submission to the New Zealand Standards Institute, and during the year New Zealand Standard Specification 168, "The New Zealand Standard Specification for New South Wales Desapped or Dressed Desapped Hardwood Poles," was issued. Considerable progress was also made in the preparation of similar specifications for other round, sawn, and hewn New South Wales forest products, and standards in respect thereof will be issued during the current year.

The tentative standard grading rules for white-pine have proved their value during the year, but the failure of some producers to grade their cutting in conformity therewith has indicated the necessity for standard terms and conditions of sale which are accordingly now being investigated.

(e) Wood Preservation.

The past year has been one of intense activity in the sphere of wood-preservation, both in the erection of the three non-pressure treating-plants and in the preparation of posts and poles for creosoting. The Conical Hills plant is already in operation, and the Rotorua and Hanmer plants will be creosoting timber in the near future.

Large numbers of larch, pine, and eucalypt posts and transmission poles from the State plantations have been cut, barked, and stacked for seasoning. It is not the intention of the Service to confine creosoting to posts and poles, and provisions have been made for the treatment of gates and constructional timber generally. Particular attention has been paid to the use of creosoted timber in bridge-construction, and technical details of the composite timber-concrete bridges of the shear developer type have been obtained from America, where they are being increasingly used in highway schemes.

The correct degree of seasoning of posts and poles prior to creosoting is of primary importance, necessitating frequent moisture-content tests, and to this end a detailed technique has been developed to determine the rate of seasoning of all post and pole timbers in the three creosoting stations.

To ensure that creosoted poles and posts conform to a high standard in regard to uniformity of shape, limitation of defects, and efficiency in preservative treatment, specifications have been prepared and are already being applied.

The protection of all classes of wood products against fungal and insect attack continues to demand ever-increasing attention, with emphasis naturally falling on the preservation of building timbers, since these form such a large proportion of the Dominion's output of rough-sawn timber. The importance of good design, of supervision in erection, of inspection of timber during construction, and of maintenance of the finished building cannot be overstressed. These factors are fundamental to the longevity of all timber structures, and much of the trouble in the past has been due solely to their neglect. Damp sites, inadequate sub-ground-floor ventilation, the use of already infected and infested timber, poor timber-detail design and construction allowing entry of moisture to concealed parts, poor painting, and the storage of infected and infested timber either in the vicinity of or within the structure itself are the basis of the comment that timber in New Zealand has been "more often abused than used." Certainly if the timber for the Dominion's wooden buildings had been more intelligently employed the decay and insect attack which has since become evident in some cases could never have occurred. Any attempts to correct the trouble merely by the use of treated wood will prove uneconomical, and the desired improvement in the serviceability of the structure cannot be attained other than by strict observance of the precautions already referred to. If these safeguards are faithfully observed there is little