AS/NZS 2878:2000
Reconfirmed 2017

Australian/New Zealand Standard™

Timber—Classification into strength groups

Standards Australia

STANDARDS NEW ZEALAND
Paerewa Aotearoa

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee TM/3, Timber Grading. It was approved on behalf of the Council of Standards Australia on 7 July 2000 and on behalf of the Council of Standards New Zealand on 14 July 2000. It was published on 5 September 2000.

The following interests are represented on Committee TM/3:

Australian Timber Importers Federation
CSIRO—Building, Construction and Engineering
Curtin University of Technology
Forest and Forest Products Employment Skills
Forestry Queensland
Housing Industry Association
Master Builders Australia
National Association of Forest Industries
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New Zealand Timber Suppliers Group
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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia International or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR 97407.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

RECONFIRMATION

OF
AS/NZS 2878:2000
Timber—Classification into strength groups

RECONFIRMATION NOTICE

Technical Committee TM-012 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 27 April 2017.

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The following are represented on Technical Committee TM-012:

Australian and New Zealand Timber Preservative Manufacturers Association
Australian Forest Products Association
Australian Pesticides and Veterinary Medicines Authority
Australian Timber Flooring Association
Australian Timber Importers Federation Inc
Building Research Association of New Zealand
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Responsible Care New Zealand
Scion
Tasmanian Timber Promotion Board
Timber Preservers Association of Australia

NOTES

Australian/New Zealand Standard™

Timber—Classification into strength groups

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PREFACE

This Standard was prepared by the joint Standards Australia/Standards New Zealand Committee TM/3, Timber Grading, to supersede AS 2878—1986.

The objective of this Standard is to provide producers and users of structural timber with procedures for establishing the strength group to which a species belongs for use in stress-grading structural timber and determining structural properties.

Strength grouping was introduced in 1939 and has since been developed and refined to simplify the presentation and utilization of the information obtained about some hundreds of timber species.

A strength group may be visualized as a nominal species with established clear-wood strength properties representing a collection of actual timber species that have similar or slightly higher mean strength values. The group limits have been chosen so that the ratio between representative strength values of groups is constant at approximately 1.2.

Where the wood of several species is virtually identical, they have been grouped under one standard trade name in AS 2543, *Nomenclature of Australian Timbers*. Because no purpose is served in separating them, timbers so grouped are regarded as a ‘species group’. This is not to be confused with a ‘species mixture’ which is a marketing term for a mixture of species and for which the strength group is that of the lowest species strength group in the mixture.

To cater for normal commercial timber production, visual structural grading rules have been developed with the ratio of strength values between the grades being the same as that between the strength groups. Consequently the interaction of strength groups and visual grades leads to a limited number of sets of design values, termed stress grades.

The following changes have been made for this edition:

(a) No consideration of species groups; only single species considered.

(b) Index properties are included.

(c) Compression test omitted (in line with International Standards).

(d) Timber sample may now be taken from mill production.

(e) Specimen size to be 20×20 mm in cross-section.

(f) Specimens to be clear of corewood and brittle heart.

(g) Minimum sample size for positive grouping is increased to 30.

(h) Tighter specification of moisture content conditions.

(i) Test report required.

(j) Slight modification in specified test procedures.

The term ‘normative’ has been used in this Standard to define the application of the appendix to which it applies. A normative appendix is an integral part of a Standard.

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S E C T I O N 1 S C O P E A N D G E N E R A L

1.1 SCOPE

This Standard establishes a procedure for the classification of timber species into strength groups based either on the values obtained from testing small clear specimens or on the species mean density at 12 percent moisture content. It specifies the unseasoned and seasoned strength groups of most of the timber species used in Australia.

NOTE: This Standard does not deal with the role that these strength groups play in the determination of stress grades, basic working stresses and characteristic properties, nor does it cover alternative means of determining stress grades of timber.

This Standard describes procedures for single species and does not cover species groups except where strength groups are given in Tables 3.1 and 3.2.

1.2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS
1148 Nomenclature of commercial timbers imported into Australia

2543 Nomenclature of Australian timbers

ISO
3133 Wood — Determination of ultimate strength in static bending

3349 Wood—Determination of modulus of elasticity in static bending

BS
373 Methods of testing small clear specimens of timber

CSIRO Division of Building Research

Mack, J.J. (1979) Australian Methods for Mechanically Testing Small Clear Specimens of Timber, Technical Paper (Second Series) No. 31

1.3 DEFINITIONS

For the purpose of this Standard the definitions below apply.

1.3.1 Species mean

Mean value of a given property estimated from a representative sample (see Appendix A).

1.3.2 Strength group

Classification into which a timber species or species group, as listed in Tables 3.1 and 3.2, is assigned on the basis of the mechanical properties of material free of strength-reducing characteristics or density determination of the species.

NOTE: In descending order there are seven strength groups for unseasoned timber (S1 to S7) and eight strength groups for seasoned timber (SD1 to SD8). Depending on the nature and amount of data on which the classification is made, a strength group may be termed ‘positive’ or ‘provisional’ (see Clauses 1.3.4 and 1.3.5).