STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

RECONFIRMATION

OF
AS/NZS 1080.3:2000
Timber—Methods of test
Method 3: Density

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 20 May 2016.

Approved for reconfirmation in New Zealand on behalf of the Standards Council of New Zealand on 5 July 2016.

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
Building Research Association of New Zealand
Department of Agriculture, Fisheries and Forestry (QLD)
Engineered Wood Products Association of Australasia
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NATSPEC
New Zealand Timber Industry Federation
New Zealand Timber Preservation Council
New Zealand Wood Processors Association
Responsible Care New Zealand
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Tasmanian Timber Promotion Board
Timber Preservers Association of Australia

NOTES

AS/NZS 1080.3:2000
Reconfirmed 2016

Australian/New Zealand Standard™

Timber—Methods of test

Method 3: Density

[Modified and including the full text of ISO 3131:1975]

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee TM/3, Timber Grading, to supersede AS 1080.3—1981, *Methods of testing timber,* Method 3: *Determination of Density*.

This Standard is an adoption with national modifications of, and is reproduced from, ISO 3131-1975, *Wood—Determination of density for physical and mechanical tests*.

The objective of this Standard is to provide producers and users of timber with a method for determining the density of timber.

Appendix ZZ lists the variations between this Standard and ISO 3131. For the purposes of this Standard, the ISO 3131 text is amended, supplemented or replaced as set out in Appendix ZZ. These changes are indicated by a rule in the margin against each clause, table, figure or part thereof affected.

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(b) In the source text 'this standard' should read 'this Australian/New Zealand Standard'.

(c) A full point should be substituted for a comma when referring to a decimal marker.

(d) References to International Standards should be replaced by references to equivalent Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian or Australian/New Zealand Standard*	
ISO/IEC		AS/NZS	
3129	Wood—Sampling methods and general requirements for physical and mechanical tests	See Appendix ZZ	
3130	Wood—Determination of moisture content for physical and mechanical tests	1080.1	Timber—Methods of test Part 1: Moisture content
….	Wood—Determination of shrinkage and swelling		

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NOTES

Wood — Determination of density for physical and mechanical tests

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for determining the density (ratio of mass to volume) of wood for physical and mechanical tests both at the moisture content at the time of test and in the absolutely dry condition, as well as the conventional density (ratio of mass in the absolutely dry condition to volume of the test piece with moisture content greater than or equal to the fibre saturation point).

2 REFERENCES

ISO 3129, *Wood — Sampling methods and general requirements for physical and mechanical tests.*

ISO 3130, *Wood — Determination of moisture content for physical and mechanical tests.*

ISO . . ., *Wood — Determination of shrinkage and swelling.*[1)]

3 PRINCIPLE

Determination of the mass of the test piece by weighing and of its volume by measurement of its dimensions or by another method. Calculation of the mass of a unit volume of the wood.

4 APPARATUS

4.1 Measuring instrument capable of determining the dimensions of the test pieces to an accuracy of 0,1 mm.

4.2 Balance capable of weighing to an accuracy of 0,01 g.

4.3 Equipment for the determination of moisture content in accordance with ISO 3130.

5 PREPARATION OF TEST PIECES

5.1 Test pieces shall be prepared in the form of right prisms having a square cross-section of side 20 mm and length along the grain of 25 ± 5 mm. If the growth rings are more than 4 mm wide, the dimensions of the cross-section of the test piece shall be increased to include not less than five growth rings. For determination of the conventional density, it is permitted to prepare the test piece of any geometrical shape the volume of which may be easily measured.

To determine the relation between ultimate strength and density, it is recommended that the density be determined on test pieces made for particular tests or on test pieces for the determination of density cut from them in the form of right prisms with the dimensions stated above.

5.2 The preparation, moisture content and number of test pieces shall be in accordance with ISO 3129.

6 PROCEDURE

6.1 Determination of density at the moisture content at the time of test

Determine the mass of the test pieces to an accuracy of 0,01 g. Measure the sides of the cross-section and the length of the test pieces along the axes of symmetry to the nearest 0,1 mm. The volume of the test pieces may be determined by another method to an accuracy of 0,01 cm^3. Determine the moisture content of the test pieces according to ISO 3130. Take the whole test piece as the sample for the determination of moisture content.

6.2 Determination of density in the absolutely dry condition

Dry the test pieces gradually to constant mass to minimize their deformation and splitting. Carry out the weighing and measuring operations immediately after drying, in accordance with 6.1.

6.3 Determination of conventional density

The moisture content of test pieces shall be greater than or equal to the fibre saturation point. The test pieces may be soaked in distilled water at room temperature until no changes in dimensions occur. Measure the dimensions or volume of the test pieces according to 6.1, dry the test pieces according to 6.2 and weigh them according to 6.1.

1) In preparation.

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