AS/NZS 4063.1:2010

Australian/New Zealand Standard™

Characterization of structural timber

Part 1: Test methods

STANDARDS Australia

STANDARDS NEW ZEALAND PAEREWA AOTEAROA

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee TM-001, Timber Structures. It was approved on behalf of the Council of Standards Australia on 28 October 2009 and on behalf of the Council of Standards New Zealand on 30 October 2009.
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The following are represented on Committee TM-001:

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Australian/New Zealand Standard™

Characterization of structural timber

Part 1: Test methods

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PREFACE

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee TM-001, Timber Structures, to supersede (in part) AS/NZS 4063:1992, *Timber—Structural—products—Strength and stiffness evaluation*.

The objective of this Standard is to specify requirements for testing rectangular sections of sawn solid timber of commercial structural size to provide data for the determination of characteristic values for structural design. It specifies the test methods only. Design characteristic values are determined as specified in Part 2 of the AS/NZS 4063 series using the test results generated by the test methods specified in this Standard.

This Standard is based on ISO 13910, *Structural timber—Characteristic values of strength-graded timber—Sampling, full-size testing and evaluation*, and modified to form the AS/NZS 4063 series, *Characterization of structural timber*, which comprises the following parts:

AS/NZS
4063 *Characterization of structural timber*
4063.1 Part 1: Test methods (this Standard)
4063.2 Part 2: Determination of characteristic values

The test methods for bending, beam shear and tension and compression parallel to grain included in this Standard have been adapted from ISO 13910 and are similar to the methods described in AS/NZS 4063:1992. Notable modifications include the following:

(a) The practice of calculating and reporting a nominal modulus of rupture (bending failure stress) as the basis for determination of a characteristic value in bending has been discontinued. This Standard now requires the modulus of rupture to be calculated using the estimated bending moment at the failure point. This change reflects the expectations of designers that a characteristic value in bending represents a minimum 5-th percentile breaking stress at each and every point along the length of a beam.

(b) The length of the test piece for determination of compression strength has been increased to account for the longer lengths commonly used in service, an example of which is wall framing. The test method allows for the test piece to be tested in shorter length segments.

This Standard also includes test methods for determination of characteristic values for properties not previously included in AS/NZS 4062:1992. These additional test methods have been adapted from various sources. Other test methods for which there is limited experience of their application are included in an informative appendix.

The term 'informative' has been used in this Standard to define the application of the appendix to which it applies. An 'informative' appendix is only for information and guidance.

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies test methods for measuring the structural properties of rectangular sections sawn solid timber of commercial structural size.

NOTE: The test methods specified in this Standard may be adapted to measure the structural properties of rectangular sections of other structural timber materials and the properties or capacities and rigidities, as appropriate, of non-rectangular sections, such as round timber (or poles) and composite sections such as I-sections.

1.2 APPLICATION

The data obtained from the test methods specified in this Standard are to be used in AS/NZS 4063.2.

NOTE: The test methods given in this Standard may be used to provide data for other purposes.

1.3 NORMATIVE REFERENCES

The following are the normative documents referenced in this Standard:

AS
4063 Characterization of structural timber
4063.2 Part 2: Determination of design characteristic values

AS/NZS
1080 Timber—Methods of test
1080.1 Part 1: Moisture content

1.4 DEFINITIONS

For the purposes of this Standard, the following terms and definitions apply.

1.4.1 Sample piece

A full length piece of timber from the reference population as manufactured.

1.4.2 Stress-graded timber

Timber that has been graded for assignment of a stress grade.

1.4.3 Test piece

A segment cut from a sample piece for the purpose of testing to measure a specific structural property.

1.4.4 Depth, *d*

The greater cross-sectional dimension of a rectangular section sample piece or test piece, measured perpendicular to the major principal axis X-X, as illustrated in Figure 1.