

Australian/New Zealand Standard<sup>®</sup>

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## Finger jointed structural timber

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[Based on BS EN 385: 1995]

## AS/NZS 1491:1996

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This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee TN/4, Glued Timber Products. It was approved on behalf of the Council of Standards Australia on 19 December 1995 and on behalf of the Council of Standards New Zealand on 4 December 1995. It was published on 5 April 1996.

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The following interests are represented on Committee TM/4:

Glued Laminated Timber Association of Australia  
Housing Industry Association of Australia  
Master Builders Australia  
Monash University, Melbourne, Australia  
National Association of Forest Industries of Australia  
New Zealand Adhesives Industry  
New Zealand Forest Research Institute Ltd  
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New Zealand Timber Industry Federation  
Structural Engineered Timber Manufacturers Association of New Zealand  
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*This Standard was issued in draft form for comment as DR 91058:R.*

# Australian/New Zealand Standard<sup>®</sup>

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## Finger jointed structural timber

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Originated in Australia as AS 0123 — 1970  
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## PREFACE

This Australian/New Zealand Joint Standard was prepared by Joint Technical Committee TM/4 Glued timber products to supersede AS 1491—1973 and NZS 3616:1978. It is issued as a Joint Standard under the terms of the Active Cooperation Agreement between Standards Australia and Standards New Zealand. It is based on and technically equivalent to BS EN 385:1995 *Finger jointed structural timber* which has been amended only where necessary to comply with Australian and New Zealand requirements. It is a performance based Standard which applies to finger jointed hardwood and softwood used directly with either structural timber or laminations of glued laminated timber.

The Standard requires producers to implement a documented production control system supervised by an inspection body (Third Party auditor). The production system is established through a Research and Development programme and documented along with all production controls (e.g. wood moisture content, adhesive mix details, etc). Part of this R&D programme involves a mandatory consultation between the producer and adhesive supplier to ensure compatibility of wood species, preservative or fire retardant treatment method, production processes and the chosen adhesive.

The engineering properties of the finger jointed timber are then measured and statistically processed in accordance with AS/NZS 4063 to establish process capability (qualification testing). The qualification testing sets upper limit values for the engineering properties where the timber is used in structural applications covered by Australian and New Zealand design codes and building Standards. Provision is made for a manufacturer to “declare” more conservative values.

Product quality is assured by maintenance of the documented production controls. Verification that the production remains “in control” is provided by testing specimens drawn from each production batch but is not a substitute for maintenance of the production controls.

In addition, the Standard introduces the concept of Service Classes, each of which defines a set of environmental service conditions in terms of temperature and humidity limits. Adhesives deemed capable of remaining functional under each of the conditions are described by Adhesive Type (I or II) rather than by common chemical names. Details of adhesive types are provided in AS/NZS 4364:1996.

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## STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

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**Australian/New Zealand Standard****Finger jointed structural timber**

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**1 SCOPE** This Standard specifies requirements for bonded finger joints and minimum requirements for the manufacture of cut, interlocking, bonded finger joints in structural timber members. Requirements are given for timber, adhesive, moisture content, cutting, bonding and preservative treatments and flame retardant treatments.

This Standard is only applicable to finger joints between timber members of the same species type.

Although most finger joints are produced in coniferous species this Standard also applies to broad leaved species where information is available to enable them to be satisfactorily bonded.

It does not cover impressed (die-formed) joints. In the case of glued laminated timber it applies only to individual laminations.

**2 NORMATIVE REFERENCES** This Joint Australian/New Zealand Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this Joint Australian/New Zealand Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

|                       |                                                                                                                        |
|-----------------------|------------------------------------------------------------------------------------------------------------------------|
| AS 3519:1993          | Timber — Machine proof-grading                                                                                         |
| AS/NZS 4063:1992      | Timber — Stress-graded — In-grade strength and stiffness evaluation                                                    |
| AS/NZS 4364:1996      | Adhesives, phenolic and aminoplastic, for load-bearing timber structures — Classification and performance requirements |
| ISO/IEC Guide 2: 1991 | General terms and their definitions concerning standardization and related activities                                  |

**3 DEFINITIONS** For the purposes of this Standard, the following definitions apply.

**3.1 Declared characteristic values** — the characteristic strengths of a finger joint proclaimed by a manufacturer for the purpose of design (see 5.4).

**3.2 Finger joint** — self-locating end joints formed by machining a number of similar tapered symmetrical fingers in the ends of timber members which are then bonded together. See Figure 1.