AS 5068—2006
(Incorporating Amendment No. 1)

AS 5068—2006

Australian Standard®

Timber—Finger joints in structural products—Production requirements

This Australian Standard® was prepared by Committee TM-004, Glued Timber Products. It was approved on behalf of the Council of Standards Australia on 19 May 2006.
This Standard was published on 26 June 2006.

The following are represented on Committee TM-004:

- A3P
- Ensis
- Forest Industries Association of Tasmania
- Forests NSW
- Glued Laminated Timber Association
- Monash University
- New Zealand Adhesives Industry
- New Zealand Forest Industries Council
- New Zealand Timber Certification Board
- New Zealand Timber Industry Federation
- Plastic and Chemical Industries Association
- Scion
- Structural Engineered Timber Manufacturers Association
- Timber Queensland
- University of Auckland

Additional Interests:

- National Starch and Chemical
- Orica Adhesives and Resins
- Purbond

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Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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Timber—Finger joints in structural products—Production requirements

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PREFACE

This Australian/New Zealand Joint Standard was prepared by Joint Technical Committee TM-004, Glued Timber Products, to supersede AS/NZS 1491:1996, *Finger jointed structural timber*. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

This Standard incorporates Amendment No. 1 (December 2010). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

The objective of this revision is to update this Standard for finger-jointing solid timber for structural products. Major changes to the previous edition include the following:

(a) The title of the Standard in this revision has been amended in order to align with the corresponding ISO Standard and to make it clear that it deals only with the finger joint. Further clarification is given in the Scope.

(b) Clarify the requirements for quality control testing.

This Standard is a performance-based document that applies to finger jointed hardwood and softwood, used directly with either structural timber or laminations of glued laminated timber.

This 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 program and documented along with all production controls (e.g., wood moisture content, adhesive mix details, etc.). Part of this research and development program 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 Standard is predicated on the assumption that the producer will be targeting the properties of a specific sawn timber stress grade or glulam grade, and the properties of the target grade provided the strength requirements of Clause 8.2 and other manufacturing requirements are met. The unjointed timber between the finger joints must also meet the strength and stiffness requirements of the target sawn timber stress grade or glulam grade. 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.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

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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 also given for timber, adhesive, moisture content, cutting, bonding, 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.

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

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS
3519 Timber—Machine proof grading

AS/NZS
1604 Specification for preservative treatment (all Parts)

A1 | 4364 Timber—Bond performance of structural adhesives

4491 Timber—Glossary of terms for timber related Standards

ASTM
D4688 Standard Test Method for Evaluating Structural Adhesives for Finger Jointing Lumber

3 DEFINITIONS

For the purposes of this Standard, the definitions given in AS/NZS 4491 and those below apply.

3.1 Target finger-jointed timber characteristic strength

The characteristic design strength of finger-jointed timber used for design purposes.

3.2 Equilibrium moisture content (EMC)

The moisture content of timber at which the timber neither gains nor loses moisture while the conditions are maintained when subject to given conditions of humidity and temperature.

3.3 Finger joint

Self-locating end joints formed by machining a number of similar tapered symmetrical fingers in the ends of timber shooks, which are then bonded together under pressure.

NOTE: A typical profile of finger joint is shown in Figure 1.

