

Identifying NCC Compliant Structural Timber Products

The following information sheet aims to assist building professionals to identify if a timber product is compliant with the National Construction Codes (NCC), Section B, Structural Requirements, Deemed-to-Satisfy (DTS) provisions. To assist users, the information sheet is in two parts; general requirements for all timber products, followed by specific requirements for different timber products.

DEEMED-TO-SATISFY COMPLIANCE WITH THE NCC – STRUCTURAL PROVISIONS

The NCC contains four referenced Standards that are deemed to meet the NCC's Section B structural provisions for timber elements used in housing and other structures; they are

- o AS 1720.1 Design of Timber Structures, NCC Volumes 1 and 2
- o AS 1720.5 Design of timber roof trusses, NCC Volumes 1 and 2
- o AS 1684 Parts 2, 3 and 4 - Residential Timber-framed construction, NCC Volumes 1 and 2
- o AS 1860.2 Installation of Particleboard flooring, NCC Volume 2

Each NCC referenced Standard describes the timber products that are within its scope. In all cases, an Australian product Standard is referenced. To meet the NCC Structural provisions, the building designer must demonstrate to the approving authority that the timber product meets the relevant Australian product standard, using one of the NCC's Evidence of Suitability methods described below. The product supplier usually provides this information.

To assist in identifying that a timber product used in construction meets the relevant Australian product Standard, each Standard requires branding or markings to be applied to each piece of timber. These specific branding or markings are discussed below in the relevant timber product area.

NCC EVIDENCE OF SUITABILITY

The NCC (Provision A5.2, Volume One and Two) describes acceptable forms of evidence, all aimed at stating that the properties and performance of building materials, methods of construction or design fulfil specific requirements of the NCC; refer to the table below. Without this, builders and certifiers should reject the product as non-conforming.

NCC	Evidence	Description	Field of Application	Example
A5.2 (l) (a)	CodeMark Certificate of Conformity	A certificate issued under the Australian Building Codes Board CodeMark scheme by a JAS-ANZ accredited third party body certifying compliance to the NCC	Applicable to new and innovative building products, i.e. products and systems that don't have a reference Standard	Timber preservation not meeting AS 1604
A5.2 (l) (b)	Certificate of Accreditation	Certificate issued by a State or Territory accreditation authority, e.g. Victoria's Building Regulations Advisory Committee	Products or systems that applicable to a particular region	NA
A5.2 (l) (c)	Certification	Certificates issued by a certification body experienced in the field of application and JAS-ANZ accredited	Confirming the timber product's performance or properties meet the specific product Standard	Stress grades or compliance to engineered wood product standards
A5.2 (l) (d)	Accredited Testing Laboratory Report	A report issued by an Accredited Testing Laboratory	Modifications to a test report	Acoustic or fire test report
A5.2 (l) (e)	Professional Engineers or Appropriately Qualified Person	A certificate or report from a professional engineer or appropriately qualified person Structural Design	Certifies compliance to Standards, specifications, or other publications	Structural Design <ul style="list-style-type: none"> • Span Tables • Structural Software • Design to AS 1720 Product standard compliance

NCC	Evidence	Description	Field of Application	Example
A5.2 (l) (f)	Other forms of documentary evidence	Other form evidence that is not covered above	First-party (company issued) that demonstrates compliance	Company issued Product Technical Statement

WHAT TO LOOK OUT FOR IN COMPLIANCE CERTIFICATES OR REPORTS

The following lists what to look out for in a certificate or report

- The evidence covers the actual product under consideration. The certificate or report is often applicable to a specific range, i.e. product sizes or strength grades.
- The evidence covers the product or system in the intended application, i.e. the report referenced may not be appropriate for the application, e.g. appearance grades used to justify strength properties
- The test data used as evidence is for the actual product, e.g. the tested product grades are different to the product under consideration
- The test report without how it is evidence of compliance
- The referenced Standard or specification is current. Products complying with outdated Standards are no longer compliant with the NCC.
- The date of the report is current. Often, certificates and reports have expiration dates.

PRESERVATIVE TREATED TIMBER

There are two means to demonstrate that the timber product is preservative treated. The most common way is treated in accordance with one of the AS/NZS 1604 timber treatment standards. The alternative method is through CodeMark or a combination of both. For timber products that are preservative treated to AS/NZS 1604, each piece of timber is required to have the branding or label applied to each piece of timber, except for small-sized timber. Each product has specific branding or markings, and is discussed below is the specific timber product area.

OTHER LEGISLATIVE REQUIREMENTS FOR TIMBER PRODUCTS

Other than meeting the NCC, timber products have other requirements that are either national or state and territory-based legislation. The following are a few examples.

Illegal Logging Prohibition Act 2012

One of the most prominent other requirements is that the source of timber in the first instance is from a forest that is legal in the country where it is harvested, including Australia. A manufacturer or importer (first Australian owner) of timber products is required to demonstrate that the timber is harvested from a legal source. For further information, refer to the Illegal Logging Prohibition Act 2012.

Queensland Building Product Identification and Traceability

The Queensland Building and Construction Legislation places significant onus and responsibility on every party involved in the supply chain of building products. The Act requires information to be passed down the supply chain to the owner in respect of a building's product use, application and maintenance. Information includes the suitability of the product for the intended use and instructions on how the product is to be used to conform to the relevant regulations. Misrepresentation of the product's intended use may attract severe penalties.

HOW TO PROTECT YOURSELF

It is up to all in the supply chain to ensure that the timber product is fit for the proposed and compliant with its intended use or claims. To protect yourself against any potential future dispute, careful specification of the product throughout the supply chain is required, including keeping records of the product identification such as photo, end tag, docket or documentation.

IMPORTANT NOTICE

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Laminated Veneer Lumber (LVL)

The Australian Standard referenced for LVL is AS/NZS 4357.0, and this Standard provides specific requirements for the manufacture, structural characterisation and structural verification of LVL intended for structural application. To identify that the LVL is compliant with the Standard, each piece of LVL must have the following information branded on it.

- Reference to the Standard the product conforms to – AS/NZS 4357.0
- Manufacturer's name or registered mark
- A structural property identifier or where an F-grade classification is used, an F-grade.
- Any limitation of use, for example, beams used on edge applications only.
- Preservative treated branding in accordance with AS/NZS 1604.4
- The adhesive bond type. For AS/NZS 4357.0 compliant products, it must be A-Bond
- Formaldehyde emission class



STRUCTURAL PROPERTY IDENTIFIER

Care is required to distinguish what the structural property identifier means. For a product to utilise F-grade characteristic values for design, the structural property identifier must have "F" in front of the number and be one of the F-grades referenced in AS 1720.1. Where only a number is displayed, it generally refers only to its modulus of elasticity.

STRUCTURAL PROPERTY IDENTIFIER

The LVL Standard AS/NZS 4357.0 requires the establishment of Joint Groups for nails, screws, and bolts to be verified by testing before AS 1720.1 Joint Group values can be used.

Where nail plates are used in LVL roof and floor trusses and designed according to nail plate company software, they require unique tooth holding capacities to be established by testing. Refer to nail plate software providers for compliant LVL suppliers.

PRESERVATIVE TREATMENTS

In addition, if the LVL is preservative treated, it must also contain the following branding.

- Treatment plant identified – unique plant number, company name or company logo. The Timber Preservative Association of Australia registers plant numbers and may be checked at www.tpa.com.au/treatment-plants.
- Preservative type – product name or preservative identification number (AS/NZS 1604.4 Table C1). Note that only certain chemicals are allowed in AS/NZS 1604.4.
- Hazard Class and additional information such as penetration pattern or location limit, i.e. south of the Tropic of Capricorn (refer to AS/NZS 1604.4 for further information).
- Where an envelope treatment is applied, a warning label is also required to be displayed.

