

NON-CONFORMING TIMBER PRODUCTS UPDATE 2024

Why non-conforming timber products
should concern the building industry

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About the Report

Australia has a strong regulatory framework to ensure products conform to relevant standards including



Engineered Wood Products (EWP) use continues to grow for all classes of buildings in Australia, particularly in residential, multi-residential, and commercial applications.

However, instances of non-conforming and incorrectly branded EWP being supplied into Australia remains an ongoing concern.

Australian manufacturers produce many essential EWPs used to build Australian homes and businesses through state of the art, world scale engineered wood mills including Laminated Veneer Lumber (LVL), Cross Laminated Timber (CLT) and Glue Laminated Timber (GLT).

Whilst these operations can supply a significant part of Australia's needs for these products in residential and commercial construction, there is still a need for imports. This raises concerns over risks of some non-conforming imported products being supplied into our market that do not meet Australian standards or demonstrate acceptable evidence of suitability.

LVL is manufactured by gluing together rotary peeled or sliced wood veneers under heat and pressure, resulting in consistent properties, but also is a more complex product **which requires a more** detailed compliance pathway to market.

The ramifications of non-conforming LVL products are far-reaching and can have significant negative impacts for builders, consumers, and the timber industry, including poor product performance, safety risks, increased costs, and reputational damage of what is a great renewable building product.

To minimise the potential hazards linked with substandard building materials, Australia has a strong regulatory framework to ensure products conform with National Construction Code (NCC) requirements and relevant standards, including requirements for clear branding and to provide acceptable evidence of suitability.

It is critical for builders, consumers, and other supply-chain stakeholders to remain vigilant, undertake due diligence on product claims, branding, and associated product information, while committing to only use fit-for-purpose and high-quality building supplies.

Executive Summary



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NON-CONFORMING OR NON-COMPLIANT BUILDING PRODUCTS EXPLAINED.

Simply, **non-conforming building products** claim to be something they are not; they may not meet required standards for their intended use; or are incorrectly branded or marketed. This is different to non-compliant building products which are products used in applications where they do not comply with NCC requirements.

Australian EWP manufacturers have a reputation for producing high-quality, reliable, and durable building supplies. But the market needs to be vigilant to identify products that may not be branded correctly, or meet relevant standards, and are non-conforming.

All buildings must comply with the requirements of the NCC by meeting the stated performance requirements of the appropriate volume – dependent on building class. This can be achieved by following deemed-to-satisfy solutions, a performance solution, or a combination of both.

Most residential and commercial buildings utilise the NCC deemed-to-satisfy compliance pathways by conforming to recognised product and design standards. For timber structures, design is conducted in accordance with *AS 1720 Timber Structures – Design Methods series* and/or *AS 1684 Residential Timber Framed Construction series*.

LVL conformance: The most direct method requires LVL to conform to all requirements of the LVL product standard, *AS/NZS 4357.0 (Structural laminated veneer lumber)*, including testing and evaluation of characteristic structural properties to *AS/NZS 4063*.

LVL that conforms with standards other than *AS/NZS 4357.0* can still be used but will require evidence of suitability to meet the NCC requirements before a building certifier can sign off on the construction.

There are no standard LVL grades in Australian design standards and codes. Manufacturers develop products with properties specifically engineered for the intended application. This flexibility requires that suppliers of LVL clearly communicate the structural performance of their unique products to the end user. This can be done through publishing characteristic design values, creating engineer underwritten span tables for specific applications, or providing software for design.

Other key properties that need communication include durability and timber treatment; fire performance; and formaldehyde emission class. Some applications require additional testing and evaluation. For example, critical to frame and truss fabricators are nail plate capacities which are determined by testing each specific LVL product and are proprietary to that nail plate type and LVL product.

The use of non-conforming products or products in non-compliant applications can reduce consumer trust, and expose builders, property owners, suppliers and manufacturers to legal and financial implications, including litigation, fines, and costly remediation efforts.

The best protection for your business is to use due diligence to ensure your products conform with Australian standards and codes.

If you suspect a building product is non-conforming, you can either report it directly to your State or Territory Consumer Protection Agency [here](#) or fill in the Australian Building Codes Board form [here](#).

Australia's EWP Industry

Australia's EWP manufacturing sector is a significant, sophisticated and growing part of the wood products and built environment supply chain.

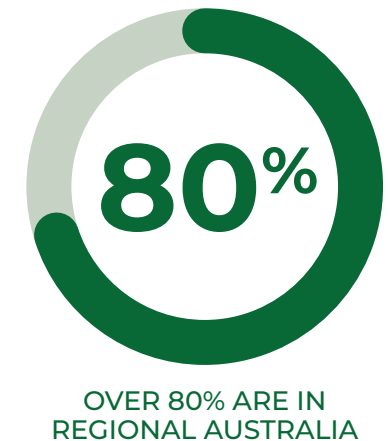
The hallmark of the Australian timber industry is a focus on sustainability in forest management and high-quality efficient manufacturing operations, to ensure our renewable products are fit-for-purpose, accessible to the industry for the long-term, and environmental benefits are maximised.

Industry produces a range of engineered wood products (particleboard, medium density fibreboard [MDF], plywood, laminated veneer lumber [LVL], glue-laminated timber [GLT], and cross laminated timber [CLT]). Australia's EWP industry directly employs a reported and estimated 7,200 people, over 80% of whom are in regional Australia. Using a standard industry multiplier of 3.0, the industry is responsible for an estimated 21,600 total jobs in Australia. [Source: IndustryEdge]

The EWP supply chain spans across multiple sectors, with key stakeholders including forest managers, harvest and haul contractors, sawmills, manufacturers and fabricators, wholesalers, retailers, and consumers.

When harvested logs arrive at timber manufacturing plants from a sustainably managed forest or plantation, they are processed into various types of timber products, including sawn-timber, veneers for plywood/LVL, and woodchips for panel products. Many wood products also receive different treatments (e.g., heat or chemical) to increase their durability, stability, and pest/decay resistance. EWPs are also important, because many utilise timber components or residues from other stages and processes of the supply chain. EWPs are then distributed to wholesalers, fabricators, retailers, and builders.

AUSTRALIA'S EWP INDUSTRY
DIRECTLY EMPLOYS AN ESTIMATED



USING A STANDARD INDUSTRY
MULTIPLIER OF 3.0, THE
INDUSTRY IS RESPONSIBLE
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The Pathway to Compliance

National Construction Code: All buildings must comply with the requirements of the National Construction Code (NCC). Compliance with the NCC is by meeting the stated performance requirements of the appropriate volume – dependent on building class. This can be achieved by following deemed-to-satisfy solutions, a performance solution, or a combination of both. Most residential and commercial buildings utilise the NCC deemed-to-satisfy compliance pathways by conforming to recognised product and design standards. For timber structures, design is conducted in accordance with *AS 1720 Timber Structures – Design Methods* series and/or *AS 1684 Residential Timber Framed Construction* series.

LVL compliance pathway: The most direct method requires LVL to conform to all requirements of the LVL product standard, AS/NZS 4357.0 (Structural laminated veneer lumber), including testing and evaluation of characteristic structural properties to AS/NZS 4063. LVL that conforms with standards other than AS/NZS 4357.0 can still be used but will require evidence of suitability to meet the NCC requirements. AS/NZS 4357.0 covers the minimum production and performance requirements of the veneer, adhesives, bond quality and finished LVL. Ongoing testing in the manufacturing plant is required by AS/NZS 4357.0 to ensure that the LVL is fit for purpose and the performance claims made are achieved on an ongoing basis. **Manufacturers should have quality management, process control and appropriate equipment for manufacturing, monitoring, and testing to demonstrate they meet the product standard requirements.**

Documentation: Manufacturers, fabricators, and suppliers must produce relevant documentation such as technical data sheets, certificates of conformity or authenticity, and test reports that display their product's ability to meet required quality assurance benchmarks outlined by regulators. Architects, builders, and engineers should review this material when choosing a fit-for-purpose and conforming product.

Design principles and engineering guidelines: Design methodologies consistent with the NCC are essential when incorporating engineered timber into building projects. Well-defined load-bearing capacities and limitations of use for structural timber need to be followed to maintain robustness and reliability.

Building approvals: Before building can start, plans that include specifications pertaining to the use of timber products must be scrutinised by local building authorities, such as local governments or development assessment panels. These bodies review the plans to ensure they comply with the NCC and any local building codes before granting approvals.

Inspections and compliance checks: Inspections conducted during and after construction are crucial to ensure guidelines have been adhered to and timber products have been properly installed. This ensures plans conform to specific standards outlined by regulators. If non-compliant timber products are identified at this late stage, this can be very costly for the builder and timber supplier.

The most direct method requires conformity to all requirements of the LVL product standard, AS/NZS 4357.0 (Structural Laminated Veneer Lumber)

COMPLIANCE PATHWAY INCLUDES:

- ✓ Clear Documentation
- ✓ Design Principles and Engineering Guidelines
- ✓ Building Approvals
- ✓ Inspections & Compliance Checks

How to identify Conforming LVL

Specific branding requirements of AS/NZS 4357.0 allow for clear identification of the product in the marketplace and in service, which can be linked to design guides, published design properties, and limitations of use. Branding must include reference to the following information:

- Reference to AS/NZS 4357.0
- The manufacturer's name or trademark
- Product brand or marking that can be linked to structural properties
- Clearly stated limitations of use, if relevant
- The bond type (e.g., A-Bond)
- The formaldehyde emission class (e.g., E0)
- Additional branding may be required, for example, where LVL is preservative treated.

The EWPAA product stamp gives certainty that manufacturers products meets necessary Standards and Testing within Australia.



Product certification

A reputable product certification mark is a good way to have confidence that the manufacturing facility, the product, and associated claims have been inspected, audited, tested, and reviewed against the product standards by independent experts.

It is recommended that you look for products certified to a Type 5 certification scheme, by a certification body accredited to ISO 17065, which includes independent product qualification testing, on-going routine audits of the manufacturing process control and quality management, regular independent product testing, and market surveillance of

the certified products, such as [EWPAA's Product Certification Scheme](#).

Be aware that less reputable certification based on limited product testing and without on-going or independent product testing do exist in the market. Be sure to research the certification marks being applied to products, check the certification body's online registers, and where required information is missing or not available, ask to see evidence to support claims of conformance to AS/NZS 4357.0.



Environmental Choice

A related issue for builders and consumers is choosing building products with higher levels of environmental sustainability, including EWPs manufactured from forests that are certified to comply with sustainable forest management practices.

Forest certification is a reliable way of demonstrating the implementation of sustainable forest management practices. To have a forest certified as being sustainably managed, an audit is undertaken by an independent third-party certification body. The two major global forest certification systems are the Programme for the Endorsement of Forest Certification (PEFC) schemes and the Forest Stewardship Council® (FSC®). Responsible Wood is the Australian member of PEFC. Both the PEFC and FSC® are internationally recognised forest certification networks that provide recognition of regional and national standards that meet their criteria for sustainable forest management.

EWPs sourced from certified forests can be tracked (via labelling) through the supply chain using chain-of-custody certification provided by both forest certification schemes. This provides consumers with an assurance that the EWPs they are purchasing come from a sustainably managed and certified forest.

International Forest Certification demonstrates that the manufacturer supports and source sustainable forest management practices.



Conflict Timber

Timber from Russia & Belarus is considered 'conflict timber' and not certified by Responsible Wood/PEFC or FSC

A commonly accepted definition of conflict timber is *“Timber that has been traded at some point in the chain of custody by armed groups, be they rebel factions or regular soldiers, or by a civilian administration involved in armed conflict or its representatives, either to perpetuate conflict or take advantage of conflict situations for personal gain. (...) Conflict timber is not necessarily illegal.”*

In this definition, the term timber is used to cover any wood product.

While timber imported from Russia and Belarus is not banned in Australia, following the illegal invasion of Ukraine by Russia, imports from both Russia and Belarus have had an additional tariff of *35 per cent imposed effective from 25 April 2022* [Border Force notice [here](#)]. Timber importers must comply with the Illegal Logging Prohibition Act and undertake due diligence ahead of importation.

Additionally, PEFC and FSC® certification schemes are recognised under the Timber Legality Framework (TLF) in Australia. Both schemes include provisions covering conflict timber. Currently only product originating from Russia and Belarus is deemed to be conflict timber and cannot use PEFC or FSC® certification. [PEFC/Responsible Wood article [here](#)]





Summary

EWP (including LVL) use is growing quickly in Australia for residential, commercial, and civil construction. Concerns remain around imported products not meeting Australian standards or being misleadingly branded.

Non-conforming building products can have safety risks, increase costs, and damage the reputation of the industry.

This document explains the requirements for LVL to comply with the National Construction Code and Australian quality standards. Proper branding, certification, documentation, design, approvals and inspection are crucial in ensuring LVL products conform with these standards.

Signs of non-conforming LVL include missing branding details, questionable certification, and lack of acceptable documentation.

Builders, consumers and the supply chain need to use due diligence on product claims and only use conforming materials. Reporting suspected non-conforming building products is encouraged.

This report aims to explain the compliance issues around LVL products in Australian construction, and the importance of sourcing and using materials that adhere to standards and regulations.