Engineered Wood Products Association of Australasia

TECHNICAL ALERT

STRUCTURAL PLYWOOD CONFORMANCE AND BRANDING IN AUSTRALIA

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Disclaimer:

- *The Information provided in this Technical Alert is general in nature and is intended as a guide only. Whilst the information is accurate at the time of publication, it is the users' responsibility to confirm compliance with current standards and/or building codes.*
- *You should consult the manufacturer of each product for the latest, most accurate information about the product and its use. You should check with the designer or specifier for the project you are working on to ensure the product and its method of installation are suitable for that project.*
- *We provide this Technical Alert to you on condition that, to the maximum extent permitted by law, we will not be liable for any claim you might make for damage arising directly or indirectly from your use of the information in the publication.*

Structural Plywood is used within all building classes in Australia, in both commercial and residential construction. Supply comes from domestic and imported sources. The manufacturing process is complex and structural plywood products come in a range of grades and species combinations. Australian/New Zealand structural plywood standards suite *AS/NZS 2269* details standardised plywood grades, performance requirements for structural and bond quality, provisions for manufacturers to determine unique properties through testing, and branding requirements to enable communication of properties to the market. Product performance and branding are integral for choosing the correct plywood and ensuring it is 'fit for purpose' in the intended application. **Instances of non-conforming and poorly branded plywood have been observed in the market – this technical alert details what you need to look for in a complying plywood that is fit for purpose and meets the National Construction Code (NCC).**

PLYWOOD COMPLIANCE PATHWAY IN AUSTRALIA

All buildings must comply with the requirements of the NCC. This can be achieved by a deemed-to-satisfy solution, a performance-based solution, or a combination of both. Residential and commercial buildings can comply with NCC deemed-to-satisfy provision pathways by conforming to recognised product and design standards. Timber structures are designed in accordance with *AS 1720 Timber Structures – Design Methods* series and/or *AS 1684 Residential Timber Framed Construction* series. **Plywood conforming to all requirements of the plywood product standard suite *AS/NZS 2269* and designed in accordance with *AS 1720.1* and *AS 1684* is the most direct compliance pathway.** Plywood that conforms with standards other than *AS/NZS 2269* suite can be used but will require evidence of suitability to meet the NCC requirements before a building certifier can sign off on the construction. **The best protection for your business is to use due diligence to ensure your products are compliant with Australian standards and codes.**

PLYWOOD GRADES

Structural plywood carries a structural grade and a visual grade. The visual grade relates to the quality of finish on the face and back of the sheet – for example, a CD grade plywood has a C-grade face and a D-grade back. It is important to choose the appropriate visual plywood grade depending on the application:

- A-grade faces is suitable for appearance finishes where a clear coat is applied (e.g., feature wall and ceiling)
- S-grade is a variation of A-grade where some desirable natural features are allowed.
- B-grade faces are suitable for high quality paint finishes (e.g., furniture, painted walls, and cabinetry).
- C-grade faces are suitable where appearance is not critical, but a solid surface is needed (e.g., flooring substrate).
- D-grade face provides structural adequacy where appearance is not important (e.g., bracing walls).

Structural grades for plywood are standardised (F-grades), and communicate a set of bending, tension, shear, and compression properties for engineers to use in design. Manufacturers can also develop products with specifically engineered properties to suite the resource or specific application. The arrangement of veneers in the plywood layup also affects the structural performance of plywood. This flexibility requires manufacturers and suppliers of plywood to clearly communicate the structural performance of their unique products. This is achieved by branding the standard grade and veneer layup (construction code), publishing of unique structural properties, or publishing span tables (note: Legislative requirements apply, i.e. professional and registered engineering verification) linked to the product by a unique descriptor or performance rating.

TESTING

The structural performance of plywood for use in Australia is confirmed by testing and statistical evaluation in accordance with the Australian and New Zealand standards that are linked to design methods (*AS/NZS 2269.1, AS/NZS 2269.2* and *AS/NZS 4063.2*). **Structural plywood requires the full range of structural properties to be determined: Bending strength; Bending stiffness; Panel shear strength; Tension strength; and Compression strength.** The quality of the bond between veneers is also critical to structural performance and must meet the requirements of *AS/NZS 2269.0*.

BRANDING OF PLYWOOD

The specific branding requirements of AS/NZS 2269.0 allow for clear identification of the product in the market and in service and is used by builders and building certifiers to verify that the plywood is the correct plywood that has been specified for the application. **Branding must include reference to the following information:**

- Manufacturer's name or trademark.
- 'STRUCTURAL' or product description.
- Reference to AS/NZS 2269.0.
- Quality of face and back veneers (e.g., CD).
- The bond type (A-Bond).
- The F-grade or stress grade.
- The panel construction code (e.g., 17-24-7).
- The formaldehyde emission class (e.g., E_0).

Additional branding may be required, for example, where plywood is preservative treated. Each sheet of plywood must have the information legibly affixed at point of manufacture. If the manufacturer is using non-standard stress grades or construction codes, additional information needs to be provided with the product to communicate the structural performance.

CERTIFICATION

A reputable product certification mark (certified to a Type 5 certification scheme, by a certification body accredited to ISO 17065), such as EWPAA's Product Certification Scheme, is a good way to have confidence that the manufacturing facility, the plywood product, and associated claims have been inspected, audited, tested, and reviewed against the product standards by independent experts. Be aware that less credible certification based on limited product testing and without on-going or independent product testing or market surveillance do exist in the market. Be sure to research the certification 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 2269.0.

Type	Initial Product Conformity Assessment	Surveillance in Market	Surveillance & Testing at Point of Manufacture	Surveillance of Manufacturing Process	Future production is monitored	Initial evaluation of management system	Regular audits of management system
5	✓	✓	✓	✓	✓	✓	✓
4	✓	✓	✓	✓	✓	✗	✗
3	✓	✗	✓	✓	✓	✗	✗
2	✓	✓	✗	✗	✗	✗	✗
1	✓	✗	✗	✗	✗	✗	✗

If you suspect a non-conforming building product (NCBP), 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.