

## Compliance of structural plywood with the BCA and Australian Standards

### Purpose

To provide advice on the compliance of structural plywood with relevant legislation and Australian Standards.

### Background

Structural plywood is an engineered wood panel that is designed and manufactured to a known set of attributes. It is important to use structural plywood when a load is being exerted on a plywood panel.

The regulation of structural plywood used in buildings includes references to a number of Australian/New Zealand Standards. These standards require structural plywood to have attained certain stress grades for the strength of the wood's structure and its bonding amongst other requirements.

### Regulation

Under the deemed-to-satisfy provisions of Volume 1 of the Building Code of Australia (BCA) two timber standards are referenced: AS1720.1:1997 *Timber structures, Design methods* and AS1684:2006 *Residential-timber framed construction*. Both of these standards reference AS/NZS 2269:2004 *Plywood-structural* which specifies the requirements for the manufacture, grading, finishing and branding of structural plywood as well as other qualities for nominated stress grades. In Volume 2 of the BCA these two timber standards are also referenced, along with a direct reference to AS/NZS 2269:2004 in relation to structural plywood used as a cladding and as a water resistant floor substrate.

### AS/NZS 2269:2004

This Standard requires structural plywood to be branded by the manufacturer in a prescribed format to reflect the attributes of the structural plywood and to show it complies with AS/NZS 2269: 2004.

Structural plywood that is not branded as such in accordance with the Standard should not be used as a structural element in the construction of a building.

## Certification

JAS-ANZ is a Government appointed certification body for Australia and New Zealand. Manufacturers of structural plywood certified under a JAS-ANZ accredited certified scheme are entitled to display the JAS-ANZ symbol in association with the conformance assessment body's mark and a statement that certain Australian Standards have been met. This additional layer of assurance is valuable as the structural and bonding strength of plywood are not easily observed. Listings of accredited organisations and manufacturer's products certified to AS/NZS 2269: 2004 can be found on the JAS-ANZ website: [www.jas-anz.com.au](http://www.jas-anz.com.au) Products manufactured under such schemes will be labelled with the following accreditation mark:



The JAS-ANZ product certification mark satisfies the product certification requirements of the BCA.

## Structural plywood used as flooring underlay

Plywood is commonly used as a water resistant substrate under water resistant surface materials for floors in wet areas such as bathrooms, laundries and sanitary compartments. In this situation the BCA requires this plywood to be structural plywood manufactured in accordance with AS/NZS 2269:2004 and installed in accordance with AS 1684:2006.

## Structural plywood used in formwork

Where plywood is used in formwork, builders should ensure that the plywood used is structural plywood that complies with AS/NZS 2269 *Plywood-structural* and is of the specified type and the appropriate stress grade for the formwork assembly and that it complies with any relevant standard for the construction of formwork.

Here are some examples of unbranded plywood delaminating:



*Photograph courtesy of the Engineered Wood Products Association of Australasia.*

## Branding

It is important that builders ensure that where structural plywood is specified, required by the BCA or is required for formwork that only the correctly branded plywood is used. The failure to use the correctly branded structural plywood could result in a building surveyor identifying the non compliance of the plywood particularly at frame inspection stage and requiring removal of the plywood from the building works.

For information the branding requirements for structural plywood in AS/NZS 2269:2004 are as follows:

### 1.12 BRANDING

Each sheet of structural grade plywood shall have the following information legibly affixed thereon by the manufacturer at the point of manufacture at least once:

- (a) The manufacturer's name or registered mark.
- (b) The word 'STRUCTURAL' or product description.
- (c) Reference to this standard, i.e., AS/NZS 2269.
- (d) The grade of the outer plies (face first, back last), e.g., CC, CD or DD.

Where non-standard veneer grades are used, as permitted in Clause 3.4.1(c), branding shall include a descriptor that non-standard veneer quality has been used in the plywood assembly. This requirement may be met by reference to a product name or descriptor that references the non-standard veneer quality in that product's specific manufacturing specification.

- (e) The bond type of the glue-line, i.e., A BOND.
- (f) An indication of the stress grade of the sheet, e.g., F7.
- (g) The panel construction code, e.g., 17-24-7.
- (h) The formaldehyde emission class, e.g., E<sub>0</sub>.
- (i) If immunized or preservative treated, branding in accordance with AS/NZS 1604.3.

#### NOTES:

1. The requirements of Items (b), (c), (d), (e), (f) (g) and (h) should be set out as follows:

**STRUCTURAL — AS/NZS 2269**

**CD — A BOND — E<sub>0</sub>**

**F7 — 17-24-7**

The above example indicates structural plywood with a C quality face, a D quality back, a Type A bond, formaldehyde emission class E<sub>0</sub>, and a stress grade of F7 with a construction detailed for 17-24-7.

2. If the plywood is preservative treated, the appropriate Standard and treatment level should also be included, e.g., 'AS/NZS 1604.3—H3'.

## Issued by the Delegate of the Director of Building Control

### More information

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