

Building Code Compliance with New Zealand Structural Plywood A note for designers, merchants, builders and building inspectors

Is your structural plywood made to the New Zealand Standard?

The New Zealand Standard for plywood manufacture is AS/NZS 2269, a Joint Australian and New Zealand Standard, written by New Zealand and Australian technical experts for local conditions and regulatory requirements.

The New Zealand Building code requires timber framed buildings to be constructed in accordance with NZS 3604:2011 which references plywood to be AS/NZS 2269 compliant.

Is your plywood certified with an independent third party quality control programme?

Process

The manufacturing process for all structural plywood made by New Zealand (and other Australasian) manufacturers is **externally audited** twice yearly by the Engineered Wood Products Association of Australasia (EWPAA). In addition the programme includes **market place surveillance** with random product testing on sheets purchased from merchants to ensure quality control procedures are working. EWPAA also provides **training programmes** for staff at all levels for the certified mills.

The programme is “**In mill process quality control**” ensuring that quality is built in to the panel throughout the manufacturing process. Each certified mill has **quality control officers** (registered by the EWPAA) who are responsible for continual **internal auditing** of the process and product. The entire process is covered, including log quality, veneer peeling, drying, veneer grading, gluing, pressing and finishing. This ensures the physical and structural engineering properties are built in with reliability, durability and predictability.

Wood quality and structural performance

New Zealand made structural plywood is manufactured to deliver specified structural properties. Mills use mechanical grading or in-grade testing programmes in accordance with the standard to assign the correct F grade. Some New Zealand manufacturers also use sonic testing to measure the structural quality of every single veneer before gluing. These methods ensure that the plywood is of the correct strength and stiffness for the stated grade.

Bond quality

In addition to wood quality, the other critical part of a plywood sheet is the quality of the glue bond between the veneers. The EWPAA programme ensures that all variables in the gluing process are monitored and controlled throughout manufacture to achieve a permanent, durable, structural, A BOND.

Testing

Each New Zealand manufacturing mill has its own test laboratory to check bond and structural quality continually and matched samples are sent to the EWPAA labs for calibration and monitoring. Typically mills send two to three test specimens per day to the EWPAA NATA Accredited National Test Laboratory. Most production batches are thus subject to third party testing to provide the highest level of confidence and reliability.

Why is plywood quality important?

Plywood in housing is used for earthquake bracing, wind bracing, flooring, roofing and cladding. Apart from loss of appearance, the cost of failure can include death and financial loss. Ensure that plywood used on building sites is what has been specified on drawings **and** has the third party EWPAA certification stamp. (See Figure 1)

Traceability and call backs

When certified New Zealand made plywood is used, if there are any problems, every panel is stamped with information that can track the plywood to a manufacturer with a date and time of manufacture so that all issues with quality or performance can be resolved with local suppliers. Builders and users of EWPAA certified panels can have complete confidence that any claims, should they arise, can be dealt with locally, knowing that the New Zealand manufacturers stand behind their product.

Technical support

New Zealand manufacturers provide full technical support with 0800 telephone support through their sales, marketing and technical staff. Some provide brochures containing design and detailing information, span tables and drawings. Further independent and free technical advice on design, installation and products is available directly from EWPAA engineers and technical staff on +61 7 3250 3700.

How do I know it is EWPAA certified structural plywood to AS/NZS 2269?

Look for the stamp. Every sheet must have the following information specific to that sheet:

For compliance with the standard:

- The **Manufacturer's** name or mark
- The word **STRUCTURAL** or product description (brand)
- The number of the standard **AS/NZS 2269**
- The visual quality of the outer plies (e.g. **DD, CD or BD**)
- The bond descriptor **A BOND**
(Exterior, durable, structural PF glue that has passed durability tests in the factory)
- The stress grade (e.g. **F8, F11** or other **F grade**)
- The panel construction code **TT-VV-N** where TT is the thickness in mm, VV is the outer veneer thickness in 10ths of a mm, and N is the number of veneers. (e.g. 17-24-7 is a 17 mm thick panel with 2.4 mm face and back veneers and 7 veneers in total.) This determines the structural properties of the panel. For special constructions the engineering properties "I" and, or "Z" may be printed on the sheet.
- Formaldehyde emission class (typically **E₀** or better for New Zealand made PF bonded plywood)
- Treatment Hazard class, if preservative treated.

For compliance with the EWPAA quality control programme:

Products manufactured under the EWPAA certification scheme must additionally include:

- The **Mill number**
- The **EWPAA stamp** or the text **EWPAA** with the words Product Certified. (see Figure 1)
- and may include the **JAS-ANZ** stamp. (Figure 1)

JAS-ANZ provides an extra layer of security. JAS-ANZ is the government-appointed accreditation body for Australia and New Zealand responsible for providing accreditation of conformity assessment bodies (CABs) in the fields of certification and inspection. Accreditation by JAS-ANZ demonstrates the competence and independence of these CABs. EWPAA is JAS-ANZ accredited.



**Figure 1: The EWPAA Structural Plywood Certification Mark (left) with JAS-ANZ stamp (right).
Some manufacturers may use the text “EWPAA Product Certified” in place of the logo.**

References:

Technical Note “Warning notice re substituting imported PS1-95 Industrial Plywood for AS/NZS 2269:2004 structural plywood”.

See http://www.ewp.asn.au/newsandmedia/downloads/tech_note_ps1-95_vs_asnzs_2269.pdf

AS/NZS 2269.0:2011

NZS 3603:1993 Timber Structures

NZS 3604:2011 Timber framed buildings