Premier Building Products Limited

Technical Manual for Premier Structural Plywood H3.2 CA Treated & Untreated

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1. Introduction

This manual serves as a comprehensive guide for understanding and working with Premier Structural Plywood.

Within this manual, you will find detailed information about the product specifications, installation guidelines, maintenance and care, warranty and safety precautions.

2. Product Specifications

Premier Structural Plywood

1. Structural plywood is formed by bonding pre-treated thin layers of wood together in a criss-cross pattern, resulting in a material that is stronger and more stable than solid wood.
2. Plywood has a high strength-to-weight ratio, making it perfect for applications such as roofs, walls, and floors where minimizing weight is important without compromising durability.
3. Structural plywood is available with C and D facing grades, which determine its appearance and intended use.
4. It is treated with H3.2 (micronized copper azole or MCA), which enhances its resistance to decay and insect damage.
5. The plywood features a plastic tongue along one edge and a groove on the opposite edge, running the length of the sheet. This allows for easy edge jointing without the need for additional timber support.
6. Sheet sizes are available in various dimensions, specified as length x width x thickness in millimetres.

Structural Plywood Compliance

- Comply with AS/NZS 2269.0:2012
- Chemical treatment meets the requirements of the specifications for H 3.2 Copper Azole (CuAz) treated Plywood for use in New Zealand as per AS/NZ 1604.1:2021
- WBP Marine Bonded Phenolic Glue, A-Bond
- Formaldehyde emission class, Super E0
- Sheet Stress grade - F11

3. Substrate Requirement

1) Flooring

The flooring framing should adhere to the regulations set out in NZS 3604:2011 (section 7) or be custom designed according to NZS3603:1993. If an existing substrate is being used, the designer must confirm its suitability for the intended construction and purpose. Floor loads, as stated in NZS 3604:211 (section 1), need to be taken into account. Premier Plywood can serve as a structural floor diaphragm if it is specified in accordance with NZS 3604:2011 (section 7).

2) Deck or Roof

Specifications must comply with E2/AS1, with all fixings (materials and spacings) following NZS 3604:2011.

Installation Guidelines

Structural plywood can be used as a substrate for permanent weather barrier systems like roofing shingles, tiles, and under membrane systems. For roof and deck membrane systems, a minimum C grade face is recommended. Note that membrane adhesives may not be compatible with LOSP-based treatments, so refer to the membrane system treatment requirements.

- When using treated plywood, it is recommended to retreat cut ends with a brush-on preservative such as Metalex. Avoid using untreated plywood in weather-exposed areas.

These installation guidelines cover important aspects such as substrate preparation, fastening methods, spacing requirements, and recommended adhesives. By carefully following these guidelines, you can ensure proper installation that maximizes the performance and durability of your structural plywood.

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Essential Tools and Materials for Plywood Installation

The following tools and materials are necessary for a smooth plywood installation:

- Circular saw or table saw
- Safety goggles
- Spirit level
- Screws or nails
- Orbital sander
- Pry bar
- Crowbar
- Sealant
- Plywood sheets
- Dust mask
- Drill
- Circular saw guide
- Clamps
- Tape measure
- Screwdriver bits
- Wood glue

General Installation for Walls and Floors:

- Fixings should be a minimum of 7mm from sheet edges for square edge panels and 15mm minimum from tongue and grooved edges.
- Use corrosion-resistant fasteners such as hot-dip galvanized fasteners or stainless steel when using H3 CCA treated plywood.
- If stainless steel nails are used, ensure they are annular grooved.

Installing Premier Plywood to Floor Joists:

- Install plywood perpendicular to the run of the joists.
- Fully screw and glue sheets using suitable construction adhesive.
- Apply construction glue to the full perimeter of the sheet and all intermediate joists.
- Fixings spaced at 150mm crs to the perimeter of the sheet and at 300mm crs to intermediate supports.
- If flooring plywood is specified as a diaphragm system, install according to engineer's details.

Installing Premier Plywood to Wall Framing:

- Wall framing should comply with NZS3604:2011 and the New Zealand Building Code.
- Fixings spaced at 150mm crs to the perimeter of the sheet and at 300mm crs to intermediate supports.
- If plywood is specified as a wall bracing system, follow engineer's details or bracing specification for installation of fixings.

Installing Premier Plywood to Deck and Truss:

- If applicable, refer to the plans and specifications or adhere to the E2/AS1 guidelines for installation.
- For membrane decks or roofs, ensure that all fixings are flush or countersunk with the surface of the Premier Plywood. It is crucial to remove any sharp sheet edges that could potentially damage the membrane.
- Prior to installation, the membrane installer must verify that the moisture content of the Premier Plywood meets the specifications provided by the membrane manufacturer. This step is vital to ensure proper performance of the membrane.
- Maintain a minimum spacing of 400mm between support timbers for optimal structural integrity.
- The sheet edges of the Premier Plywood should have a minimum chamber of 5mm, maintaining a precise and secure fit.
- Thoroughly inspect the surface for any joist deflection. If necessary, adjust or pack the area to achieve a flat and even surface for installation.

Product Limitation

Untreated plywood has usage limitations. It should not be used externally or in areas with high moisture. H3 treated plywood should not touch the ground. Smooth face plywood is not suitable for cladding; instead, consider using Premier Fiber Cement Board Cladding, designed specifically for exterior use. Make sure only compatible materials/fixings are in direct contact with CCA-treated plywood.

Recommended plywood fixing

Ply Thickness	Timber Framing		Steel Framing	
	Flat Head	Screws	Thick <1.5mm	Thick <2mm
12	50 x 2.8	8 x 40	10-24-40	10-16-40
15	50 x 2.8	8 x 40	10-24-40	10-16-40
17	60 x 2.8	8 x 50	10-16-45	10-16-45
19	60 x 2.8	8 x 50	10-16-45	10-16-45

Important Notes:

- When using screws, predrill 2.4mm pilot holes to prevent splitting the sheets.
- Drill the holes 2-3mm deeper than the screw length.
- Avoid overtightening screws, as this weakens their holding strength.
- All fasteners must be a minimum of hot-dipped galvanized, stainless steel, or silicon bronze when sued with H3.2 CCA treated Premier Plywood.
- Material selection should comply with NZS 3604:2011, section 4.
- Fastener embedment shouldn't exceed one veneer.

Floor Fixing

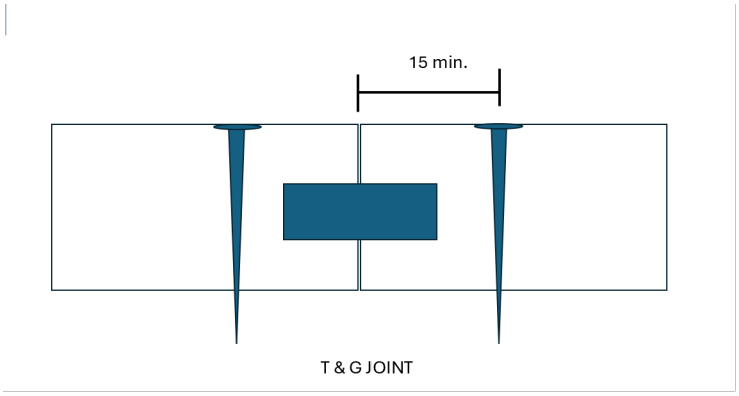
- 60x2.8mm flat head nails (annular groove for stainless steel) with panel adhesive.
- 65 x 2.81mm ring shank mechanical gun nails (set depth to one veneer)
- 10g x 45mm countersunk, course thread woodscrews (stainless steel for wet areas)

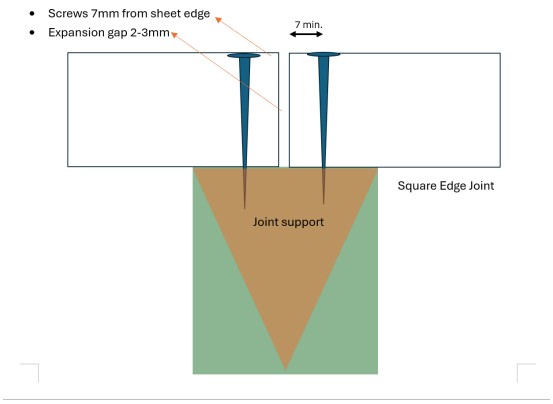
Roof and Deck Substrate Rafter and Joist Fixings

- 60x2.8mm flat head nails (annular groove for stainless steel) with panel adhesive.
- 65 x 2.87mm ring shank mechanical gun nails (set countersink depth to one veneer)
- 8g x 40mm countersunk, course thread woodscrews (stainless steel)

Expansion Gaps

Expansion gaps of 2-3mm are necessary at the square ends of the sheets for flooring and roofing installation. The tongued edge can be installed without a gap since there is a relief rebate on the back face of the sheet to accommodate expansion and contraction. Tongue and groove joints do not need extra support under the sheet edges.





4. Maintenance and Care

When using treated plywood, it is advisable to apply a brush-on preservative, such as Metalex, to the cut ends. It is important not to use untreated plywood in locations exposed to weather.

Construction Exposure

During construction, Construction Exposure Plywood can withstand normal weather exposure for up to 3 months. If the plywood is intended to be left exposed, it is recommended to protect it during construction to minimize staining or weathering. In cases of excessive wetting, all timber should be allowed to return to normal moisture content levels (18%) before being closed in.

Handling and Storage

Premier Plywood should be delivered in a dry and undamaged condition, free from any freight or handling issues. Upon delivery, it is important to inspect all panels. The plywood should be lifted off the truck using either a hoist or by hand. When storing the panels, they should be stacked horizontally, kept dry, and positioned at least 100mm above the ground. It is crucial to support the panels on dry and clean timber bearers, ensuring they are spaced at a maximum of 900mm apart and placed at both ends of the panels. To maintain the dryness of the plywood panels, store them within an enclosed building or use an additional weatherproof cover if storing them outside. It is essential to provide sufficient air flow to prevent condensation. Lastly, avoid storing the plywood over standing water or vegetation.

5. Safety Precautions

Take all necessary steps to ensure your safety and the safety of others, including:

- Ensuring proper ventilation or dust extraction when cutting and drilling.
- Using well-supported sheets when cutting.
- Wearing appropriate safety equipment, clothing, and footwear.
- Following the instructions provided in the tool manuals.
- Clearing the work area before starting any task.
- Installing edge protection or scaffolding when working at heights.

For further information, refer to:

- WorkSafe, Absolute Essential Toolkit
- WorkSafe, Health and Safety at Work - Quick Reference Guide

6. Product Warranty

Premier warrants that, when correctly specified, handled, installed, and maintained in accordance with Premier's technical literature and relevant New Zealand standards, the product is designed to achieve durability and structural performance consistent with the requirements of NZ Building Code Clause B2 for structural building elements.

For durability performance, the product is intended to provide service life appropriate for its structural application as required by NZBC Clause B2, commencing from the date of installation.

Please refer to Premier Building Products Ltd. Warranty Policy.