Triboard®

triboard® HD

Laminex™ NEW ZEALAND

Introduction

Triboard® is an E0 rated, engineered wood panel made in NZ from 100% Sustainable Radiata Pine. Creating clean lines with superior strength, as its name suggests, Triboard® consists of 3 layers; A dimensionally stable Strandboard® core sandwiched between a fibre board "skin". Up to 30% lighter than comparable wood panel products, the innovative combination of smooth surfaces and inner strength makes Triboard® suitable for a wide range of applications.

Smooth, strong and versatile

High density (HD) Triboard® has excellent resilience and impact resistance properties. It delivers greater stiffness for the same weight when compared to other reconstituted wood panels and is ideal for use as a wall lining. The smooth medium density fibre board surface offers an excellent paint finish and the assurance of superior screw holding ability.

triboard® HD

Suggested use:

- General purpose wall and ceiling lining
- Staircases
- Bracing panels (10 and 15mm)
- Domestic, industrial and commercial shelving
- Substrate for veneers and laminates

Durability

When stored, handled, installed and maintained in accordance with this document, Triboard® HD will meet the provisions of NZBC B2.3.1(c) for five years (dependent on end use).

Limitations

Triboard® products:

- Are intended for dry interior use only and must not be used as a substrate for external weathering materials - such as Nuralite, Butynol and other similar membrane materials
- Must not be used for a flush plaster stopped jointing system to be subsequently wallpapered or painted (exceptions to this only apply to proprietary glued drywall partition systems)
- Ceiling lining installations exposed on the upper face to elevated temperatures and low humidity conditions in roof spaces, must have insulation placed directly on the upper surface and have adequate provision for air change within the roof space
- All panels laid over exposed rafters/purlins, must be paint sealed on all edges and both faces after conditioning and prior to installation to reduce moisture and humidity uptake during construction and building occupation
- Must be paint or clear polyurethane finished prior to building occupancy
- The application of water based spray-on textured coatings must not be used
- Panels should not be subjected to conditions that will allow the moisture content to be above 16%.

Triboard must not be used for:

- Exterior use
- Areas subjected to repeated water spillage or constant dampness
- Marine uses
- Shower linings
- Saunas
- Window reveals
- Exterior door panels.

Product Care and Handling

- Due to the uptake of airborne moisture, permanent panel distortion may occur if Triboard® is placed in close proximity to timber framework with a moisture content exceeding 18%
- Adequate pre-conditioning prior to installation is essential for satisfactory results, especially during wet seasons and high humidity. Panels should be filleted and conditioned for a minimum period of 48 hours prior to installation
- Attention to site storage, pre-conditioning at the point of installation and provision of specified joint clearances will reduce the effects of moisture uptake after installation and help to accommodate any panel movement.

Storage

- Correct storage procedures will eliminate sagging and permanent distortion of panels
- Panels must be stored away from heat and direct sunlight
- Panels must be flat and stacked on evenly spaced level bearers clear of dry ground, or a dry concrete surface
- Bearers must be of uniform thickness and must extend across the full width of the pack (Refer Figure 1)
- Strapping should be cut from packs as soon as practicable to avoid edge indentations
- Triboard® panels must be protected from the weather. A breather type cover must be supported clear of the top and sides of the panels using battens to allow air to circulate freely (Refer Figure 1).

Stock Rotation

- The uptake of atmospheric moisture into board edges, which causes edge peaking, can be minimised by regular stock turn.

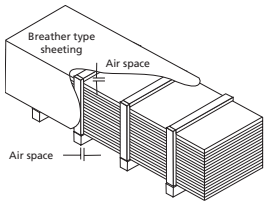


Fig 1

Stack panels using equally spaced bearers and, if necessary, a breather-type cover for weather protection (Note: provision for air circulation)

Composition

- Triboard® products are composed of a core of engineered strands bonded with pMDI resin and MDF fibre surfaces bonded with melamine Urea Formaldehyde resin.

Identification

- Board size, classification and production batch number is denoted on the label on the side of the pack.

Dimensions	Target
Length	+/- 2mm per metre with a 5mm maximum
Width	+/- 2mm per metre with a 5mm maximum
Thickness	+/- 0.2mm
Squareness	≤ 2mm per metre difference in the diagonals

Table 1 - Tolerances ex factory

Heat

- Precautions must be taken to ensure that Triboard products are kept well clear of nearby heat sources, such as free standing fireplaces, space heaters, ovens, cooking elements, etc. The structural life of Triboard may be impaired if the surface temperature exceeds 50 degrees C. Manufacturers of heat appliances must be consulted to ascertain the clearances or protection required to ensure 50 degrees C is not exceeded.

Formaldehyde

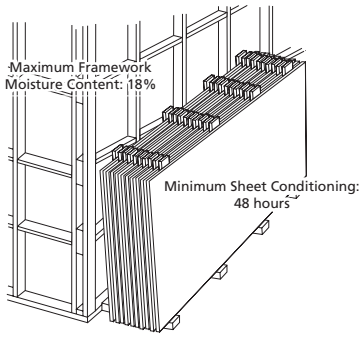
- Triboard products are manufactured to meet E0 formaldehyde emission levels when tested to AS/NZS 4266:16.

Design considerations

Moisture

- Triboard® must not be exposed to water or high humidity situations such as shower enclosures, steam rooms and saunas (See Limitations). As with most wood based products, Triboard® is subject to minor dimensional variations due to changes in relative humidity, resulting in expansion and shrinkage
- Triboard® products are manufactured with adhesives which give improved durability and stability in areas of high surface humidity, but they are not water proof and must not be allowed to come into direct or prolonged contact with water. The panels must be finished with a protective coating system to prevent moisture penetration
- If the moisture content of the Triboard® panel is above 16% it is considered to be damp and the long-term durability of the panel cannot be guaranteed. Most coating systems such as polyurethane require the panel moisture content to be below 15% for best results
- Panel conditioning of raw board prior to installation is of utmost importance, especially during periods of high rainfall and accompanying high humidity (Refer Figure 2).

Fig 2



Fire Properties

Wall and Ceiling lining surface performance - Group Classification Number 3

The Group Number Classifications are generated from tests carried out and data produced in accordance with the test procedure described in ISO 5660 2002 – Reaction to Fire test – Part 1: Heat Release and Part 2: Smoke Production Rate, for the purposes of determination of the Group Classification in accordance with the New Zealand Building Code Verification Method C/VM2. Appendix A BRANZ Fire test report FH5119

Paint Coatings

Proprietary flame retardant coating systems are available. Refer to your local paint supplier for further information.

Finishing

All surfaces will require sanding prior to finishing.

Stopping

All fastener holes should be filled with a solvent based wood dough or a non-shrinking plaster based filler. Tinting may be required for clear finishing.

Painting

Acrylic primer coatings will provide a more textured surface than alkyd (solvent) based paint systems. Triboard® is a good substrate for most paint applications. Please follow paint manufacturers recommended system.

Clear Coatings

If clear finishing Triboard® wall and ceiling linings, there may be visual aspects in the surface which are only highlighted once the coating has been applied. Please ensure the surface finish meets visual expectations. Polyurethane coatings will provide protection to wall and ceiling linings in normal domestic applications for up to 5 years provided they are properly applied and maintained.

Installation

Allow for the stud, purlin, rafter, beams etc, to accommodate a 2mm expansion gap at Triboard® panel joints especially where large areas or long walls are to be covered. (refer Figure 3a). For negative detailing, allow 8mm gap on a pre-painted stud. Refer Figure 3b).

NOTE: Ensure sheets are pre-conditioned prior to being sealed.

Fig 3a

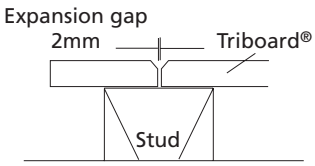


Fig 3b

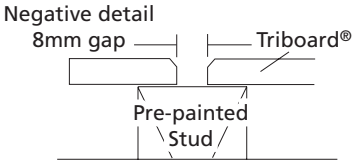


Table 2

Framework Support Centres				
Wall Lining			Ceiling Lining	
Panel Thickness (mm)	Stud Centres (mm)	Dwang Centres (mm)	Joist/Truss Centres (mm)	Dwang Centres (mm)
10	400	1200	450	1200
	450	1200	600	1200
	600	800	900	600
			1200	600
15	400		900	1200
	450		1200	900
	600	1200		

Exposed beam ceilings

- Pre-condition all sheets, and then prime all surfaces and edges prior to fixing ceiling sheets
- Weather protection is essential to avoid exposure to inclement conditions during the construction period
- Where practicable, install exposed interior ceiling lining progressively with exterior roof covering. The preferred method of installation is to fix after the roof is in place
- Skillion roofs require special care. Maintain an air gap between the top of the insulation and underside of the roofing underlay, from the soffit to the ridge. This gap allows air circulation to regulate humidity and temperature.

Working Characteristics

Triboard® can be easily machined, grooved and routed in any direction. To avoid break-outs use a fine toothed hand saw or circular saw adjusted to protrude just through the board surface and apply only nominal pressure when using power drills. Tungsten-tipped machine tools are recommended for volume production.

Fixing

- Panels can be fixed to timber or steel framing. When fixing to steel framing, 12 gauge self drilling screws can be used.

Fixing Schedule

Note: Screws are minimum 8 gauge. For the best results ensure hand and machine tools are sharp, and always use approved eye protection when machining Triboard®.

Table 4

Panel Thickness (mm)	Nail Size (mm)	Screw length (mm)	Fixing Centres Edges (mm)	Fixing Centres Intermediate (mm)	From Panel Edge (mm)
9/10	40 x 2.5	30	150	200	10
12	40 x 2.5	30	150	200	10
15	40 x 2.5	40	150	200	10

*If using panels of a greater thickness, nail fastenings should be 3 times the thickness of the sheet.

Wall Bracing

Wall Bracing Values

Fig 4

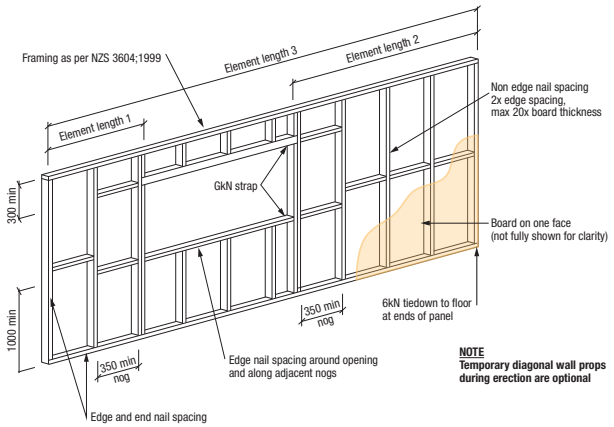


Table 5

Type of board	Minimum wall length (mm)	Nail spacing (mm)	Tiedowns (kN)	BU/m wind	BU/m e'quake
10mm Triboard	600	150	6	110	125
15mm Triboard	600	150	6	120	130

Notes

1. Nails for fixing board to wall framing to be 40 x 2.8mm diameter galvanised flat head nails.
2. Fixing using gun fired brads is approved. Wind bracing rating is 55 BU/m.
3. 12kN tie down only to be used into concrete floor.
4. Nails* for fixing board to wall framing to be 40 x 2.8mm diameter galvanised flat head nails.
   *Gun fired nails (FRH) or screws (8ga) of equal or longer lengths are acceptable as an alternative.
5. Intermediate nogs are not necessary for 15mm Triboard®.
6. The bracing units shown are for board fixed to only one side of the framing.
7. The bracing units shown are for a 2.4m high wall.
   For walls more than 2.4m high, the bracing units need to be reduced on a pro rata basis as per NZS 3604, e.g. for a 3m high wall. The bracing units (wind) for 9mm strandboard are $^{2.4}/_{3}$ x 100 = 80.
8. Fixing to intermediate framing is at 300mm centres.
9. Elastomeric wood panel adhesive in dabs at 300mm centres required. (Avoid glue and fixing in same location).

The above information has been developed from tests carried out in the Timber Laboratory of SCION, Rotorua over the period 31 October to 26 November 2008 and 20 May 2014. The testing was carried out in accordance with the P21 test method and the results were evaluated on 23 February 2012 and 20 May 2014 as per the P21 2010 test method.

Liability

Laminex New Zealand™ will not be liable to any person if the instructions as to storage, use and installation of Triboard® as outlined in this brochure are not complied with.

Any proprietary products referred to in this brochure must be used in accordance with the relevant manufacturer's instructions. Laminex New Zealand™ accepts no liability for these proprietary products.

Nothing contained in this paragraph or elsewhere in this brochure affects any rights a person may have under the Consumer Guarantees Act 1993.

This brochure supersedes all previous issues. All Acts, Codes and Standards referred to in this brochure are the current editions at the date of brochure publication.

Health And Safety

Health and safety precautions must be taken when working with wood products. The following information is intended as a guide to help keep you safe.

- Exposure to wood dust and/or to formaldehyde may cause irritation to the eyes, respiratory system, skin and may cause sensitisation resulting in asthma, and by skin contact resulting in dermatitis.
- Wood dust is classified as a known carcinogen. Repeated inhalation of wood dust over many years may cause nasal cancer.
- Formaldehyde is classified as a known carcinogen.
- Work areas must be well ventilated and kept clean. Sawing, sanding and machining equipment must be fitted with efficient working dust extractors capable of extracting fine dust created by working with wood to ensure dust levels are kept within standards set by WorkSafe Australia and WorkSafe New Zealand, or the specific country of use. Hand power tools should be fitted with dust collection bags.
- The use of a dust mask should be considered a last line of defence (a low- level control) and should not be considered as the only form of safety equipment to be used. All dust masks must conform with AS/NZS 1716 and be kept clean for regular use in accordance with AS/NZS 1715: 2009. Eye protection must also be worn which complies with AS/NZS 1337.
- Offcuts, shavings and dust must be disposed of in a manner which avoids the generation of dust and in accordance with the requirements of local waste authorities. Do not use air lines to blow areas/machines clean. It is recommended you use a vacuum fitted with a HEPA filter. Dispose of dust regularly to avoid build up and risk of fire or explosion.
- In end use applications all product surfaces exposed to occupied space must be sealed.
- For further information and safety data information, please phone Laminex New Zealand™ Customer Services Department, 0800 303 606.

Technical Support

As not all product use options can be described in this brochure, additional end use and specifying information is available.
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