

strandboard®



# Product description

Strandboard® is a versatile reconstituted wood panel manufactured entirely from renewable plantation Pinus Radiata timber. It is designed specifically for a range of building and furniture, and joinery applications.

Strandboard® is identified by its characteristic wood strand surface. The resin used has been developed to resist the effects of moisture in areas of high humidity.

## Uses:

- Wall and ceiling linings
- Partitions – in general areas including changing rooms and toilets
- Flooring overlays
- General cabinet carcass work
- Wall bracing

# Product details

## Durability

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

## Limitations

### Strandboard®:

- Is recommended for dry interior use only and must not be used in an external situation.
- Must not be used for a flush plaster stopped jointing system, to be subsequently wallpapered or painted (exceptions to this may 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.
- Surfaces facing the habitable space must be coated or covered prior to occupation of the building (refer to finishing section for more information).
- The application of water based spray-on textured coatings must not be used.

### Strandboard® MUST NOT be used for:

- Exterior applications
- Areas subjected to repeated water spill or constant dampness
- Marine use
- Shower lining
- Saunas
- Indoor pools
- Window reveals
- Exterior door panels

Strandboard® panels are **not waterproof** and therefore **must not** be allowed to come in direct or prolonged contact with water. The panels must be finished with a protective coating prior to occupation of the building.

## Product care and handling

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.

- Due to the uptake of airborne moisture, permanent board distortion may occur if Strandboard® is placed in close proximity to framework with moisture content exceeding 18%.
- Attention to storage, regular stock rotation, preconditioning at the installation point and provision of adequate joint clearances will help accommodate any board movement.

## Storage

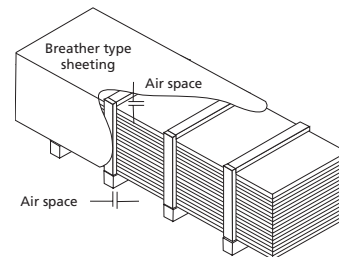
Correct storage procedure will eliminate sagging and permanent distortion of sheets.

- Store away from heat and direct sunlight.
- The panels must be flat stacked on evenly placed level bearers clear of dry ground, or on a dry concrete floor.
- Bearers must be of uniform thickness and must extend across the full width of the pack (refer figure 1).
- Strandboard® 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 will be minimised by regular stock turn. Cut plastic strapping as soon as practicable to avoid edge indentations. Avoid storing close to doorways adjacent to external atmosphere.

Figure 1



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

## Composition

Strandboard® is composed of engineered wood strands bonded under heat and pressure.

## Bonding adhesives

Strandboard® is bonded with a non-formaldehyde pMDI resin system. The resulting Strandboard® sheets are sanded and ready for use.

## Moisture

Strandboard® must not be exposed to water or high humidity situations such as shower enclosures, steam rooms and saunas (refer limitations).

As with most wood based products, Strandboard® is subject to minor dimensional variations due to changes in relative humidity resulting in expansion and shrinkage.

## Identification

Board size, classification and production batch number are denoted on the packaging banner.

**Table 1**

| Strandboard® 12mm product range (nominal) |             |             |
|---|-------------|-------------|
| Panel sizes (mm)                          | 3600 x 1200 | 2400 x 1200 |
| Thickness (mm)                            | 12          | 12          |
| Weight (kg) per m <sup>2</sup>            | 8.19        | 8.19        |
| Weight (kg) per panel                     | 35.4        | 23.6        |
| Panels per pack                           | 50          | 50          |
| Weight (kg) per pack                      | 1775        | 1185        |

**Table 2**

| Physical properties (value ex-press)   |      |
|--|------|
| Density (kg/m <sup>3</sup> ) (nominal) | 660  |
| MoR (Mpa) (minimum)                    | 18   |
| MoE (Mpa) (minimum)                    | 2900 |
| Internal bond (kPa) (minimum)          | 500  |
| 24 hour thickness swell (%) (maximum)  | 20   |

**Table 3**

| Tolerances (ex factory) |   |
|-------------------------|---|
| 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 |

**Heat**

Precautions must be taken to ensure that Strandboard® is kept well clear of nearby heat sources, such as free standing fireplaces, space heaters, ovens, cooking elements, etc.

The structural life of Strandboard® may be impaired if surface temperatures exceed 50°C. Manufacturers of heat appliances must be consulted to ascertain the clearances or protection required to ensure 50°C is not exceeded.

**Formaldehyde**

Strandboard® is classified as Super E Zero (SE0) when tested in accordance with AS/NZS 4266.1: 2017 Formaldehyde Emission - Desiccator Method, similar classification as solid untreated wood. The resin used to manufacture Strandboard® is non-formaldehyde based. Despite that, low levels of formaldehyde gas naturally present in the wood may be released from the product under some conditions. Formaldehyde is classified as a known carcinogen. However, in well ventilated areas the concentration of formaldehyde is unlikely to exceed the World Health Organisation Standard of 0.1 ppm for the general environment.

**Table 4**

| Thermal resistance of Strandboard        |      |
|--|------|
| Thermal conductivity (w/m °C)            | 0.11 |
| Thermal resistance (m <sup>2</sup> °C/w) | 0.11 |

**Table 5**

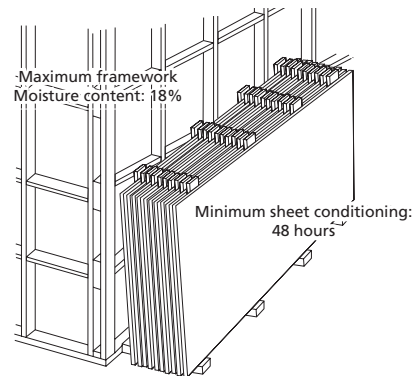
| Strandboard acoustic performance           |             |
|--|-------------|
| Strandboard Sound Transmission Class (STC) | Test Method |
| 25dB                                       | ISO 10140-2 |

**Design considerations**

Attention to site storage, pre-conditioning at the point of installation and provision of specified edge clearances will reduce the effects of moisture uptake after installation and minimise panel movement.

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).

**Figure 2**



**Wall and ceiling lining**

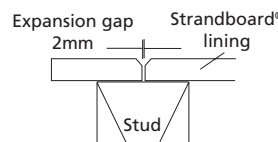
Strandboard® must not be placed in close proximity to framework with moisture contents in excess of 18% (refer figure 2).

**Framework setout**

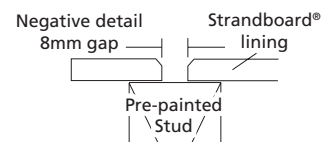
Allow for the stud, purlin, rafter, beams etc, to accommodate a 2mm expansion gap at Strandboard® panel joints. This is especially relevant where large areas or long walls are to be covered (refer figure 3a). For negative detailing, allow an 8mm gap on a pre-painted stud (refer figure 3b).

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

**Figure 3a**



**Figure 3b**



**Table 6**

| Framework support centres (maximum spacing) |               |                     |               |
|---|---------------|---------------------|---------------|
| Wall lining (mm)                            |               | Ceiling lining (mm) |               |
| Stud centres                                | Dwang centres | Joist/truss/battens | Dwang centres |
| 400   | 1200          | 400/450             | 1200          |
| 450   | 1200          | 600                 | 1200          |
| 600   | 800           | 900                 | 600           |
| -   | -             | 1200                | 600           |

### 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 the 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.

### Flooring overlays

When upgrading existing wooden floors, Strandboard® may be used as a substrate for other floor finishes.

Preparation guidelines are:

- The existing floor should be sanded level.
- Using a staggered sheet layout pattern, preconditioned Strandboard® boards must be fixed combining a nail and full spread adhesive application.
- For full instructions refer to the flooring overlays section of the Strandfloor® Technical Manual.

Table 7

| Nailing schedule                 |           |
|----------------------------------|-----------|
| Nail size* (mm)                  | 40 x 2.5  |
| Screw Size                       | 8g x 40mm |
| Fixing centres (mm) edges        | 150       |
| Fixing centres (mm) intermediate | 200       |
| From sheet edge (mm)             | 10        |

\*All fastenings must be corrosive resistant.

### Wall bracing values

Wall bracing tests have been carried out for 12mm Strandboard®. Please refer table 8 bracing values.

Table 8

| Wall bracing information     |      |
|------------------------------|------|
| Bracing units (BU) per metre | 12mm |
| Wind                         | 110  |
| Earthquake                   | 125  |

### Notes:

- Nails to be 40 x 2.8mm galvanised flathead at 150mm centres around the perimeter and at 200mm centre up any intermediate stud.
- Tested panel on one side of framing only – no consideration given to other lining material.
- Minimum braced wall length to be 600mm.
- End tie downs to be 6kN.
- At least one row of dwangs (nogs) are required.
- The bracing units shown are for a 2.4m high wall. For walls greater than 2.4, the bracing units shall be reduced on a pro-rata basis as per NZS 3604.
- Gun fired nails (FRH) or screws (8g) of equal or longer length are acceptable as an alternative.
- Fixing using gun fired nails is approved. Wind rating is 55BU/m.
- 12kN tie downs for concrete floors.
- Elastomeric wood panel adhesive in dabs at 200mm centres required. Avoid glue & fixing in same location.

## Openings in bracing elements

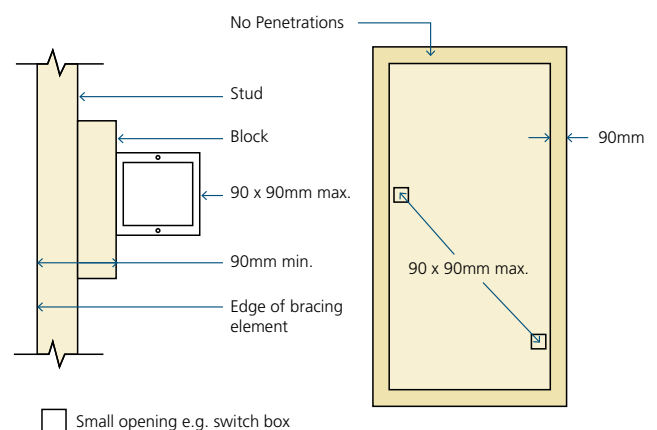
### Small openings

Small openings (e.g. power outlets) of 90 x 90mm or less may be placed no closer than 90mm to the edge of the braced element. A block may need to be provided alongside the perimeter stud as shown below.

### Large openings

Openings above 90 x 90mm such as switch boards, recessed cabinets and TV's etc. should be placed outside of the bracing element or locate bracing on the other side of the wall framing.

Figure 4



## Working characteristics

Strandboard® 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.

### Note:

For best results, ensure hand and machine tools are sharp. Always use approved Personal Protective Equipment (PPE) such as gloves, safety footwear, dust masks and safety glasses.

### Fixing

- The installation of linings must not begin until the building is closed in and waterproof.
- A 3mm sheet edge clearance is advisable for all sheet sizes during wet winter months or in extremely humid conditions.
- Board surfaces should be primed or clear sealed immediately after fixing, to minimise the effects of atmospheric moisture, or direct sunlight and to resist marking during construction activities.

## Finishing

All surfaces will require sanding prior to finishing.

### Stopping

Fill fastening holes with a water based filler or solvent-based wood dough tinted as required for the specific coating applications.

### Clear finishing

Best results are achieved by employing a professional painter who should follow the coating manufacturers instructions. Consult with the coating supplier for professional advice and recommendations for preparation and application of their coatings.

### Painting

Acrylic primer coatings will provide a more textured surface than solvent based paint systems. Strandboard® is a good substrate for most paint, stain and oil applications.

## Red List Free

Strandboard® is declared as Red List Free in the Declare Products Database. This is a globally recognised nutrition label for the building products industry, formed as part of the Living Building Challenge. Red List Free products have all ingredients disclosed in the Declare database and none of those ingredients appear on the Living Building Challenge Red List.

## Health and safety

Health and safety precautions must be taken when working with wood products.

- Exposure to wood dust and/or to formaldehyde may cause irritation to the eyes, respiratory system and 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 routing equipment should be fitted with dust extractors such that dust levels are kept within standards outlined by Worksafe Australia, Worksafe New Zealand or the specific country of use. If not, wear a dust mask conforming with AS/NZS 1715 and AS/NZS 1716 and eye protection conforming 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.
- 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 0800 303 606.

## Liability

Laminex New Zealand® will not be liable to any person if the instructions as to storage, use and installation of Strandboard® 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.

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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.

## 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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