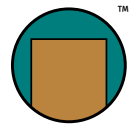


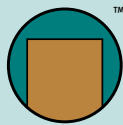
# Trade Essentials<sup>®</sup> Hardboard



**Trade Essentials<sup>®</sup>**  
HARDBOARD

another trade essential from  
**Laminex<sup>®</sup>**  
New Zealand<sup>®</sup>

# Standard Hardboard



**Trade Essentials®**  
HARDBOARD

## Product Description

It is a wood fibre building board, which complies with the requirements for Standard Hardboard, type GP in Australian Standard AS 2458-1982, Hardboard.

## Main Features

The fine, densely bonded, wood fibre structure of Standard Hardboard ensures excellent machining and working properties using normal woodworking equipment or hand tools.

In addition, the smooth face surface provides an ideal base for paint finishing with most industrial and domestic coatings. The back

surface is characterised by a fine, wire screen texture. It is available in a range of accurately dimensioned sheet sizes and in thicknesses of 3.2mm, 4.8mm and 6.4mm.

## Key Applications

It is intended for dry area, interior use. Typical applications include:

- Building: as interior wall and ceiling linings.
- Door and partition surfacings.
- Furniture and Joinery: in flush or fancy doors, backs for furniture, cupboards, vanity tables and mirrors. Chair and pouffe bases, shelves, drawer bottoms and divan bases.
- Display: straight or shaped display bases for screen printing, lettering, shop fitting and notice boards.
- Automotive: door trims, sun visors, spare wheel covers, boot floors and linings.
- Packaging: butter and cheese boxes, fruit cases, crates, pallet surfacings and protection pieces for machined engineering products.

## Product Details

Thickness (mm)	Size (mm)
3.2	2440 x 1220
4.8	1830 x 1220
4.8	2440 x 1220
4.8	2745 x 1220
4.8	3050 x 1220
6.4	2440 x 1220

Thickness	Width	Length
+/- 0.5mm	+/- 3mm	+/- 3mm

Squareness: Maximum variation between diagonals is 0.2%

## Properties

The following table is based on data from production and research centres. It is intended as a guide to the properties of Standard Hardboard.

Property	Typical Values
Density	1050 kg/m <sup>3</sup>
Mass/Unit area 3.2mm	3.3 kg/m <sup>2</sup>
Mass/Unit area 4.8mm	4.9 kg/m <sup>2</sup>
Mass/Unit area 6.4mm	6.5 kg/m <sup>2</sup>
Modulus of Rupture	40 MPa
Modulus of Elasticity	4000 MPa
Impact Strength	4500 J/m <sup>2</sup>
Internal Bond Strength	1200 kPa
Thermal Conductivity	0.18 W/(m.K)
Hydro-expansivity	0.25%

(change in face dimensions over 50% to 90% relative humidity)

## Fire Properties

The Group Number Classifications are generated from tests carried out and data reduced 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 CVM2. Appendix A

Group Number Classification: 3

## Preparation

For best results the Standard Hardboard product should be moisture conditioned and especially where:

- Sheets larger than 1830mm x 1220mm are being used.
- Sheets are to be rigidly fixed.
- Close fabricating tolerances are required.

Apply water to the back of the sheets with a sprinkler or fine hose and brush into the surface with a stiff room. (See table for approximate water quantities). Stack the sheets flat, back to back, for at least 24 hours before fixing.

Approximate litres of water per 10m <sup>2</sup> of board	
Thickness	Litres
3.2mm	2.3
4.8mm	2.7
6.4mm	3.2

## Cutting & Machining

The Standard Hardboard product is easy to work and machine with normal woodworking tools and equipment. Cut sheets with a fine tooth handsaw or power saw. Edges may be trimmed with a smoothing plane, power plane or sandpaper. Where holes are required clean cutter bits or twist drills are satisfactory.

Woodworking shapers, spindle moulders and high speed routers may be used to shape or mould the edges. Tungsten carbide tipped cutters are preferred for long production runs.

## Fixing Procedures & Installation

### Interior Linings:

4.8mm and 6.4mm Standard Hardboard is recommended for the interior lining of timber or metal framed buildings. 3.2mm Standard Hardboard requires a solid backing such as timber lining boards, plasterboard or cement render. The backing should be firmly attached, dry, clean and reasonably flat to allow direct adhesive bonding.

### Framing:

Best results are obtained where timber frames are accurately gauged to width and framed up without deviation. Provide nogging or trimmers as required and ensure support is provided for all sheet edges. Space framing members in accordance with the following table.

Thickness (mm)	Maximum Spacing (mm)	
	Wall Studs/ Battens	Ceiling Joists/ Battens
4.8	457	305
6.4	600	457

Note: Space supports at 305mm, 406mm or 610mm centres to suit 1220mm sheet widths.

### Joint Treatment:

Sheet edges may be bevelled to form a "V" joint. Alternatively use timber, aluminium or PVC mouldings. Allow a 2mm gap between sheets and minimum 6mm clearance where sheets meet adjoining walls, floors or ceilings.

### Nailing:

25mm x 1.6mm cadmium plated panel pins are generally satisfactory for fixing the Standard Hardboard product to timber frames. Keep nails 10mm from sheet edges.

Maximum Fastener Spacing				
Thickness (mm)	Walls		Ceilings	
	Edges (mm)	Body of Board (mm)	Edges (mm)	Body of Board (mm)
4.8	150	300	150	300
6.4	150	300	150	300

When nailing, work across the sheets or nail from the centre working outwards towards the edges. Never nail around the edges while the centre of the board remains free. Nails may be set flush with the board surface or punched and stopped, depending on the quality of the required application.

### Adhesive Fixing:

Wallboard or construction adhesives, are generally suitable for fixing the Standard hardboard to timber or metal wall frames or existing walls. Surfaces to be bonded must be clean and dry.

Always use adhesives in accordance with the manufacturer's recommendations.

### Procedure:

Apply sufficient adhesive, to fix one sheet to framing members, in continuous beads about 5mm in diameter and at 450mm maximum centres for 4.8mm thickness board. Locate sheet in its correct position as soon as the adhesive has been applied. Press the sheet firmly against the frame or wall to transfer half of the adhesive to the back of the Standard Hardboard product. Remove sheet and allow the adhesive to become touch dry.

Carefully reposition the sheet against the frame then hammer over the adhesive areas using a felt faced block and hammer. Do not allow any excess adhesive to harden. Remove with a soft cloth dampened with mineral turps, kerosene or water depending on the adhesive type. Fix subsequent sheets to the sequence described. Provide some support to the panel while adhesive cures.

Note: When fixing 3.2mm Standard Hardboard product to solid backing, space adhesive beads at 300mm maximum centres.

### Painting:

The Standard Hardboard product requires coating with a primer sealer before final painting. After priming stop up holes with a proprietary filler and lightly sand the surface. Paint finishes should be selected and applied in accordance with the paint manufacturer's instructions.

Paint coatings may be applied to the Standard Hardboard product by brush, roller or spray depending on the paint type. Seal the Standard Hardboard product linings with a wallboard sealer. Then apply two coats flat, low gloss or semi gloss acrylic paint. Alternatively, use one coat alkyd undercoat and one or two alkyd finish coats after sealing.

## Storage

Store flat, under cover on a horizontal pallet or on supports spaced at 450mm centres. Do not leave in direct sunlight.

## Health and Safety Warning

Inhalation of dust generated from processing the Standard Hardboard product may cause irritation and sensitisation by inhalation (asthma) and by skin contact (dermatitis).

Repeated inhalation of wood dust increases the risk of nasal cavity cancer and of lung fibrosis (scarring). Do not breathe dust. Wear a respirator if using power tools.

## Damp Buildings

Do not fix Tempered Hardboard to walls that are permanently or intermittently showing signs of dampness. The cause of moisture must be corrected and the walls allowed to dry before installing.

## Cutting & Machining

Tempered Hardboard is easy to work and machine with normal woodworking tools and equipment. Cut sheets with a fine tooth handsaw or power saw.

Edges may be trimmed with a smoothing plane, power plane or sandpaper. Where holes are required clean cutter bits or twist drills are satisfactory. Woodworking shapers, spindle moulders and high speed routers may be used to shape or mould the edges.

## Fixing Procedures & Installation

### Interior Linings:

4.5mm and 6.4mm Tempered Hardboard is recommended for the interior lining of timber or metal framed buildings.

### Framing:

Best results are obtained where timber frames are accurately gauged to width and framed up without deviation. Provide noggings or trimmers as required and ensure support is provided for all sheet edges. Space framing members in accordance with the following table.

Thickness (mm)	Maximum Spacing (mm)	
	Wall Studs/ Battens	Ceiling Joists/ Battens
4.5	457	305
6.4	600	457

Note: Space supports at 305mm, 406mm or 610mm centres to suit 1220mm sheet widths.

### Joint Treatment:

Sheet edges may be bevelled to form a "V" joint. Alternatively use timber, aluminium or PVC mouldings. Allow a 2mm gap between sheets and minimum 6mm clearance where sheets meet adjoining walls, floors or ceilings.

### Nailing:

25mm x 1.6mm cadmium plated panel pins are generally satisfactory for fixing the Tempered Hardboard product to timber frames, although 30mm panel pins are preferred when fixing to ceiling frames. Keep nails 10mm from sheet edges.

Maximum Fastener Spacing				
Thickness (mm)	Walls		Ceilings	
	Edges (mm)	Body of Board (mm)	Edges (mm)	Body of Board (mm)
4.5	150	300	150	300
6.4	150	300	150	300

When nailing, work across the sheets or nail from the centre working outwards towards the edges. Never nail around the edges while the centre of the board remains free. Nails may be set flush with the board surface or punched and stopped, depending on the quality of the required application.

### Adhesive Fixing:

Wallboard or construction adhesives, are generally suitable for fixing Tempered Hardboard to timber or metal wall frames or existing walls. Surfaces to be bonded must be clean and dry. Always use adhesives in accordance with the manufacturer's recommendations.

### Procedure:

Apply sufficient adhesive, to fix one sheet to framing members, in continuous beads about 5mm in diameter and at 450mm maximum centres for 4.5mm thickness board. Locate sheet in its correct position as soon as the adhesive has been applied. Press the sheet firmly against the frame or wall to transfer half of the adhesive to the back of the Tempered Hardboard.

Remove sheet and allow the adhesive to become touch dry. Carefully reposition the sheet against the frame then hammer over the adhesive areas using a felt faced block and hammer. Do not allow any excess adhesive to harden. Remove with a soft cloth dampened with mineral turps, kerosene or water depending on the adhesive type. Fix subsequent sheets to the sequence described. Provide some support to the panel while adhesive cures.

### Painting:

Tempered Hardboard requires coating with a primer sealer before final painting. After priming stop up holes with a proprietary filler and lightly sand the surface. Paint finishes should be selected and applied in accordance with the paint manufacturer's instructions.

Paint coatings may be applied to Tempered Hardboard by brush, roller or spray depending on the paint type. Apply two coats flat, low gloss or semi gloss acrylic paint. Alternatively, use one coat alkyd undercoat and one or two alkyd finish coats after sealing.

## Floor Surfacing

6.4mm Tempered Hardboard provides a low cost means of resurfacing timber floor boards or concrete floors, particularly in the restoration of old buildings. It may be used as a base beneath loose lay floor coverings, such as carpet or for coating with floor surface finishes.

The preferred sheet dimensions for floor surfacing applications are 1830mm x 1220mm.

1. Do not use as a floor surfacing in wet areas or where excess fat, oil or grease is likely.
2. Tempered Hardboard is not intended as an underlay beneath resilient sheet and tile floor coverings.

# Tempered Hardboard



**Trade Essentials®**  
HARDBOARD

## Product Description

It is a wood fibre building board, which complies with the requirements for Tempered Hardboard, in AS/NZS 1859.4 Reconstituted wood based panels wet processed fibreboard.

## Main Features

The fine, densely bonded, wood fibre structure of Tempered Hardboard ensures excellent machining and working properties using normal woodworking equipment or hand tools.

In addition, the smooth face surface provides an ideal base for paint finishing with most industrial and domestic coatings.

The back surface is characterised by a fine, wire screen texture. It is available in a range of accurately dimensioned sheet sizes and in thicknesses of 4.5mm and 6.4mm.

## Key Applications

Tempered Hardboard has a wide range of applications including:

- Interior lining of timber or metal – framed walls and ceilings in workshops, garages, wet areas (bathrooms, laundries) and in industrial or commercial premises.
- Cabinet construction, industrial shelving and work bench surfacing, shopfitting.
- Door skins for surfacing flush panel doors, for use in moisture areas and semi-protected exterior locations.
- Surfacing of concrete formboards and formwork for landscaping.
- Floor surfacing, particularly in the restoration of old buildings, dance/ stage and theatre floors
- Seat backings and interior side and floor panels for transport and industrial vehicles.

## Product Details

Thickness (mm)	Size (mm)
4.5	2400 x 900
4.5	2400 x 1200
6.4	2440 x 1220

Thickness	Width	Length
+/- 0.5mm	+/- 3mm	+/- 3mm

Squareness: Maximum variation between diagonals is 0.2%

## Properties

The following table is based on data from production and research centres. It is intended as a guide to the properties of Tempered Hardboard.

Property	Typical Values
Density	1080 kg/m <sup>3</sup>
Modulus of Rupture	52 MPa
Modulus of Elasticity	5000 MPa
Impact Strength	5000 J/m <sup>2</sup>
Internal Bond Strength	1500 kPa
Thermal Conductivity	0.18 W/(m.K)
Water Absorption	12 - 14%
Hydro-expansivity	0.3%

(change in face dimensions over 50% to 90% relative humidity)

## Fire Properties

The Group Number Classifications are generated from tests carried out and data reduced 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 CVM2. Appendix A

Group Number Classification: 3

## Preparation

For best practice, the Tempered Hardboard should be conditioned by wetting the back of the board with water for at least 48 hours before fixing. Apply the water with a sprinkler or fine spray and brush into the surface with a stiff broom. Stack the sheets flat, back to back for the required period.

Approximate litres of water per 10m <sup>2</sup> of board	
Thickness	Litres
4.5mm	2.7
6.4mm	3.2

## Moisture Areas

4.5mm or 6.4mm Tempered Hardboard may be used for the internal lining of moisture areas such as bathrooms and laundries. Primer seal the sheet edges and the sheet perimeter of the board over a width of about 100mm from the edge.

The surface of the board should be coated with a recognised quality paint. Ask your paint supplier for recommendations on the best type of paint for your application. Set the sheet edges in caulking compound in aluminum or suitable PVC mouldings. Do not use Tempered Hardboard in shower recesses unless fully sealed front, back and sides.

# Trade Essentials® Hardboard

## Timber Floors

### General

Ensure that the sub-floor timbers and floorboards are structurally adequate and replace any loose or broken boards. For best results any surface irregularities should be sanded level.

### Ventilation

The sub floor ventilation requirements of NZBC E2 and/or NZS 3604 must be regarded as minimum to provide a clear cross flow of air beneath the flooring timbers.

### Layout

After conditioning (see Preparation), arrange the sheets on the floor in an ashlar pattern, smooth side up and with the long edges at right angles to the floorboard run. Edge trimming may be necessary and the sheet edges should be lightly bevelled using a smoothing plane or coarse sandpaper.

Do not locate sheet joints over floorboard joints. Allow a 1.5mm gap at the joints and a minimum 10mm clearance at the room perimeter and around fixtures or columns

### Fixing

Screwing sheets to the floor will allow for individual sheets to be removed/replaced if required.

Screw spacings should be at least 150mm centres around the perimeter and 10mm in from the edge.

Screw holes need to be pre-drilled and countersunk. NB: The hole diameter should have a slight clearance for the shank of the screw.

Self-embedding screws are not recommended, as they tend to raise the surface of the hardboard. Allow a 1.5mm gap at all joints and at least 10mm clearance around the perimeter of the areas to be covered. Commence fixing each sheet from the centre and work out to the edges.

## Concrete Floors

### General

Concrete surfaces must be reasonably flat, dry and clean of any dust, oil, grease or fatty substances. Where the concrete slab is on the ground, ensure that it has been placed over a moisture proof membrane and that moisture will not permeate up through the slab to adversely affect the Tempered Hardboard product surfacing.

### Layout

After conditioning (see Preparation), lay the sheets on the floor in an ashlar pattern smooth side up. Trim, bevel and allow clearance for the sheets as for timber floors. (Refer Timber Floors, Layout).

### Fixing

Fix one sheet at a time using a wallboard or construction adhesive suitable for bonding wood to concrete. Always follow the adhesive manufacturer's instruction.

Allow a 1.5mm gap between sheets and 10mm clearance at room perimeters and around fixtures columns.

## Storage

Store flat, under cover on a horizontal pallet or on supports spaced at 450mm centres. Do not leave in direct sunlight.

## Health and Safety Warning

Inhalation of dust generated from processing Tempered Hardboard may cause irritation and sensitisation by inhalation (asthma) and by skin contact (dermatitis).

Repeated inhalation of wood dust increases the risk of nasal cavity cancer and of lung fibrosis (scarring). Do not breathe dust. Wear a respirator if using power tools.

## Contact Details

For more product information or order enquiries please phone  
Laminex New Zealand on **0800 303 606** to speak with a representative.  
[www.laminexnewzealand.co.nz](http://www.laminexnewzealand.co.nz)

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