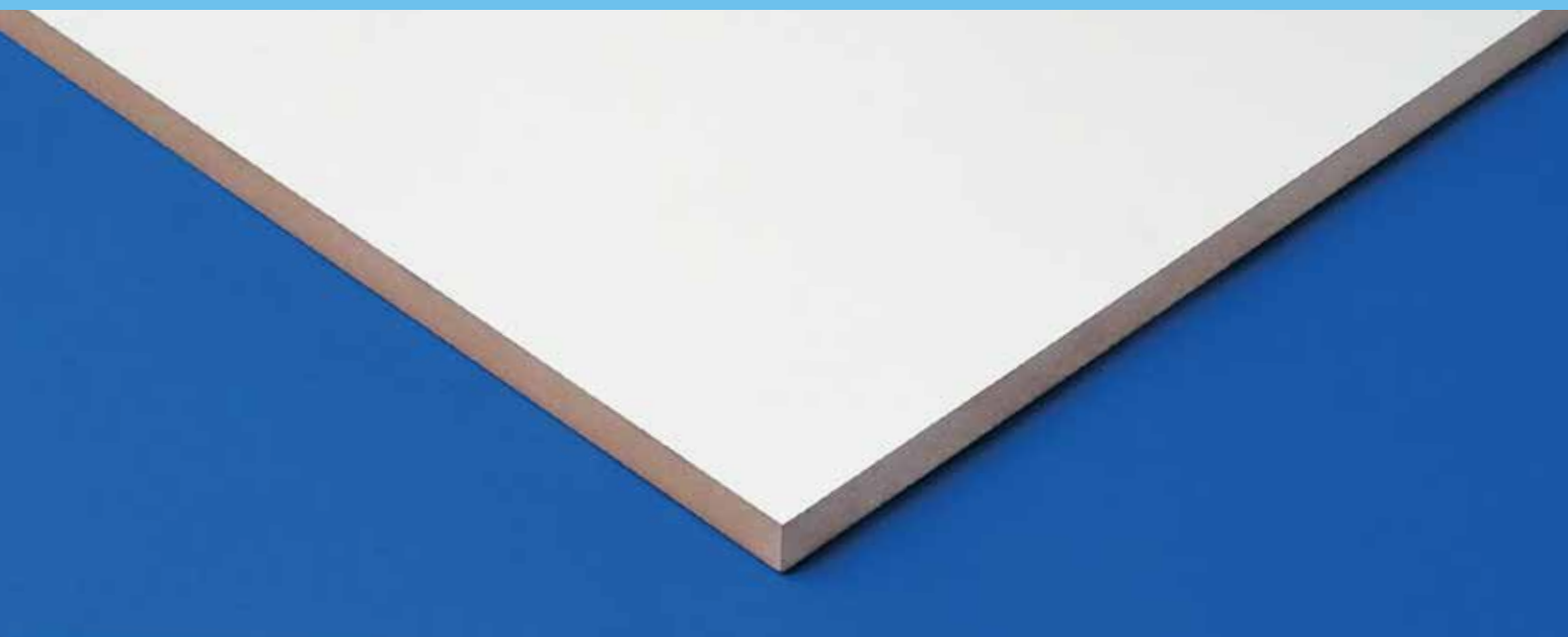
# Whiteboard

trade essentials®



Whiteboard is the most cost effective material available today for making cabinets, wardrobes, drawers or shelving with an easy to clean hardwearing surface.

Trade Essentials® Whiteboard, manufactured in Australia, is a high quality particleboard with a white melamine surface bonded to both sides. The melamine surface is non-porous and hardwearing making it ideal for internal cabinetry.

Trade Essentials® Whiteboard makes building cabinetry fast and easy, as the board is pre-decorated, all you need to do is cut, drill and edge it.

# Whiteboard

## Whiteboard has your panel needs covered

Trade Essentials® Whiteboard is available in a wide range of sheet sizes and options. From pre edged shelving for wardrobes to high moisture resistant board for vanities and laundry cabinets.

Trade Essentials® Whiteboard is available in either smooth Velvet or Décor textured surface finishes. So whatever your panel needs are, Trade Essentials® Whiteboard has them covered.

## Renewable, sustainable resource

The reconstituted wood fibres used to make Trade Essentials® Whiteboard are obtained from Australian pine plantations – a sustainable, renewable resource. In fact, only renewable plantation timber is used in the manufacture of Whiteboard. Trade Essentials® Whiteboard allows you to achieve fast, cost effective cabinetry results without destroying our precious wilderness or the rainforests of other countries.

## Applications

There are different Trade Essentials® Whiteboard panel products available to suit various applications and these are detailed separately on the following pages.

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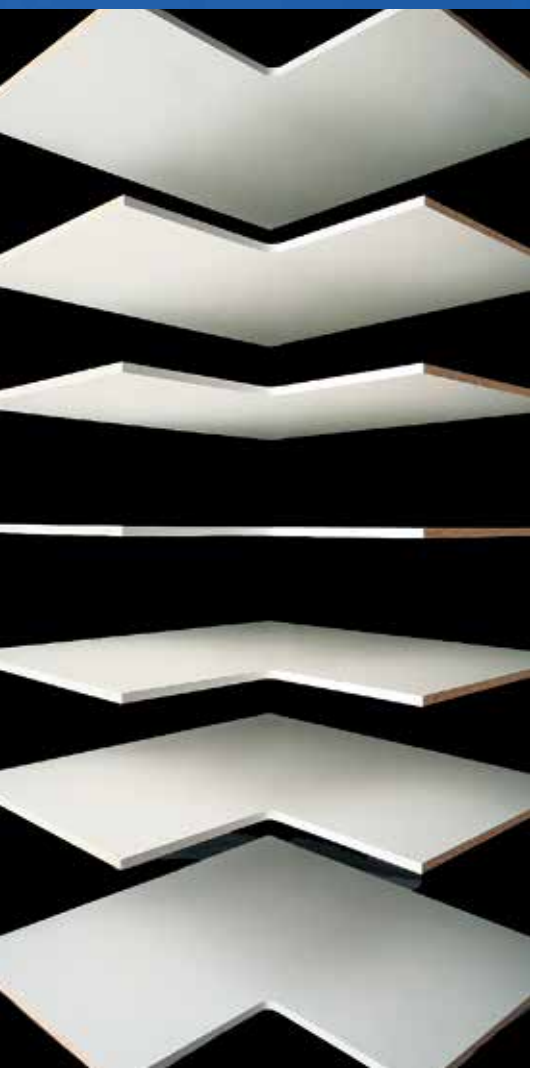


# Whiteboard Standard (STD)

Whiteboard STD is a high quality particleboard substrate laminated on both sides with a hardwearing white melamine surface. The particleboard substrate is made up of wood particles bonded together with resins. It has a tight compact core that allows clean machining.

### Applications

Whiteboard STD is designed for interior use for the following applications: Built in cupboards, wardrobes and furniture, shelving, wall linings and all detailed joinery where the product will not be subjected to high humidity.

### Surface finishes

Décor texture finish and velvet finishes.

### Decorative surface properties

When tested in the approved manner Whiteboard STD complies with the relevant sections of AS/NZS 1859.3: 1996 for surface properties as follows:

**Resistance to wear:** Typical results 600 cycles.

**Resistance to steam:** No noticeable effects on the surface after one hour exposure.

# Whiteboard STD shelving

Whiteboard STD is also available as 16mm shelving. It is pre-cut and edged on one long side and is available in various sheet widths to suit most shelving applications. It allows quick, convenient cutting of shelves for cupboards and built in furniture.

### Surface finishes

Décor texture finish.

# Physical Properties

(Typical physical properties when tested to AS/NZS 1859.1: 2001.Int)

| Property | | Board Thickness | | | | |
|---|---|---|---|---|---|---|
| | Unit | 9mm | 12mm | 16mm | 18mm | 25mm |
| Board Density | $Kg/m^3$ | 670 | 670 | 640 | 635 | 620 |
| Internal Bond | KPa | 550 | 550 | 460 | 460 | 440 |
| Modulus of Rupture | MPa | 18 | 18 | 18 | 16 | 16 |
| Modulus of Elasticity | MPa | 2600 | 2600 | 2500 | 2500 | 2200 |
| *Screw Holding - Face | N | N/A | N/A | 700 | 700 | 700 |
| *Screw Holding - Edge | N | N/A | N/A | 800 | 800 | 800 |
| Surface Soundness | MPa | 0.9 | 0.9 | 1.1 | 1.1 | 1.1 |
| Moisture Content | % | 5-8 | 5-8 | 5-8 | 5-8 | 5-8 |
| Thickness Swell 24hr | % | 18 | 15 | 15 | 15 | 15 |
| General Board Weight | $Kg/m^2$ | 6.0 | 8.0 | 10.2 | 11.4 | 15.5 |

*Values reflect new testing methods for screw holding properties in AS/NZS 4266.13: 2001. (Int)

#In most instances the performance characteristics of the particleboard exceeds the minimum requirement of AS/NZS 1859.1: 2001 (Int). However for minimum property values refer to AS/NZS 1859.1: 2001 (Int).

# Fire Hazard Indicies

(Typical achieved when tested to AS/NZS 1530.3: 1989)

| Indicies | Result | Range |
|---|---|---|
| Ignitability | 14 | 0 - 20 |
| Spread of Flame | 8 | 0 - 10 |
| Heat Evolved | 7 | 0 - 10 |
| Smoke Developed | 4 | 0 - 10 |

# Whiteboard

## Whiteboard Moisture Resistant (MR)

Whiteboard MR is a highly moisture resistant particleboard laminated on both sides with a hard-wearing white melamine surface.

The high moisture resistant properties of Whiteboard MR are due to the bonding of the wood particles with a specially formulated moisture resistant resin system. Whiteboard MR can be easily identified by the green dye incorporated in the core of the board.

### Applications

Whiteboard MR is designed for interior use in a wide varieties of applications including: Kitchen cupboards, bathroom vanities, laundry cupboards, shelving, built in cupboards, wardrobes and furniture, wall linings and all detailed joinery where a moisture resistant decorative board is required.

### Moisture resistance

Whiteboard MR complies with the Wet Cyclic Test for moisture resistance properties as specified in AS/NZS 1859.1: 2001(Int). Refer to the Physical Properties table for details.

### Surface finishes

Décor Texture and Velvet finishes.

### Decorative surface properties

When tested in approved manner complies with the relevant sections of AS/NZS 1859.3: 1996 for surface properties as follows:

**Resistance to wear:** Typical results 600 cycles.

**Resistance to steam:** No noticeable effects after one hour exposure.

### Whiteboard E0 MR

Whiteboard MR is also available in an E0 version (no added formaldehyde) if required.

## Whiteboard Moisture Resistant (MR) shelving

Whiteboard MR is also available as 16mm shelving. It is pre-cut and edged on one long side and is available in various sheet widths to suit most shelving applications. It allows quick, convenient cutting of shelves for cupboards and built in furniture.

## Physical Properties

(#Typical physical properties when tested to AS/NZS 1859.1: 2001.Int)

| Property | Unit | Board Thickness | | | | |
|---|---|---|---|---|---|---|
| | | 9mm | 12mm | 16mm – 18mm | 25mm | 33mm |
| Board Density | $Kg/m^3$ | 700 | 670 | 640 | 620 | 640 |
| Internal Bond | KPa | 700 | 670 | 580 | 550 | 550 |
| Modulus of Rupture | MPa | 19 | 19 | 19 | 18 | 18 |
| Modulus of Elasticity | MPa | 2700 | 2800 | 2600 | 2700 | 2800 |
| *Screw Holding - Face | N | N/A | N/A | 700 | 700 | 800 |
| *Screw Holding - Edge | N | N/A | N/A | 1000 | 900 | 900 |
| Surface Soundness | MPa | 1.0 | 1.2 | 1.4 | 1.2 | 1.5 |
| Moisture Content | % | 5-8 | 5-8 | 5-8 | 5-8 | 5-8 |
| Thickness Swell 24hr | % | 10 av. | 9 av. | 8 av. | 7 av. | 6 av. |
| Moisture Resistance | Test | V313 | V313 | V313 | V313 | V313 |
| General Board Weight | $Kg/m^2$ | 6.3 | 8.0 | 10.2/11.5 | 15.5 | 21.1 |

*Values reflect new testing methods for screw holding properties in AS/NZS 4266.13: 2001 (Int).

#In most instances the performance characteristics of the particleboard exceeds the minimum requirement of AS/NZS 1859.1: 2001 (Int). However for minimum property values refer to AS/NZS 1859.1: 2001 (Int).

## Fire Hazard Indicies

(Typical achieved when tested to AS/NZS 1530.3: 1989)

| Indicies | Result | Range |
|---|---|---|
| Ignitability | 14 | 0 - 20 |
| Spread of Flame | 8 | 0 - 10 |
| Heat Evolved | 7 | 0 - 10 |
| Smoke Developed | 3 | 0 - 10 |

# Aquaban®

Aquaban® is a single sided white decorated MR particleboard available in thicknesses of 33mm or 38mm, purpose designed with post forming bench tops in mind.

The white melamine underside of Aquaban® Particleboard will resist moisture, providing clean, hygienic and durable quality bench tops.

The superior performance of Aquaban® Particleboard compared to standard particleboard is due to bonding of the wood particles with a specially formulated moisture resistant resin system.

Aquaban® Particleboard can be easily identified by the green dye incorporated in the core of the board.

### Surface finish

Aquaban is available in either Flint or Pearl.

### Applications

Aquaban® Particleboard is suitable for use as a substrate in areas of high humidity such as kitchens, laboratories, commercial bench tops or any application where a high quality moisture resistant bench top is required.

### Additional performance specifications

Bowing when sheet is lying flat:
Length < 2.0mm per lineal metre.
Width < 2.0mm per lineal metre.

### Moisture resistance

Aquaban® Particleboard complies with the Wet Cyclic Test for moisture resistance properties as specified in AS/NZS 1859.1: 2001(Int). Refer to the Physical Properties table for details.

### Surface wear value

Typical results greater than 350 cycles.

### Aquaban E0

Aquaban® is also available in an E0 version (no added formaldehyde) if required.

## Physical Properties

(#Typical physical properties when tested to AS/NZS 1859.1: 2001.Int))

| Property | Unit | Board Thickness 33mm |
|---|---|---|
| Board Density | Kg/m$^3$ | 640 |
| Internal Bond | KPa | 550 |
| Modulus of Rupture | MPa | 18 |
| Modulus of Elasticity | MPa | 2800 |
| *Screw Holding - Face | N | 800 |
| *Screw Holding - Edge | N | 900 |
| Surface Soundness | MPa | 1.5 |
| Moisture Content | % | 5-8 |
| Thickness Swell 24hr | % | 6 |
| Moisture Resistance | Test | V313 |
| General Board Weight | Kg/m$^2$ | 21.1 |

*Values reflect new testing methods for screw holding properties in AS/NZS 4266.13: 2001 (Int).

#In most instances the performance characteristics of the particleboard exceeds the minimum requirement of AS/NZS 1859.1: 2001 (Int). However for minimum property values refer to AS/NZS 1859.1: 2001 (Int).

## Fire Hazard Indicies

(Typical achieved when tested to AS/NZS 1530.3: 1989)

| Indicies | Result | Range |
|---|---|---|
| Ignitability | 14 | 0 - 20 |
| Spread of Flame | 8 | 0 - 10 |
| Heat Evolved | 7 | 0 - 10 |
| Smoke Developed | 3 | 0 - 10 |

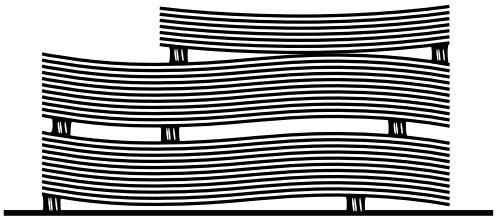
# Storage and handling of Whiteboard products

The following recommendations should be applied to maintain Whiteboard panels in good order and condition. The storage area should be protected from the sun, rain and wind. Open sided sheds would not be regarded as dry stores.

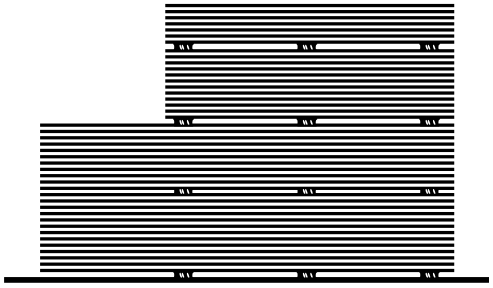
All packs should be evenly supported at each end at intervals of not more than 750mm where the packs are multiple stacked, and no further than 150mm from the edge of boards. All supports should be vertically aligned.

Keep work area clean. Avoid contact with abrasive surfaces or grit.

**Incorrect storage method**

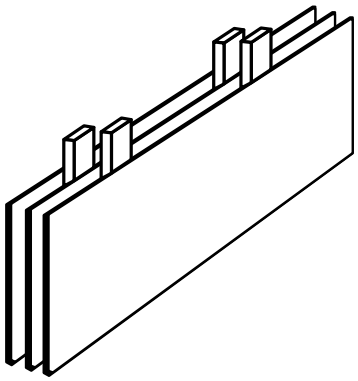


**Correct storage method**



### Pre-conditioning

Laminex usually dispatches Whiteboard with a moisture content of between 5% to 8%. This can alter, however, during the time the boards are in transit or storage before use. Apart from this, the relative humidity of the environment where the boards are to be fixed may call for quite a different moisture content, and some adjustment may be needed.



Pre-conditioning panels is recommended to ensure that they attain an equilibrium moisture content (EMC) before fixing, so as to reduce the likelihood of bowing after they have been fixed. Any subsequent movement will thus be a drying shrinkage which, given adequate support and fixings, keeps the boards flat and taut.

Some boards may achieve an EMC simply by being stored for some time in the location where they are to be used without any positive conditioning.

### Conditioning in air

Conditioning in air is adequate for most locations. It involves exposing the boards in the room where they are to be fixed for long enough to allow them to reach a moisture content which is in balance with their surroundings and adjust their dimensions accordingly.

To encourage free air circulation over all board surfaces, the boards should be arranged loosely as shown above, either vertically or horizontally. They should then be allowed to stand like this for a minimum of 48 hours.

# Fabrication

### Machining

Whiteboard panels can be cut, drilled and machined using standard wood working equipment fitted with tungsten carbide tipped cutting edges.

It is recommended that the material be cut on a bench type or beam saw, using a 300mm tungsten tipped blade with 72 to 96 teeth. For pre-laminated board such as Whiteboard a triple chip saw blade should protrude 20-30mm above the surface of the board.

**Note:** All decorated panels should be cut only on saws that have a scribing blade on the underside. Work piece must be firmly fixed. Observe all professional machining safety practices.

# Adhesives, bonding & dowel joints

When gluing dowels or biscuits to the core of particleboard panels, a high solids PVA with good gap filling properties is suitable.

**Trade Essentials® General Purpose PVA** is recommended for this application.


# Dowel joints

Dowel joints are one of the most common adhesive based furniture assembly joints. Dowelling is a simple, inexpensive, strong and reliable way of making a butt or mitre joint.

### Machining dowel holes

Dowel holes should be cleanly machined with all loose particles blown from the holes. If a blunt drill is used the drill will overheat and polish the inside of the hole and reduce the ability of the adhesive to bond.

### Dowel diameter

Dowels used should be no thicker than 50% of the thickness of the panel used.

### Hole diameter

The fit of the dowel in the hole is critical to withdrawal strength. Holes drilled in the edges should be just a firm push-in fit to prevent the edge of the board from splitting as the dowels expand due to moisture uptake from the adhesive. Dowels inserted into the face of a panel should be a firm knock-in fit.

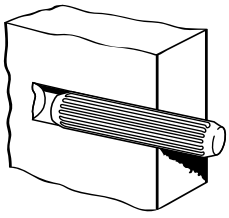
### Gluing

When using dowel joints only the dowels are glued in place. The practice of using glue between the edge and the face may actually weaken the joint.

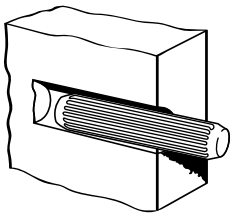
| Board Thickness (mm) | Dowel Diameter (mm) | Dowel Hole Diameter (mm) |
|---|---|---|
| 12 to 15 | 6 | 6.2 |
| 16 to 24 | 6 to 8 | 6.2 to 8.2 |
| 25 or more | 10 | 10.2 |

### Depth

Inserting the dowel to the proper depth is important. They should be inserted at least 25mm into the edge of the Particleboard panel and as deep as practical into the face surface, but no more than two thirds of the thickness. In general, the longer the dowel the stronger the joint.



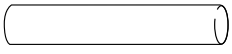
Interference fit
(not recommended)



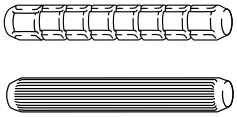
Clearance 0.1mm all round
(preferred)

### Dowel selection

Dowels with multiple longitudinal or spiral groove patterns are recommended to ensure uniform adhesive spread within the joint. The dowels should be cleanly machined and free from any loose or torn fibres. The moisture content of dowels at the time of assembly should be in the range 10% +/-2%.



Smooth dowel
(not recommended)



Grooved dowels
(preferred)

# Mechanical fixing

### Selecting screw type

Quality parallel threaded screws are recommended for Particleboard.

### Selecting screw length

The length of the screw directly affects the holding power of the screws, for example, a 25mm screw has twice the holding power as a 13mm screw. This is most important when screwing into the edge of Particleboard panels.

### Selecting screw diameter

To avoid splitting the panel when screwing into the edge, the screw diameter should not exceed 20% of the panel thickness. For example, the maximum screw diameter for 16mm board is 6 gauge.

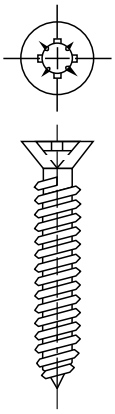
### Pilot holes

Correct pilot holes are essential to avoid splitting. The pilot holes should be approximately 80% of the screw core diameter and a minimum of 2mm beyond the screw penetration depth. Do not over tighten screws, as further turning after the screw is tight will reduce holding power.

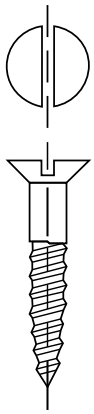
### Screw location

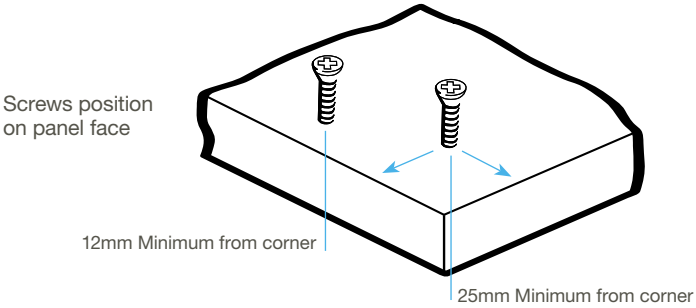
Screws should be carefully positioned to prevent splintering and breakout - no closer than 25mm to a corner and no closer than 12mm to the edge. When a long line of screws has to be used, it is a good idea to stager the screws to prevent splitting the substrate being screwed to. When screwing into the edge, never place a screw closer than 75mm from the end of the panel.

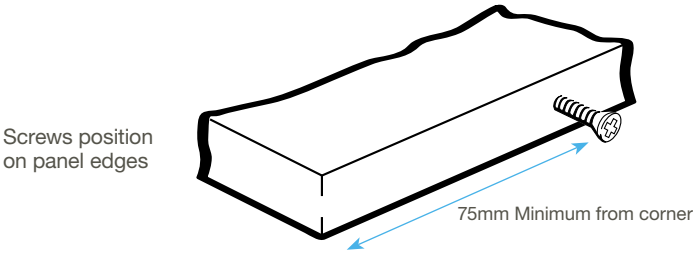
Countersunk - Recessed Head Parallel Shank (recommended screw type)



Countersunk - Recessed Head Parallel Shank (not recommended)






## Screw Pilot Hole Selection

| Recommended Screw Gauge | Pilot Hole Diameter | Thickness |
|---|---|---|
| 4 | 2.0mm | 9mm |
| 5 | 2.4mm | 12mm |
| 6 | 2.6mm | 16mm |
| 7 | 2.7mm | 18mm |
| 8 | 3.0mm | 25mm |
| 9 | 3.3mm | 35mm |

## Maximum Screw Gauge Selection

| Thickness | The Maximum Recommended Screw Gauge to Thickness of Particleboard | | | | |
|---|---|---|---|---|---|
| | 4 | 5 | 6 | 7 | 8 |
| 9mm | – | – | N/R | N/R | N/R |
| 12mm | Yes | Yes | N/R | N/R | N/R |
| 16mm | Yes | Yes | Yes | N/R | N/R |
| 18mm | Yes | Yes | Yes | Yes | Yes |
| 25mm | Yes | Yes | Yes | Yes | Yes |
| 35mm | Yes | Yes | Yes | Yes | Yes |

N/R = Not Recommended

# Whiteboard shelf loadings

The following chart details the shelf loadings for Whiteboard. Applications for shelving may range from a simple shelf in a kitchen to a huge collection of books in a library.

With shelf simply supported at both ends (no fixing) with an evenly distributed load. The shelf will not deflect more than 4mm.

| Thickness | Size | Shelf loading | Size | Shelf loading |
|---|---|---|---|---|
| 16mm | 600mm x 200mm | 23kg | 1000mm x 200mm | 5kg |
| 18mm | | 33kg | | 7kg |
| 25mm | | 90kg | | 19kg |
| 33mm | | 190kg | | 41kg |
| 16mm | 600mm x 300mm | 35kg | 1000mm x 300mm | 7kg |
| 18mm | | 50kg | | 10kg |
| 25mm | | 135kg | | 29kg |
| 33mm | | 205kg | | 61kg |
| 16mm | 600mm x 400mm | 47kg | 1000mm x 400mm | 10kg |
| 18mm | | 67kg | | 14kg |
| 25mm | | 181kg | | 39kg |
| 33mm | | 380kg | | 82kg |
| 16mm | 600mm x 500mm | 59kg | 1000mm x 600mm | 15kg |
| 18mm | | 84kg | | 21kg |
| 25mm | | 226kg | | 58kg |
| 33mm | | 475kg | | |
| 16mm | 600mm x 600mm | 71kg | 1200mm x 200mm | 2kg |
| 18mm | | 101kg | | 4kg |
| 25mm | | 271kg | | 11kg |
| 33mm | | 570kg | | 23kg |
| 16mm | 900mm x 200mm | 7kg | 1200mm x 300mm | 4kg |
| 18mm | | 10kg | | 6kg |
| 25mm | | 26kg | | 16kg |
| 33mm | | 56kg | | 35kg |
| 16mm | 900mm x 300mm | 10kg | 1200mm x 400mm | 5kg |
| 18mm | | 15kg | | 8kg |
| 25mm | | 40kg | | 22kg |
| 33mm | | 84kg | | 47kg |
| 16mm | 900mm x 400mm | 14kg | 1200mm x 600mm | 8kg |
| 18mm | | 20kg | | 12kg |
| 25mm | | 53kg | | 33kg |
| 33mm | | 112kg | | 71kg |
| 16mm | 900mm x 600mm | 21kg | | |
| 18mm | | 30kg | | |
| 25mm | | 80kg | | |
| 33mm | | 168kg | | |

**Note:** These loads should be used as a guide only. We recommend that all designers carry out their own full load analysis based on their specific application.

## Safety and handling

Whiteboard is a reconstituted wood product containing wood, resin and wax. Machine tools should be fitted with dust extractors and the wearing of a dust mask and eye protection is recommended. Material Safety Data Sheets for Whiteboard are available on request from any Laminex branch.

TLG3094 6/15

Available in the Trade Essentials range:

# Adhesives
# Craftwood (MDF Products)
# Fire Retardant Products
# Lightweight PVC Panel Products
# Particleboard Products
# Plywood Products
# Strandboard Products
# Triboard Products
# Ultra LDF Products
# White Board and Edging Products

**Whiteboard is part of the Trade Essentials® range of products**

For more information visit tradeessentials.thelaminexgroup.com.au or call 132 136.



SBS SHEPPARTON BUILDING SUPPLIES

Laminex®