



M4 has the approval of its toughest critic - the site dog.

Australian HARDBOARDS

For more information about M4 Braceboard or any other Masonite™ products, please contact the Australian Hardboards Customer Service Centre

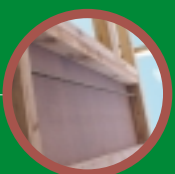
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Visit our web site for Frequently Asked Questions:

www.australianhardboards.com.au

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Information and Installation Manual



Introduction

Masonite™ hardboards are recognised structural wall bracing materials. Their subsequent use in accordance with the National Timber Framing Code has confirmed their acceptability in structural wall bracing applications.

They include a range of Masonite™ hardboard structural wall bracing systems which were developed through full scale tests at James

Cook University and Queensland University of Technology. The systems are suitable for use in high wind and cyclone regions including Darwin and professional engineer certification is available from the Australian Hardboards Customer Service Centre.

This manual is a guide to the installation of M4 Braceboard.

Applications

M4 Braceboard is designed for cavity bracing external wall frames in brick veneer construction. M4 Shortwall is also suitable

for bracing short lengths of wall where the available bracing area is reduced by window or door openings.

Product Details

M4 Braceboard is a 4.8mm special hardboard Type GP manufactured in Australia to comply with AS2458-1982, Hardboard.

M4 Braceboard satisfies the requirements for a hardboard Type B Bracing Units in AS1684-1999, National Timber Framing Code.

Australian Hardboards manufacturing processes are quality assured to AS/NZS ISO 9002:1994 and certified by Quality Assurance Services (Standards Australia.)

Table 1 - dimensions

Thickness (mm) ± 0.5 mm	4.8 mm
Width ± 3 mm	460 (Short Wall), 900, 1200, 1350*
Length ± 3 mm	2440, 2745, 3050*
No. of sheets per pack	100

* Made to order: 50 sheets per pack

2 X 8 JOIST FOR GUN BRONZE GALVANIZED UNSMOTHERED NAILING STRIPS. NAIL TO MARKINGS FROM
 100mm (4IN) ABOVE TOP SURFACE OF JOIST TO TOP SURFACE OF BRACEBOARD. BRACEBOARD
 MUST BE INSTALLED WITH THE GRAIN OF THE BRACEBOARD PARALLEL TO THE JOIST.
 FOR INSTALL THE DOWN & UP SHEETS IN ACCORDANCE WITH AS1684-1999. M4 BRACEBOARD COMPLIES WITH
 AS2458-1982. 400 WIDE M4 SHORT WALL ALSO COMPLIES WITH AS/NZS 1684-1999. SEE YOUR DEALER FOR MORE DETAILS.

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 BRACEBOARD

M4 Braceboard sheets are branded on the face

Identification

For ease of identification, all M4 Braceboard sheets are branded on the face surface with the nailing pattern and installation instructions (see picture, left.)

Storage

Store M4 Braceboard under cover on timber supports spaced at 450mm centres. When storing outside, keep packs clear of the ground.

Cover packs with waterproof sheeting laid on timber battens so that air circulates freely between the cover and M4 Braceboard sheets.

Weather Exposure

During normal weather conditions, M4 Braceboard may be exposed to the weather and subjected to wetting and drying. As the product is supplied in a moisture conditioned state (seasoned), it is advisable to enclose the building as soon as possible after fixing the sheets. A maximum exposure period of three months is recommended.

M4 Braceboard is a wood panel product and some dimensional movement may occur during extended periods of extremely high or low relative humidity.



Field testing weatherability of M4 Braceboard.



Regulations and Australian Standards

Where the building design or design wind speed parameters are outside the scope of AS1684-1999, a professional engineer should

be consulted to assess the wind forces to AS1170.2-1989 or AS4055-1992.

Timber Framing

The recommended framing system uses group J4 (unseasoned) or JD4 (seasoned) or higher. Stud spacings should not exceed 600mm centres for 1200mm sheets and 450mm centres for 900mm sheets.

If JD5 strength group of timber is used, the racking resistance must be reduced by 16%. Tie down must be in accordance with AS1684-1999 for a Type B bracing unit.

Brick Veneer Construction

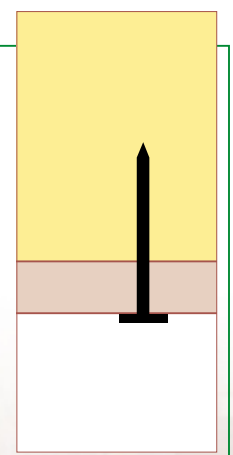
M4 Braceboard is designed for use as cavity bracing in brick veneer construction. Brick wall ties must be the face-fixed type and comply with AS2699-1984, Wall Ties for Masonry Construction. The ties should be nailed through the M4 Braceboard into the narrow face of the studs.

Should it be necessary to penetrate the M4 Braceboard for plumbing or electrical installations, keep the penetrations to a minimum and locate them towards the centre of the sheet. Holes should always be neatly cut and the corners rounded.

Installation

M4 Braceboard should be installed vertically with sheet ends fixed to the top and bottom plates. Support the vertical edges over studs and allow a 2mm gap between sheets.

Fix sheets with galvanised flat head nails or clouts. Power driven nails of similar dimension and gauge to hammer driven nails may also be used. The fastener heads should not be driven into the board surface. Set the heads proud of the surface as illustrated.



M4 Short Wall requires the addition of M12 anchor rods to achieve its design strength.

“When it comes to ease of installation, M4 Braceboard is out in front. There’s no splinters, the consistent thickness makes it easier to drive the nails through, and they even have the nail markings and instructions printed on the sheet!”

– Terry Faithfull, TTQ Constructions



As M4 Braceboard has been tested as a Type B bracing unit, fix with 30mm x 2.8mm fasteners spaced at 150mm centres at vertical edges and noggings and 300mm centres to intermediate studs. Space nails at 40mm centres (staggered pattern) to top and bottom plates. Keep fasteners 10mm from vertical sheet edges and 15mm from top and bottom plate edges. M4 Short Wall requires the addition of M12 anchor rods to achieve its design strength.

Health and Safety Warning

Inhalation of dust generated from processing Masonite™ hardboards 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. Phone 1300 366 681 for a Material Safety Data Sheet.

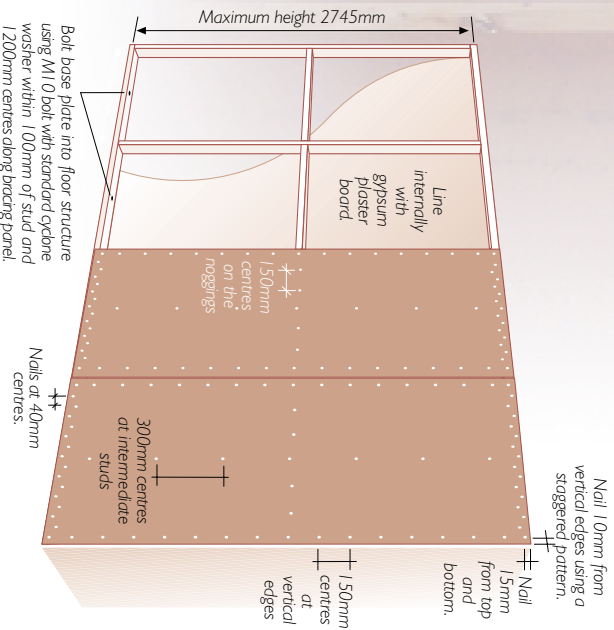


Bracing Systems

System Type	Sheet Widths	Fixing Techniques	Limit State Capacity
System 1	900 and 1200mm	Type B	6kN/m
System 2	900 and 1200mm	Type B + anchor rods	9kN/m
System 3	460mm	Type B + anchor rods	6kN/m

Note: Maximum wall height of 2745mm. Reduction factors occur above this height (see AS1684-1999).

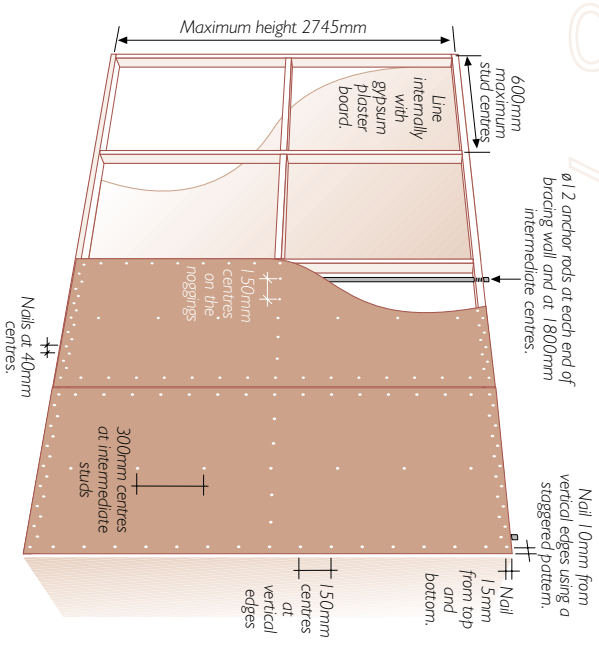
System 1



6kN/m

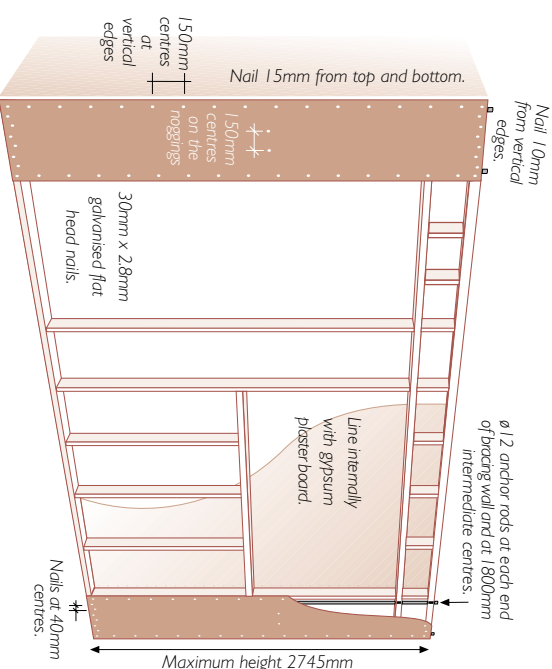
Bracing Systems

System 2



9kN/m

System 3



6kN/m



Size



Strength



Savings



Safe

Bracing Systems