

Key Applications

Carter Holt Harvey PYNEboard particleboard is a versatile panel for interior use in furniture, building panels, benches, shelves, partitions and wherever a strong, economical panel product is required.

Main Features of Standard Board

Range: PYNEboard is available in many sizes and thicknesses from 9mm to 33mm.

Economy: The comprehensive range allows economic cutting of boards. PYNEboard has no grain direction so there is the same strength and appearance in all directions. This reduces waste.

Ease of working: PYNEboard is easy to work with normal woodworking tools. For long production runs, tungsten-carbide tipped tools are recommended.

Ease of fixing: Most normal nail-free woodworking joints can be used. Screw fixing of PYNEboard is preferable to nailing.

Uniform product: The regular properties of PYNEboard provide more consistent results from machining and processing.

Fine surface: The fine surface layers are already sanded, ready for painting or laminating.

Edge-lipped shelving: PYNEboard is available as shelving with timber lipping on one long edge, ready for installation.

Main Features of MR board

Moisture resistant: PYNEboard MR successfully resists moisture uptake. Edge swell and surface fibre raise are kept to a minimum.

Resilience: Even after immersion in water, there is minimal swelling (even though wood products will naturally swell). On drying out, PYNEboard MR returns towards its original thickness. PYNEboard MR special bonding resins resist moisture, and the adverse effects of occasional wetting and high relative humidity.

Machinability: The core of PYNEboard MR is suitable for fine routing, rebating and profiling.

Strong bonding: Chip out and loose flakes are minimised by the tight bonding of the moisture resistant resins in PYNEboard MR. This promotes detailed working of the board.

Special benchtop board: PYNEboard MR in 33mm thickness is specially designed for use in kitchen benchtops.

Humidity endurance: PYNEboard MR has been tested under conditions of high humidity. Even after brief exposure to 90% relative humidity conditions, PYNEboard MR showed little effect. The special resins in PYNEboard MR have been formulated to withstand such conditions. Where applications may be subjected to conditions of high relative humidity or occasional wetting, PYNEboard MR should be used. PYNEboard MR can not be used in areas subject to continual wetting or continuous relative high humidity.

Identification: To help identify PYNEboard MR in the workshop, look for the blue-green core. This identification is your guarantee of having the moisture resistant product.

Acoustic Properties

PYNEboard is similar to most timber products. Sound Transmission Class is approximately STC-25 for board 16mm or thicker. Actual results vary depending on the method and rigidity of fixing.

Cutting & Machining

How To Use:

As with all Carter Holt Harvey products, PYNEboard is easy to work using normal woodworking tools. Some recommendations are given here.

Cutting: Use a fine-toothed, crosscut handsaw or dimensional saw. With portable saws, use a blade designed to give a clean edge when crosscutting natural timber. Alternatively, use tungsten-carbide tipped blades with alternative top-bevel-edge teeth.

Rebating or routing: Use hand or power routers, with tungsten-carbide tipped cutters for long runs. Adjust feed and cutter speeds to obtain desired balance of cut and cutter wear. Depth of cut should not be more than one-third the thickness of the board.

Production Machining: PYNEboard may be cut on circular saw benches or precision sizing machines with traversing saw carriages. The equipment should be fitted with an ancillary tungsten-carbide tipped scribing saw. Main saws with tungsten-carbide special concave or alternating flat top and bevel-tooth profiles are recommended.

Preferred peripheral speeds are 50-60m/sec. Double-ended tenoners and spindle moulding machines with fixed or exchangeable tungsten-carbide tipped cutters are suitable for edge machining.

Boring or drilling: Use common timber or metal working bits. For long runs use tungsten tipped cutters or high-speed drills.

Sanding is not required for PYNEboard. It is supplied sanded, ready for use. Should further sanding be desired, use 120-grit grade paper or finer. Sanding is similar to timber but the board can be sanded in either direction without worry about the grain. Excessive sanding of the surfaces is not recommended as it may distort the balanced construction of the board. Edges may also be sanded to dress any unsatisfactory saw cuts.

Fixing Procedures and Installation

Jointing: Most normal nail-free woodworking joints are satisfactory for jointing. Dowel fixing or knockdown construction are best suited to particleboard. A large range of fittings to suit knockdown construction methods are available to the trade through hardware outlets. For specific advice contact your hardware supplier.

Screw fixing is preferable to nailing, however should nailing be necessary, longer and thinner nails should be used in preference to heavy gauge nails. The use of adhesive will strengthen the joint. PYNEboard particleboard can be nailed to within 6mm of the edge.

Hinges: Face-mounted hinges, available from most hardware suppliers, are recommended.

Screw Fixing: Use screws especially designed for use with particleboard, such as wood screws threaded the entire length, and observe the following instructions:

- Use longer and thinner screws than would normally be used for timber.
- Drill a pilot hole for the full length of the screws as shown in the table below.
- Do not over tighten screws.

- A drop of adhesive will help to consolidate screws.
- Do not force heavy-gauge screws into the edge of PYNEboard.

	Screwing and pilot hole diameters			
Screw size	4	6	8	10
Pilot hole diameter (mm)	2.0	2.5	3.0	3.2

Surface Finishing

PYNEboard can be laminated with veneer, vinyl, foil, melamine and high-pressure decorative laminate. It may also be painted, lacquered or oiled. For best results the surface finishes should always be applied in accordance with the laminate, adhesive or paint manufacturer's instructions. When applying laminates or impervious finishes, panels should be either fixed to a rigid framework or have a balancing laminate or finish applied to the reverse side. Otherwise bowing of the panel may occur.

Painting: If the factory-sanded surface has become roughened, sand with fine grit paper. Edges should be filled with lacquer putty or other suitable fillers and then sanded smooth. Alternatively, edge strips or timber lipping may be used. Apply a solvent-borne primer followed by an undercoat and two finishing coats. Paint manufacturers have specifications for painting particleboard and their instructions should be followed.

Fire Resistance

For general facts about Particleboard and MDF products, including fire resistance properties, a useful source of information is the EWPA's 'Facts about Particleboard and MDF' document at www.ewp.asn.au

Thermal conductivity

The thermal conductivity of particleboard varies slightly according to thickness within the range, 0.10 to 0.14 W/mK.

Load Bearing

For information on the use of particleboard for loading bearing purposes such as shelving, a useful source of information is the EWPA's 'Particleboard and MDF Structural Shelving design manual' at www.ewp.asn.au

Product Range & Physical Properties

Product Details Thickness:

9mm, 12mm, 16mm, 18mm, 25mm and 33mm

Nominal Sizes

	PYNEboard Standard	PYNEboard MR
9mm	2400mm x 1200mm	-
12mm	3600mm x 1800mm 2400mm x 1200mm	-
16mm	3600mm x 1800mm 3600mm x 1200mm 3600mm x 600mm 2700mm x 1200mm 2400mm x 1800mm 2400mm x 1200mm 2400mm x 600mm 1800mm x 1200mm	3600mm x 1800mm 3600mm x 1200mm 3600mm x 600mm 2400mm x 1800mm 2400mm x 1200mm 2400mm x 600mm
18mm	3600mm x 1800mm 2700mm x 1200mm 2700mm x 900mm 2400mm x 1200mm 1800mm x 1200mm	3600mm x 1800mm 2700mm x 1200mm 2700mm x 900mm 2400mm x 1200mm
25mm	3600mm x 1800mm	3600mm x 1800mm
33mm	-	3600mm x 1800mm 3600mm x 1200mm 3600mm x 900mm 3600mm x 605mm 2400mm x 1200mm

Tolerances:

Length and width nominal sizes: + 50mm, - 0mm

Cut to size: $\pm 2\text{mm/m}$ or $\pm 5\text{mm max}$

Thickness:

$\leq 12\text{mm} \pm 0.2\text{mm}$ on nominal thickness

$> 12\text{mm} \pm 0.3\text{mm}$ on nominal thickness

Edge Straightness:

$\leq 2\text{mm}$ per metre length (deviation from a straight line)

Squareness:

$\leq 2\text{mm/m}$ or 1.5mm/m length

of diagonal (difference between diagonals)

Board cut to specified tolerances is available on quotation.

Properties

Carter Holt Harvey PYNEboard is manufactured to comply with the requirements for particleboard in AS/NZS 1859.1 Reconstituted Wood-Based Panels – Specifications part 1: Particleboard. Typical values for 16mm thick board are given below.

Data sourced from ACTA Database across all CHH particleboard plants. Typical value is the Mean (average) of the samples tested between the dates: 22/06/2008 to 22/06/2009.

General Board Weight – E1 PB		
Thickness (mm)	Density (kg/m ³)	Weight (kg/m ²)
9	690	6.2
12	675	8.1
16	665	10.6
18	655	11.8
25	630	15.8
33	630	20.8

E1 Particleboard	
Formaldehyde Emission	< 1.5 mg/l

Property	Units	Particleboard - Physical Properties Typical Values			
		Standard E1	Standard E0	MR E1	MR E0
Density	kg/m ³	655	650	665	625
Thickness Swell	%	11	15	6	7
Internal Bond	MPa	0.6	0.45	0.75	0.7
Modulus of Elasticity (MOE)	MPa	2500	2500	2900	2800
Modulus of Rupture (MOR)	MPa	16	16	19	18
Surface Soundness	MPa	1.6	1.4	2.0	1.8
Wet Bending Strength A	MPa	–	–	6.3	6.0

Hygro-expansivity:

The linear hygro-expansivity of Pyneboard MR is approximately 0.035% per % change in moisture content.

Storage

Pyneboard sheets should be stored under cover and kept clear of the ground on timber bearers spaced at 450mm centres, with end bearers located 75mm from each end of the stack.

For more information on CHH products and/or a brochure specific to Pyneboard E0, please refer to www.chhwoodproducts.com.au

