Alpine MDF Premium Panels

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Alpine MDF Industries Pty Ltd is a manufacturer and supplier of quality Medium Density Fibreboard (MDF). The plant is located in the north east of Victoria in Wangaratta and was commissioned in 1996. The Alpine MDF brand is recognised for product consistency, quality, sustainable timber resource management, low environmental impact practices and market lead research into product development within the industry. The company's vision is to be the preferred supplier to the market for high quality MDF. We are achieving that goal through quality assurance procedures, technical innovation and outstanding customer service.

Alpine MDF Industries Pty Ltd prides itself by leading in environmentally friendly manufacturing practices that make our company sustainable. We have management systems in place to ensure we reduce our carbon footprint and deliver environmentally preferable solutions. All our MDF is produced from managed plantation Radiata Pine forests that reach maturity in about 30 years.

We generate almost all of our own heat requirements by burning wood residues. This is a form of bio fuel and is considered green-house gas neutral under the Kyoto protocol. Since growing trees absorb CO_2, Alpine MDF is part of a virtuous cycle. In addition, carbon is stored in the wood products we produce while they are used in buildings or furniture.

Alpine MDF Premium Panels

Alpine MDF Premium Panels are produced from the highest quality MDF available in a large range of thicknesses from 2.5mm to 32.8mm and sizes up to 5400 x 2400mm to suit all purposes from interior panelling to shelving and furniture for both commercial and residential use.

Alpine MDF Premium Panels come in a diverse range of resin types from LFE (Low Formaldehyde Emissions), MR (Moisture Resistant), E0 (Ultra Low Emissions), E0/MR and HPF (High Performance Fibreboard).

Alpine MDF Premium Panels can be made with different density profiles and internal bonds suitable for a wide range of applications from Medium Density Fibreboard (750kg/m^3) to High Performance Fibreboard (850kg/m^3).

Alpine MDF Premium Panels Size Chart*

Dimensions (mm)		Thickness (mm)								
Length	Width	3	4.75	6	9	12	16	18	25	32
1830	1220									
2135	915									
2135	1220									
2400	1200									
2440	1220									
2400	1800									
2440	915									
2700	900									
2700	1200									
3050	1220									
3600	1200									
3660	1220									
3600	1800									
5400	1220									

Stock Made to order

*Standard sizes only, other sizes available by request.
Refer to the Alpine MDF Product Range Brochure, available on our website, for more information.

Alpine MDF Re-cut Panels

Alpine MDF Re-cut Panels are cut to size from our LFE panels and designed with the home handyman in mind, pre-cut in a range of convenient, easy to handle sizes. Re-cut panels are perfect for a wide variety of applications such as shelving, wall lining, bench tops and cabinetry.

Alpine MDF Re-cut Panels Size Chart*

Dimensions (mm)		Thickness (mm)				
Length	Width	3	6	9	12	16
900	600					
900	450					
1200	600					
1200	900					
1200	450					
1800	450					
1800	600					
1800	900	**	**			
2400	450					
2400	600					
3600	450					
3600	600					

Stock

*Standard sizes only, other sizes available by request.
**Actual size is 1830x915.

Alpine MDF Resin Types

All Alpine MDF Premium Panels have excellent strength quality, surface smoothness and stability which contribute to a superior edge. Surfaces can be painted to achieve a high quality finish and provides a uniformed substrate for overlaying.

Alpine MDF Premium LFE Panels

Alpine MDF Premium LFE Panels are ideal for painting, cutting, machining and drilling without splinters or chipping. Alpine MDF Premium LFE Panels are manufactured using modified urea/formaldehyde glues to reduce formaldehyde emissions to less than 1mg/L as per AS/NZS 1859.2.

Alpine MDF Premium E0 Panels

Alpine MDF Premium E0 Panels are manufactured using modified urea/formaldehyde glues to reduce formaldehyde emissions to less than 0.5 mg/L, similar to formaldehyde levels found in natural wood products. These products can be worked easily with all conventional woodworking machines and hand tools.

Alpine MDF Premium MR Panels

Alpine MDF Premium MR Panels are manufactured to enhance the water resistant properties in the panels whilst still achieving less than 1 mg/L formaldehyde emissions. It can be used in areas subject to humidity. The bottom of linings and floor level trim in this product range will swell and eventually deteriorate if exposed to persistent or cycle wetting.

Alpine MDF Premium HPF Panels

Alpine MDF Premium HPF Panels are made to the specific requirements of the AS/NZS 1859.2 Standard. HPF is manufactured to meet the needs of a required application such as our HPF Underlay, achieving increased bending strength, modulus of elasticity, internal bond and reduced thickness swell.

Product Specifications – LFE, MR and E0

Specifications	Units	Thickness Range and Typical Values			
		< 8mm	8-12mm	12-22mm	23-32mm
Thickness Tolerance	mm	+/- 0.2	+/- 0.2	+/- 0.3	+/- 0.3
Length and Width Tolerance	mm/m	± 2	± 2	± 2	± 2
Squareness (max diagonal)	mm/m	≤ 2	≤ 2	≤ 2	≤ 2
Density	Kg/m³	790	750	740	710
Internal Bond	N/mm²	0.800	0.800	0.800	0.700
Modulus of Rupture	N/mm²	40	40	35	34
Modulus of Elasticity	N/mm²	3200	3000	3000	3000
Screw Holding Face	N	NA	NA	≥ 500	≥ 500
Screw Holding Edge	N	NA	NA	≥ 500	≥ 500
Thickness Swell (24hr)	%	NA	< 10	< 8	< 7
Thickness Swell (24hr) MR	%	NA	< 8	< 5	< 5

Product Specifications – HPF

Specifications	Units	Thickness Range and Typical Values			
		< 8mm	8-12mm	12-22mm	23-32mm
Thickness Tolerance	mm	+/- 0.2	+/- 0.2	+/- 0.2	+/- 0.2
Length and Width Tolerance	mm/m	+/- 2	+/- 2	+/- 2	+/- 2
Squareness (max diagonal)	mm/m	≤ 2	≤ 2	≤ 2	≤ 2
Density	kg/m³	850*	850*	850*	850*
Internal Bond	N/mm²	1500	700	600	550
Modulus of Rupture	N/mm²	60.0	32.0	28.0	25.0
Modulus of Elasticity	N/mm²	5000	2800	2500	2300
Screw Holding Face	N	NA	NA	≥ 500	≥ 500
Screw Holding Edge	N	NA	NA	≥ 500	≥ 500
Thickness Swell (24hr)	%	15	12	8	7
Wet Bending Strength (MoR)	N/mm²	15.0	15.0	13.0	11.5
Internal Bond after Cyclic Test (V313)	N/mm²	0.7	0.4	0.0	0.3
Thickness Swell after Cyclic Test (V313)	%	10	16	13	10

* The density may vary slightly in final product specifications.

Alpine MDF Product Performance

Alpine MDF Premium Panels are made to suit a variety of applications for commercial or residential use which include interior panelling, drawer, cabinet carcasses, shelving, partitioning, kitchens, bathrooms, laundries, furniture manufacturing and toys. Alpine MDF Premium Panels should not be exposed to water or high humidity situations such as saunas or shower cabinets. It should also be kept clear of heat sources such as solid fuel heaters and free standing fireplaces. Our MDF is resistant to fungal decay provided that the board does not exceed 20% moisture content for extended periods and is also resistant to attack by common house hold wood borer with no insecticide or fungicides added.

Durability

Alpine MDF Premium Panels are durable when used for non bracing and non structural interior applications in houses such as shelving, skirting trim, furniture, door jambs and stair treads, as well as when used for the construction of fixtures such as benches or basin supports where the top surface is either covered with impenetrable covering such as laminate, polyester or stainless steel cover. The sides and any exposed faces must be sealed with at least two coats of impervious coating and any damage to coating must be repaired.

Acoustic Properties

Sound transmission loss is a property that depends greatly on the building element and its method of installation. However, as a general figure, Alpine MDF products with a thickness of 16mm and thicker should achieve a Sound Transmission Class (STC) of – 29.

- Uniform Building Code (UBC) requirements for walls and floor/ceiling assemblies: STC rating of 50 (if tested in a laboratory) or 45 (if tested in the field)
- Installing insulation within a wall or floor/ceiling cavity will improve the STC rating by about 4-6 dB
- An air space within a partition can also help to increase sound isolation. This, in effect creates two independent walls

Fire Behaviour

Fire resistance relates to the period for which an element of construction will resist the passage of flame, remain free from collapse and insulate against an excessive temperature rise on the unexposed face. The property relates to a building element and detail of its construction, rather than a particular material. All wood panels generally react to fire in the same manner as natural timber. The rate of burning or charring is similar for equivalent density and they do not shatter or delaminate. All reconstituted wood panels are combustible. As with natural timber, burning will be limited by charring on the surface but shrinkage will tend to occur at the joints unless proper consideration has been given to the design.

Fire hazards indices for wood panels are given in the table below. The degree of hazard depends on the type of density of the board and any surface treatment. The ranges tabled cover the variations of board types of a particular product. Early Fire Hazards Indices can be improved by additives to raw material, surface treatment and coatings.

Fire Hazards Indices

Test	Range	Particle Board	MDF	Hardboard
Ignitibility	0-20	14-15	15	14
Spread of Flame	0-10	6-7	7-8	7
Heat Evolved	0-10	6-7	6-9	7
Smoke Developed	0-10	2-3	3-5	2-3

Heat and Smoke Release Test to AS / NZS 3837
Standard MDF (LFE, MR and MR/E0)

Average heat release	84 kW/m^2
Average SP extinction area	72 m^2/kg
BCA group classification	3

Formaldehyde Emissions

All products manufactured by Alpine MDF Industries Pty Ltd comply with the E1 formaldehyde emission schedule stipulated in AS/NZ 1859.2 standard for Reconstituted Wood Based Panels - Dry Processed Fibreboards.

AS/NZ 1859.2	**E1 (LFE), MR and HPF**
Formaldehyde Emission (mg/L AS/NZ 4266.16)	Maximum ≤ 1.0

AS/NZS 1859.2	**E0, E0/MR**	
Formaldehyde Emission (mg/L JIS 1460)	Mean 0.5	Maximum 0.7

Product is routinely tested by a third party for formaldehyde emissions in a NATA (National Association of Testing Authorities, Australia) registered laboratory. Tests are conducted in accordance with methods specified in either AS/NZ 4266.16 or JIS 1460, desiccators' method.

Fixing, Finishing and Storage

Stapling

Staples can be used effectively for joint fitting. For best results it is helpful to add adhesive to the joint prior to assembly. When stapling into Alpine MDF Premium Panels, it is important to have good control of air pressure to avoid excessive penetration of staples. For nailing use either annular groove or helical (spiral) nails of 13 or 14 gauge for best results.

Screws

The position of screws inserted into the faces and edges of MDF should be decided in relation to board thickness and screw size. Screws inserted into the edges should be not less than 25mm from the corners. The screw must not be over tightened as further turning will reduce the holding strength. Alpine MDF Premium Panels provides good screw holding strength in the faces and edges. The best results are obtained with the parallel thread screws such as the Twinfast or particle board screws. Conventional wood screws are not recommended. A pilot hole is recommended to avoid splitting during edge screw fixing. Pilot holes should be drilled approximately 2-3mm beyond the expected depth of insertions of the screws.

Nailing

Alpine MDF Premium Panels can be fixed by nailing with good holding power and no split out when the following conditions are met:

1. Use either annular grooved or helical nails.
2. Use only 13 or 14 gauge nails. These give best results with good holding power in 16mm and 18mm MDF. The length of nail should not exceed 50mm. Nailing is not recommended for MDF of 12mm thick or less.
3. Nails must be at least 25mm from the corner of the MDF panel.
4. Nailing at a slight angle will further increase the holding power.
5. Nailing is not recommended to edges of 9mm and 12mm, screwing is recommended.
6. Air gun pressure should be adjusted to ensure that the nail head finishes level with the surface of the panel.
7. Edge nailing is not recommended for MDF of 12mm thick or less.

Machining

Alpine MDF Premium Panels can be worked easily with standard wood working machinery. The homogenous nature of Alpine MDF Premium Panels ensures that a good finish can be achieved on the edges. Tungsten carbide cutters and saws are recommended.

Laminating

Alpine MDF is an ideal substrate for laminating with natural wood veneer, vinyls, printed papers, foils and melamine papers. Care must be taken to ensure that conditions of very high press pressure, high press temperature and long press times do not exist during laminating. Hot Laminating MDF 12mm thick or less is not recommended. Satisfactory adhesion by cold cured adhesives relies on keying of the surface of Alpine MDF Premium Panels by light sanding. It is essential that both surfaces are balanced to avoid board distortion. Veneering of these products on one surface alters the balance of the material to absorb moisture; therefore the risk of board distortion is high. This practice is not advisable.

Sanding and Finishing

Special attention to sanding edges gives excellent results. Use 120 grit paper followed by 240 or 320 grit paper.

Stopping

Stop all nail and staple holes with a low shrinkage wood filler. Match and blend colours as required to suit. Lightly sand with 320 grit sandpaper before priming.

Painting

For best results application of three coats is recommended. First coat primer/undercoat is critical to the final finish. It is recommended that primer/undercoat is applied to paint manufacturer's recommendations. Apply second and third coats or additional coats as required. A light sand using 280 to 320 grit paper is recommended after the first coat and between subsequent coats.

Storage

The method of manufacturing MDF ensures a balanced construction resulting from the uniform distribution of fibres throughout the thickness of the board. The maintenance of this inherent flatness is dependent upon the use of correct storage and handling procedures. Without these, boards may develop a permanent set under their own weight particularly if they are not adequately supported on a flat pallet or by sufficient bearers during any storage period.

The following storage procedures are recommended:

1. MDF sheets should preferably be stored horizontally and lifted clear of the floor using dry bearers as supports.
2. Where individual bearers are used they should be of equal thickness and placed at not more than 800mm intervals for boards of 15mm thickness or more. Closer spacing is required for thinner boards.
3. The bearers supporting successive layers should be in vertical alignment.
4. Stacks of boards should have flush sides to minimise damage to protruding edges or overhanging corners.
5. Vertical storage of small numbers of boards is acceptable provided the boards are well supported close to vertical position.
6. The storage area should be well ventilated and the conditions should be reasonably dry. An average relative humidity of 50% will maintain board moisture content in the range 7-9%.
7. Boards should be fully protected from the weather during transportation and storage.
8. One or two scrap boards should be placed on top of stacked boards, to reduce the effect of short term changes in environmental conditions.

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Quality and Environment

Alpine MDF Industries Pty Ltd is certified for Chain of Custody by Smartwood, a program of the Rainforest Alliance. This means that our wood products are recognised as coming from "Responsible Sources" adhering to strict environmental and socio-economic standards in accordance with the Forest Stewardship Council (FSC®) who have provided Alpine MDF with FSC® certification. Other certifications include PEFC, AS/NZS ISO 14001 for Environmental Managements Systems and AS/NZS 4801 for Health and Safety. Alpine MDF also operates a chain of custody management system complying with AS 4707 for certified forest and wood products.

Safe Work Practices

Work areas must be well ventilated and kept clean. Sawing, sanding and machining equipment must be fitted with dust extractors to ensure that dust levels are kept within standards laid down by Work Safe Australia. If not, a P1 or P2 dust mask conforming to AS/NZS 1715 and AS/NZS 1716 and eye protection conforming to AS/NZS 1336 must be worn. Off-cuts, shavings and dust must be disposed of in a manner that avoids the generation of dust and in accordance with the requirements of local waste disposal authorities. Refer to the Material Safety Data Sheet for Alpine MDF on our website www.alpinemdf.com.au or by contacting us directly.

Accreditations

Alpine MDF Premium Panels are manufactured in Australia by Alpine MDF Industries Pty Ltd in accordance with AS/NZS 1859.2. Reconstituted Wood Based Panels

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