

Alpine MDF

Premium Grade

Alpine Premium Grade MDF has excellent strength quality, surface smoothness and stability and superior edge profile. The surface can be painted to achieve a high quality finish and provides a uniform substrate for overlaying. **Alpine Premium MDF** can be worked easily with all conventional woodworking machines and hand tools. Tungsten carbide cutters and saws are recommended.

SPECIFICATIONS	UNITS	< THICKNESS RANGE & TYPICAL VALUES >			
		<8mm	8 - 11mm	12 - 22mm	23- 32mm
Thickness Tolerance	mm	+/-0.2	+/-0.2	+/-0.2	+/-0.2
Density	Kg/m ³	790	750	740	710
Internal Bond	N/mm ²	0.800	0.800	0.800	0.700
Modulus of Rupture	N/mm ²	40	40	35	34
Modulus of Elasticity	N/mm ²	3200	3000	3000	3000
Screw Holding, Face	N	N.A.	N.A.	≥500	≥500
Screw Holding, Edge	N	N.A.	N.A.	≥500	≥500
Thickness Swell (24hr)	%	N.A.	<10	<8	<7

Product Performance:

Alpine Premium MDF should not be used in exterior applications, nor exposed to water or high humidity situations (saunas, shower cabinets); and kept clear of nearby heat sources such as solid fuel heaters and free-standing fireplaces. **Alpine Premium MDF** is manufactured specifically for applications such as high quality furniture and joinery, using urea formaldehyde resin manufactured expressly to comply with the joint Australian New Zealand standards (JAS-ANZ), for formaldehyde emissions from finished MDF panels. Formaldehyde concentrations in areas without proper ventilation are significantly reduced by sealing all exposed surfaces and edges with two coats of paint or polyurethane. **Alpine Premium MDF** is resistant to fungal decay provided that the board does not exceed 20% moisture content for extended periods. They are also resistant to attack by common household wood borer. There are no additives such as insecticides or fungicides.

Longevity - Durability - Usage:

Alpine Premium MDF is durable for **15 years** when used for non-bracing and non-structural interior applications in houses and used for the construction of fixtures such as benches or basin supports where:

- the top surface is covered with a tough impermeable covering such as melamine laminate, stainless steel or a polyester vanity unit
- the sides and edges of the Alpine MDF is coated with a sealer and exposed faces and edges with two top coats of impervious coating
- damage to coatings is repaired

Alpine Premium MDF is durable for **50 years** when used in dry interior environments. The bottom of Alpine MDF linings and floor level trim will swell and eventually deteriorate if exposed to persistent or cyclic wetting (e.g. saunas, spa rooms, shower rooms).

Further uses: Shelving, skirting trim, furniture, door jambs, stair treads and non-bracing linings

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Alpine MDF

{Reduced formaldehyde emissions}

Premium EO

Alpine Premium E0 MDF has excellent strength quality, surface smoothness and stability and superior edge profile, with reduced formaldehyde emissions. Surfaces can be painted to achieve a high quality finish and provides a uniform substrate for overlaying. **Alpine Premium E0** can be worked easily with all conventional woodworking machines and hand tools. Tungsten carbide cutters and saws are recommended.

SPECIFICATIONS	UNITS	< THICKNESS RANGE & TYPICAL VALUES >			
		<8mm	8 - 11mm	12 - 22mm	23- 32mm
Thickness Tolerance	mm	+/-0.2	+/-0.2	+/-0.2	+/-0.2
Density	Kg/m ³	790	750	740	710
Internal Bond	N/mm ²	0.800	0.800	0.800	0.700
Modulus of Rupture	N/mm ²	40	40	35	34
Modulus of Elasticity	N/mm ²	3200	3000	3000	3000
Screw Holding, Face	N	N.A.	N.A.	≥500	≥500
Screw Holding, Edge	N	N.A.	N.A.	≥500	≥500
Thickness Swell (24hr)	%	N.A.	<10	<8	<7

Product Performance:

Alpine Premium EO MDF should not be used in exterior applications, nor exposed to water or high humidity situations (saunas, shower cabinets); and should be kept clear of nearby heat sources such as solid fuel heaters and free-standing fireplaces. **Alpine Premium EO** is manufactured specifically for applications such as high quality furniture and joinery, using urea formaldehyde resin manufactured expressly to comply with the joint Australian New Zealand standards (JAS-ANZ), for formaldehyde emissions from finished MDF panels. Formaldehyde concentrations in areas without proper ventilation are significantly reduced by sealing all exposed surfaces and edges with two coats of paint or polyurethane. **Alpine Premium EO** is resistant to fungal decay provided that the board does not exceed 20% moisture content for extended periods. They are also resistant to attack by common household wood borer. There are no additives such as insecticides or fungicides.

Longevity – Durability – Usage:

Alpine Premium EO is durable for **15 years** when used for non-bracing and non-structural interior applications in houses and used for the construction of fixtures such as benches or basin supports where:

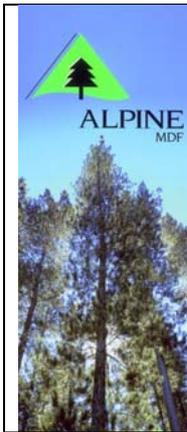
- the top surface is covered with a tough impermeable covering such as melamine laminate, stainless steel or a polyester vanity unit
- the sides and edges are coated with a sealer and exposed faces and edges with two top coats of impervious coating
- damage to coatings is repaired

Alpine Premium EO is durable for **50 years** when used in dry interior environments. The bottom of Alpine MDF linings and floor level trim will swell and eventually deteriorate if exposed to persistent or cyclic wetting (e.g. saunas, spa rooms, shower rooms).

Further uses: Shelving, skirting trim, furniture, door jambs, stair treads and non-bracing linings.

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Alpine MDF

High density fibreboard (HDF)

Underlay for Floors

Alpine Underlay High Density Fibreboard (HDF), is 6mm thick, moisture resistant, and specifically manufactured for interior use.

Comprising especially engineered wood fibre bonded with synthetic resin adhesive under heat and pressure, Alpine Underlay represents the most sophisticated and consistent thin interior board available in Australia.

Alpine Underlay is suitable for laying over timber, particle board, plywood, MDF, fibre-cement sheet and concrete floors to provide a flat, uniform, indent-resistant base for resilient sheet and tile floor coverings including semi-rigid PVC, cork, rubber, linoleum, cushioned vinyl and textile floor coverings. Alpine MDF is manufactured using plantation grown Radiata Pine sourced predominantly from environmentally certified and sustainably managed forests.

SHEET SIZE

1220mm x 915mm

SHEET TOLERANCES (mm)

Thickness	+/-0.15
Length and width	+/-1.5
Squareness	<3.0
Straightness	<1.6/1m

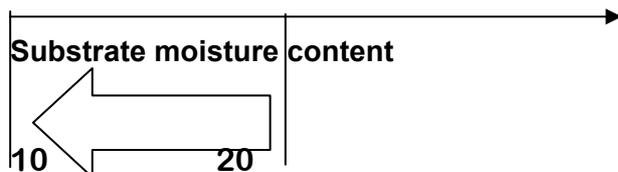
PHYSICAL PROPERTIES

Property	Unit	Min. Value	Mean Value	Max. Value
Density	Kg/m ²	740	780	820
Internal Bond	N/mm ²	.8	.9	1.0
Modulus of Rupture	N/mm ²	36	38	40
Modulus of Elasticity	N/mm ²	3600	3800	4000
Moisture Content	%	6	7	8

SUBSTRATE MOISTURE CONTENT

Fix Alpine Underlay in this range only

Alpine Underlay must not be used where moisture content exceeds 20%



Product Benefits

- Suitable for private homes, flats, apartments, offices, hotels, institutes
- Ideal for upgrading worn and uneven floors and correcting irregularities in sub-floor timbers or wood-based sheet materials
- Consistent thickness for easier laying
- Strengthens and stiffens subfloor
- Reduces adverse affect of subfloor dimensional movement
- Provides a smooth surface for efficient application of adhesive
- Easy to work and no special tools necessary
- Easy to handle

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Alpine Underlay (HDF) (5)07.05

Current Relevant Standards

Alpine MDF is now manufacturing an Underlay product made to Dry Process Fibreboard Standard (AS/NZ 1859.2:2004), that will also exceed the specific requirements for General Purpose Hardboard, and Tempered (MR) Hardboard, manufactured in accordance with the Wet Process Fibreboard Standard (AS/NZ 1859.4:2004).

Overlaying - Wooden Floors

Site Conditions

Alpine Underlay must only be installed over floors which are adequately ventilated and where there is no indication of dampness. If moisture is evident, the cause of moisture must be corrected and the floor allowed to dry.

Subfloor ventilation must provide a clear, cross flow of air beneath the floor so that any excessive moisture vapour is removed from the subfloor area. Excess moisture and dampness can lead to the distortion and possible decay of flooring members and excessive movement of the Alpine Underlay.

Adequate ventilation is particularly important where impervious floor coverings are used, as they restrict the escape of moisture through the floor.

In some circumstances, a moisture impervious membrane, such as polythene film or bitumen impregnated felt, may be used to cover the ground beneath the floor to retard moisture rise. For further information on subfloor ventilation contact your distributor.

Under normal climatic conditions, Alpine Underlay may be used direct from the pack; however, best results will be achieved when the product is loose laid on the floor 24 hours before fixing. This will allow the material to equilibrate its moisture content with the site conditions. The practice of loose laying the board for 24 hours is strongly recommended, where there is any doubt on the adequacy of the subfloor ventilation.

Note: Prevailing climatic or installed environmental conditions can influence moisture content changes in wooden floors and underlays. The resulting dimensional movement may become noticeable where the floor covering bridges the Alpine Underlay joins.

In some cases, the effects of glancing light on the floor surface may highlight the joins.

Installation

Replace any loose or broken boards. Floor nails must be punched below the floorboard surface. Alpine Underlay is sufficiently rigid to bridge minor irregularities in the floor surface. The best results are obtained when the floor is machine sanded to a flat plane. Lay sheets in a brick bond pattern. Allow 0.4mm clearance between panels and 5mm clearance at perimeter walls.

Fixing table for overlaying wooden floors

<u>Hand Fastening</u>			<u>Power Fastening</u>		
<u>Nail Size (mm)</u>	<u>Fastening Centres</u>		<u>Staple Length (mm)</u>	<u>Fastening Centres</u>	
	<u>Edge(mm)</u>	<u>Inter(mm)</u>		<u>Edge(mm)</u>	<u>Inter(mm)</u>
25x2.0mm or 25x2.5mm	75	150	22 (7/8")	75	150
Galvanised steel, flat-head ring grooved buttress or underlay type nails recommended.					

Staples to be galvanised, zinc or cadmium plated or resin coated steel. Recommended staple types BEA-90 series, SENCO N4450, HAYBOLD 60 series.

Minimum fixing distance 10mm in from any edge of the sheet is recommended.

Overlaying – Concrete Floors

Site Conditions

Concrete slab floors must be protected from ground moisture by a correctly installed vapour barrier. Alpine Underlay must not be overlaid on new concrete floors until they have dried thoroughly (<6.0%) to a surface relative humidity reading of 70% or less when measure using a hygrometer in accordance with AS 1884, Appendix A6, AS 2455.1, Appendix B3 or BRANZ Bulletin 388. As a general guide new concrete slabs require one month of drying for each 25mm of concrete thickness.

Fixing for Concrete Floors

On concrete floors fix with 4mm diameter beads of adhesive applied in a grid pattern at approximately 150mm centres in both directions.

Adhesives

Alpine Underlay has recently been tested by RLA Polymers (adhesive manufacturers), and has gained its recommendation for use with their products.

Refer to relevant manufacturers for adhesive that is suitable for bonding MDF substrate.

Finishing

Check that all fasteners are correctly driven and not protruding above the board surface. Carefully sand joins to a flat plane and sand fixing points using a flat-based machine sander or sandpaper block. Do not use disk type sander. Sweep or vacuum to ensure all dust is removed

Product Care

Alpine Underlay must NOT be stored in areas subject to:

- High humidity
- Water infiltration
- Abnormal temperature variation
- Direct sunlight
- Spillage of liquids

Product Performance

Alpine Underlay must not be used in exterior applications, must not be exposed to water or high humidity situations (saunas, shower cabinets) and must be kept clear of nearby heat sources such as solid fuel heaters and freestanding fireplaces.

Alpine Underlay for Floors is resistant to fungal decay provided that the board does not exceed 20% moisture content for extended periods. It is also resistant to attack by common household woodborer. There are no additives such as insecticides or fungicides.

Durability

Alpine Underlay is expected to have a service life comparable with typical floor coverings provided it remains dry in service.

Product Warranty

Alpine Underlay carries a 12 month warranty against faulty materials or workmanship by the manufacturer to the extent of replacement of the product but not including any indirect or consequential losses subject to the provisions of the New Zealand Consumer Guarantees Act 1993. This warranty applies only when the product has been used in accordance with the recommendations. Any defect must be advised to the manufacturer within 21 days of determination or from the day such defects should have become known. Alpine MDF Industries Pty Ltd reserves the right to change specification contained in this publication without notice.

Environmental Certification

Alpine MDF Industries Pty Limited is certified for Chain of Custody by **Smartwood**. Wood products certified by Smartwood are recognised as coming from “well managed” forests adhering to strict environmental and socio-economic standards in accordance with the Principles and Criteria of the Forestry Stewardship Council (FSC).

Smartwood is a program of the Rainforest Alliance

WARNING

Alpine Underlay is a reconstituted wood panel made from wood, resin and wax. This must be handled in accordance with safe work practices. Exposure to wood dust and/or formaldehyde may cause irritation to the eyes, respiratory system and skin, and may cause sensitisation by inhalation resulting in asthma, and by skin contact resulting in dermatitis.

Alpine Underlay is made with Urea Formaldehyde resins. While formaldehyde is a known carcinogen, Alpine Underlay meets all Australian Standards with respect to formaldehyde emissions.

Wood dust from any timber product is also classified by the International Agency for Research on Cancer as a carcinogen. Repeated inhalation of wood dust may cause nasal cancer. The use of appropriate safety wear, at all times, is recommended when machining with power tools.

Storage

Storage areas containing large quantities of this product must be adequately ventilated.

Safe Work Practice

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 Worksafe Australia, Occupational Safety and Health New Zealand, or the specific country of use. If not, a dust mask conforming to AS/NZS 1715 and AS/NZS 1716 and eye protection conforming to AS/NZS 1337 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.

In end use applications all product surfaces exposed to occupied space must be sealed.

Further Information

Refer to the **Material Safety Data Sheet** for this product available from Alpine MDF Industries Pty. Ltd., their Distributors and Resellers or the relevant section on our website.

Technical Advisory Service

Alpine Underlay is manufactured in **Australia by Alpine MDF Industries Pty Ltd** to the highest standards of quality and consistency. The company will assist you in all aspects of technical advice. You are invited to call the Technical Manager for technical information to fixing techniques, design performance, fire resistance and questions relating to specific performance criteria.

Telephone: (03) 5721 3522
Facsimile: (03) 5721 3588
Email: enquiries@alpinemdf.com.au

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Alpine Underlay (HDF) (5)07.05 REV



Alpine MDF

Alpine Lite

Alpine LITE is 20% lighter in weight than regular MDF but maintains the excellent strength quality, surface smoothness and stability. The surface can be painted to achieve a high quality finish and provides a uniform substrate for overlaying. **Alpine LITE** has a lighter tone than other MDF and is most suitable for any light, white or pale colour papers or foil for laminating. The colour is consistent.

SPECIFICATIONS	UNITS	< THICKNESS RANGE & TYPICAL VALUES >			
		<8mm	8 - 11mm	12 - 22mm	23- 32mm
Thickness Tolerance	mm	N.A.	+/-0.2	+/-0.2	+/-0.2
Density	Kg/m ³	N.A.	650	645	630
Internal Bond	N/mm ²	N.A.	0.750	0.700	0.650
Modulus of Rupture	N/mm ²	N.A.	32	32	30
Modulus of Elasticity	N/mm ²	N.A.	3200	3200	2800
Screw Holding, Face	N	N.A.	N.A.	500	500
Screw Holding, Edge	N	N.A.	N.A.	≥500	≥500
Thickness Swell (24hr)	%	N.A.	<6	<6	<4

Product Performance:

The reduction in density of **Alpine LITE** ensures that machine tools will last four times longer and so reduces down time. Its lighter weight makes it easier to work, with consequent increased efficiency.

Longevity – Durability – Usage:

Laminating: Because of its light colour **Alpine LITE** is an ideal substrate for laminating with natural wood veneer, vinyls, printed papers, foils and melamine papers. A balanced laminated panel would eliminate minor cupping or bowing.

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.

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

Screw Holding: **Alpine LITE** provides good screw holding strength both in the faces and edges.

Further uses: Application where a lighter weight MDF sheet is of benefit.

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Alpine MDF

MR Moisture Resistant

Alpine MR MDF has excellent strength quality, surface smoothness and stability and superior edge profile. The surface can be painted to achieve a high quality finish and provides a uniform substrate for overlaying. **Alpine MR MDF** can be worked easily with all conventional woodworking machines and hand tools. Tungsten carbide cutters and saws are recommended.

SPECIFICATIONS	UNITS	<THICKNESS RANGE & TYPICAL VALUES >			
		<8mm	8 - 11mm	12 - 22mm	23- 32mm
Thickness Tolerance	mm	+/-0.2	+/-0.2	+/-0.2	+/-0.2
Density	Kg/m ³	790	750	740	710
Internal Bond	N/mm ²	0.800	0.800	0.800	0.700
Modulus of Rupture	N/mm ²	40	40	35	34
Modulus of Elasticity	N/mm ²	3200	3000	3000	3000
Screw Holding, Face	N	N.A.	N.A.	≥500	≥500
Screw Holding, Edge	N	N.A.	N.A.	≥500	≥500
Thickness Swell (24hr)	%	N.A.	<8	<5	<5

Product Performance:

Alpine Moisture Resistant MDF should not be used in: exterior applications; should not be exposed to water or high humidity situations (saunas, shower cabinets) and should be kept clear of nearby heat sources such as solid fuel heaters and free standing fireplaces.

Alpine MR MDF is resistant to fungal decay provided that the board does not exceed 20% moisture content for extended periods. They are also resistant to attack by common household wood borer. There are no additives such as insecticides or fungicides. Alpine MR MDF is manufactured using urea formaldehyde resin or melamine urea formaldehyde resin.

Longevity – Durability – Usage:

Alpine MR MDF is manufactured specifically for applications such as high quality furniture and joinery, using urea formaldehyde resin manufactured expressly for Nelson Pine Industries Ltd. Formaldehyde concentrations in areas without proper ventilation are significantly reduced by sealing all exposed surfaces and edges with two coats of paint or polyurethane.

Alpine MR MDF is durable for **50 years** when used in dry interior environments (i.e. not saunas, spa rooms or shower rooms). The bottom of Alpine MDF linings and floor level trim will swell and eventually deteriorate if exposed to persistent or cyclic wetting.

Further uses: Shelving, skirting trim, furniture, door jambs, stair treads and non-bracing linings.

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