Handling and Installation

Flooring Overlays

Customwood® MDF can be used as an overlay on existing timber floors before covering with carpet or vinyl. All exposed faces and edges should be sealed before service.

Customwood® MDF requires conditioning (see Wall Linings and Ceilings) and should not be laid over existing flooring with a moisture content greater than 20%. Existing floor must be sound and must be sanded flat to ensure all uneven surfaces are levelled out. Sheets are to be set out in a brick bond pattern with a 3mm gap between all panel edges and perimeters. Panels can be fixed by staple or nail into the existing floor. Fixings are to be spaced at 100mm around all edges and 200mm throughout the centre of the sheet. Adhesive can be used as an extra fixing. Apply in accordance with manufacturer's recommendations.

Effect of Moisture

The resins used in Customwood® MDF are not designed to resist moisture. Customwood® MDF must therefore be used only in dry, interior locations.

Like all wood-based materials, Customwood® MDF will change dimension in response to changes in atmospheric moisture content. Some absorption of moisture is ineveitable during damp periods, and a loss of moisture in dry conditions. These changes will initially affect exposed edges and the top layers of stacked panels, but will eventually extend throughout the panel.

Conditioning

Panel moisture at shipment is closely controlled and care must be taken during changing atmospheric conditions. To ensure dimensional stability, condition the product by exposing to the ambient in which they will be used for 48 hours or more.

Loss of moisture can occur at the edges of components when they have been exposed to high temperature or low humidity even for relatively short times. In such situations, moisture must be allowed to equalise throughout the components in order to ensure stability before painting.

Allowance for movement

Provision must be made for movement where panel is used as a wall/ceiling lining or floor overlay. Sealing the panels improves their stability by reducing moisture change within the panel.

Machining

The uniformity of Customwood® MDF gives excellent results from all machining operations using conventional wood-working machines. Well maintained machinery will cut cleanly and drill and rout without splintering or chipping. Tungsten carbide cutters are recommended. Machined edges or relief moulding can be finished to give a surface equal to that of the face of the panel. Dust control during machining is important. Ensure that dust collection systems operate effectively and, where they are inadequate, dust masks must be used. Safe working conditions depend upon such good housekeeping measures.

Screwing

The high internal bond strength of Customwood® MDF gives good screw retention.

Screw Types

Best results are obtained by using parallel threaded screws. Conventional woodscrews should not be used.

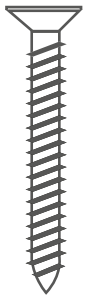
Tightening

It is important not to over tighten screws. The last turn should be the one which pulls the screw tight. Any further turning reduces the holding power by destroying the MDF structure. This is particularly important when the screw may have been taken out and reinserted later. In this case it is helpful to add PVA glue to the hole before final insertion.

Use of Pilot Holes

Pilot holes must be drilled for best results and should be slightly beyond the full depth of the screw penetration. Self drilling screws inserted without pilot holes have a reduced holding power due to fibre damage and possible panel separation.

Parallel Threaded Screw



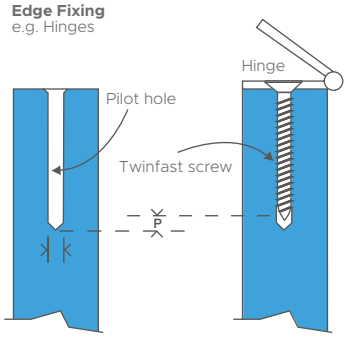
Panel Thickness (mm)	9
Maximum Screw Gauge	5

Recommended Screw Gauge for Panel Thickness

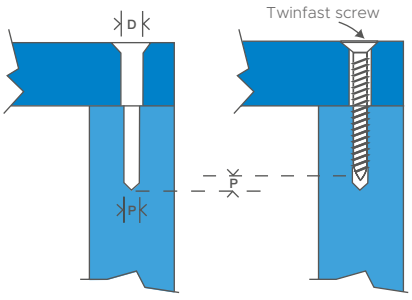
This chart shows the maximum screw gauge to use when edge fixing various thicknesses.

Screw Gauge (Parallel thread screws)	Pilot Hole Diameter (mm)
4	2
5	2.4

Edge Fixing
e.g. Hinges



Face Fixing into Edge



P – Pilot hole diameter – refer to table
D – Screw diameter

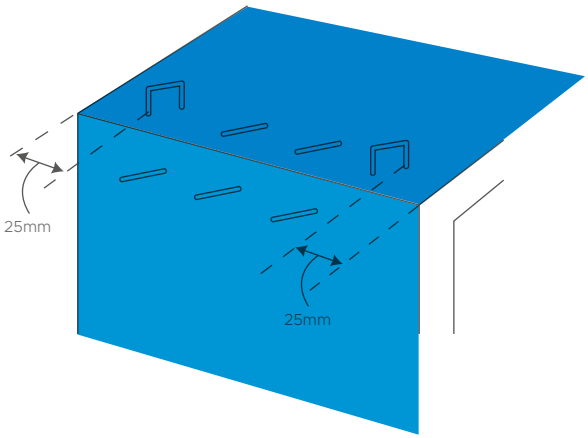
The position of the screws should take into account panel thickness and screw size. As a general rule, screws through the face of the panel should not be fixed less than 12mm from the edge and 25mm from the corners. Screws into the edges should not be less than 70mm from the corners. When fixing Thin Panel, use screws which are threaded up to the head.

Stapling

Staples can be successfully used for joint fixing. Best results are obtained with the use of resin-coated staples. Narrow crown staples with this special polymer adhesive coating give superior hold over uncoated fasteners.

- Always use the shortest possible staple, remembering that the resin coat adds up to 90% of its holding power.
- Do not staple within 25mm of the corner of the MDF panel.
- Control air pressure to avoid excess penetration of the staple. Holding power is reduced when the bridge is driven too far in.

The staple should be angled so that each leg lies in a different plane of the panel edge.



Nailing

- To achieve good holding power with no split-out, follow these recommendations:
- Use either annular, grooved or helical (spiral) nails.
- Use only 2.24mm wire nails. These give best results with good holding power in 16mm and 18mm Customwood® MDF.
- The nail length should not exceed 50mm.
- Punch nails slightly below surface and fill.
- Do not nail within 25mm of the corner of the panel.
- Do not nail into the edge of 9mm or 12mm Customwood® MDF – screws are recommended.

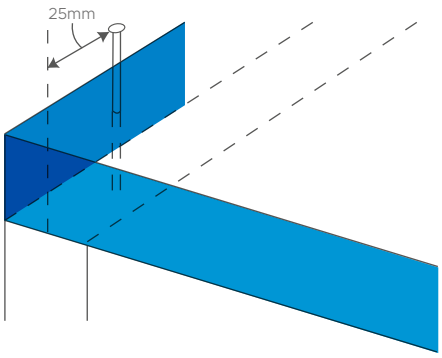
Airgun Nails

Airgun pressure should be adjusted to ensure that the nail heads finish slightly below the panel surface.

Do not nail within 25mm of the corner of the panel.

Resin-coated nails, applied at a slight angle, will further increase holding power.

Fixing into Edge



Joints

Customwood easily accepts standard joinery and furniture systems such as dowel, dovetail and half joints. Their success depends upon clean, precision machining.

Dowel Joints

The hole should allow the dowel to be inserted without forcing. Apply adhesive to the whole of the dowel surface.

Adhesives

All the adhesives which perform satisfactorily on wood substrates will perform equally well on MDF. The choice of a specific type of adhesive will be determined by the surface characteristics and the porosity of the other material being bonded, the method of applying the adhesive and the bonding conditions. Follow generally accepted trade practices and manufacturers' recommendations when choosing to apply adhesives.

Note: (1) Assembly joints should be cleanly machined and the parts should fit closely but not too tightly. Tight-fitting parts can result in glue starvation and a risk of internal delamination within the MDF panel. Where structural strength is required, a two-part adhesive should be used.(2) Surfaces to be bonded must be clean and dry and free from dust, oils and release agents.

Customwood®

Finishing

All exposed faces and edges should be sealed before being put into use. Follow these guidelines for a high quality paint, stain or clear finish.

Surface Preparation

Prepare surfaces by sanding with 160-220 grit paper and remove all dust.

Edge Preparation

For coarse cuts, start with 60-120 grit paper and finish with 240-320 grade. Remove all dust. To achieve a finished edge comparable with the face of the panel, pay special attention to sanding before painting. Use 150 followed by 320 grit paper for an extra fine finish.

Stopping

Fill nail, screw or staple holes with a proprietary wood dough or putty. Apply with flat blade or knife then sand back, leaving a little higher than the panel surface. Allow to dry hard and sand back. For wall/ceiling lining finishing, refer 'Applications'.

Paint Application

Brushing

The first primer/undercoat is critical to a good finish. Where surface smoothness is important, apply a solvent/ turpentine-based undercoat but do not thin the first coat. Water-based undercoats will cause surface roughening which will require additional sanding. Lightly sand between coats and remove dust. Apply all coats according to manufacturer's recommendations and technical information.

Spraying

The first coat of sealer or primer is of critical importance to the quality of the final finish. It is recommended that this coat is only thinned enough to enable the material to be sprayed without difficulty. Do not thin beyond the paint manufacturer's recommendations. While one primer coat is usually sufficient, where a very high quality finish is required, a light first coat followed by a second primer coat to create an effective base for finishing coats is recommended. Lightly sand between coats and remove dust. Apply subsequent coats as the manufacturer recommends, paying particular attention to specific drying times.

Note: These are general recommendations covering most paint systems. For specialist coatings, contact the appropriate manufacturers for their technical handling and application specifications. Customwood® MDF contains paraffin wax as a water repellent. To avoid problems, follow the advice of your paint supplier. Coatings are highly sophisticated systems developed using specific components. Take care to ensure all materials are compatible. The application of textured coatings requires care to ensure long term adhesion. For optimum results, carefully follow label instructions and technical recommendations.

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