

BRIGGS VENEERS

FABRICATION

FLAMEBLOCK™ FRMDF and BLACK MRMDF

Sawing

For manual sawing use a fine toothed saw. For machine sawing, use hard metal blades such as tungsten carbide. For processing large amounts of MDF, PCD (polycrystalline diamond) saw teeth may be cost effective. The recommended cutting speed is 60 to 70 m/s circumferential speed. To prevent “burn” marks, MDF panels must be passed through the saw blade at a high enough feed rate. However, at too high a feed rate, the saw will fray the MDF. It is recommended that the amount of material that is removed by each saw blade tooth, should vary between 0.15 and 0.25mm. The right height of the saw blade is when the saw blade projects just above the panel. During sawing, the MDF panel should be kept perfectly level and the saw blade must be free of vibrations. When sawing MDF that has been veneered or surfaced with laminate, chipping can be prevented by using a scoring saw. The following shape, position and dimensions of saw teeth produce best results:

Top angle	15° (Alternating per tooth in both directions)
Lateral clearance at angle	2 - 4°
Clearance angle	20 - 22°
Rake angle	15°
Clearance between tip and tooth	0.25 – 0.45mm

Drilling and Machining/profiling

Drilling speeds of approximately 3500 rpm are recommended. When drilling holes, to prevent material tearing out on the underside, drill half a hole depth on either side of the panel – taking care that the these holes are lined up. For machining, hard metal or PCD cutter blades should be used. Where there is risk of damage, a 3mm minimum radius is recommended. MDF must be firmly clamped when machining, profiling, routing and drilling.

Recommended cutting speed is 80 m/s, cutting speed = [Diameter (mm) x Speed (rpm) x 3.14] / [1000 x 60]

Recommended feed rate depends on desired finish, the diameter of the cutter, capacity of the machining motor, the stability of the set-up and machine, the number of cutters, the speed and feed per cutting tooth. At too low a speed, the MDF will develop burn marks. Veneered or laminated MDF will require lower feed rates than raw MDF.

Sanding

First sand using a 60 – 80 grit, then a 1000 – 150 grit. For a quality lacquer finish, use 180 grit or higher. Effectively remove all sand-dust with proper extraction systems, including, if necessary, spark detectors.

Screwing, Nailing and Gluing

It is recommended to drill with a diameter that is slightly smaller than the shaft diameter of the screw and at least 1mm deeper than the total screw length. The minimum spacing between screws and the edge of the panel depends on the MDF thickness. For screwing into edges, a minimum of 70mm should be kept between the screw hole and any corner of the panel. For screwing into the face of a panel, a minimum of 12mm to the panel side and 24mm to the panel corner should be observed. Nailing is not recommended with the exception of small diameter nails (less than 1.2mm) and lengths less than 60mm. Most wood-glues are suitable for gluing MDF, please refer to the instructions from your glue supplier

Surface and edge finishing

To prevent moisture ingress, MDF must be sealed such as with paint, clear coatings, veneer, veneer-laminates, high-pressure laminates, melamine, paper and plastic foils, etc. MDF surfaces should be clean and dust free prior to applying any finish. For information on painting, foils, melamine and laminates, and how to apply these, please contact your supplier. Edges must always be finished with edge-bands, coatings or sealers.

Veneers and veneer laminates should be glued (“laminated” or “pressed”) onto the MDF substrate using a plywood or veneering hot-press, using cross linking veneering-glues such as PVA or Urea-formaldehyde, applied and pressed according the glue manufacturer’s recommendations. Vacuum and other presses may also be suitable. Veneer laminates and high pressure laminates can also be glued to MDF using laminating presses and PUR presses.

Note that veneer and laminate pressing to MDF is a skilled job best undertaken by experienced panel layers, laminators. Hand lamination is generally not recommended except by those experienced in this, nor are contact adhesives recommended for veneer as these tend to cause the veneer to peel off - especially if a solvent based coating is applied. To prevent warping and bowing, balancing veneer and laminates of the same or similar thickness, moisture content and general type/tensile strength should always be used on the back of veneered and laminated panels.

Note: MDF may change dimensions somewhat with changes in moisture content. When sawing, drilling, machining, painting/coating or finishing with veneer or laminate, such dimensional change needs to be taken into account. Before processing, MDF should be equilibrated at a similar humidity and temperature as those expected in the application.