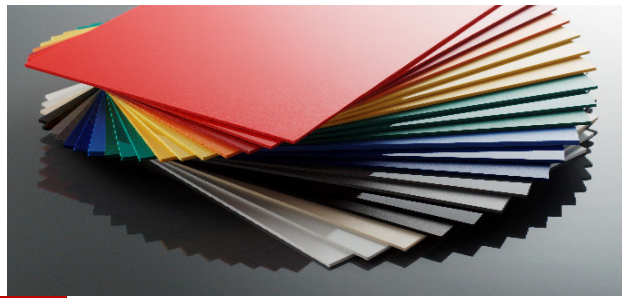
foamalux



MACHINING

Different means of cutting are appropriate for various thicknesses of **Foamalux sheet**, ranging from hand tools to power saws.

Cutting

Sheets 1 & 2mm thick can be cut with shears: sheets 1-3mm thick can be cut with a craft knife: preheated sheets are easier to cut. Sheets exceeding 3mm in thickness should be cut with a saw.

Routing

A high feed rate should be used to prevent overheating of the cutter; feed-rate will require adjustment for different sheet thicknesses and densities. For optimum edge finish trial and test the feed-rate before any large application. The PVC sheet should be clamped as close to the cut edge as possible to prevent sheet vibration whist cutting. Ensure there is adequate extraction to remove swarf (chips) from the cut. Unremoved swarf can cause heat build-up in the cutter leading to re-welding or burn up.
Solid carbide cutters designed for PVC use are recommended. General wood or metal cutters can be used but may give rise to surface chipping and poor edge finish. A cutter diameter of 6mm or greater is preferable, using cutters with smaller diameters increases risk of overheating and require greater attention to feed rate and depth of cut. For sheets up to 8mm thick use single 'O' flute cutters for rapid cutting. Twin 'O' flute cutters will give a finer edge finish. For sheets with a thickness over 8mm or slot cutting is recommended to use a spiral 'O' flute 'up-cut' cutter to aid chip removal. For 1mm thick foam the use of a 6mm two-flute straight cutter will give a smooth edge finish. Contact the cutters supplier/manufacturer for advice on the range of bespoke router cutters to suit specialist tasks.

Guillotining

Guillotines can be used for rough cutting but are not usually employed to finish cut as their action compresses the sheet and can give a poor edge finish e.g. permanent edge distortion: cracks can also be initiated in cold sheets.
Guillotines with blades heated to around 160°C give a good quality edge cut with less possibility of compressing or otherwise damaging the sheet edge.

Die Cutting

Flat shapes with complex geometry can be die cut from thinner sheets – up to 4mm thick – using sharp, accurately set rule dies: best results are obtained by preheating sheets to a maximum of 35°C; however, cut shapes should be placed between flat metal plates to cool, avoiding distortion. When designing components to be die cut, narrow sections and radii less than 3mm should be avoided. Sheets thicker than 4mm can be die cut provided they are preheated and component radii are more than or equal to sheet thickness. Edge finishing may be required.

Sawing

Blades designed for cutting plastics are ideal for cutting foam PVC, as are most types of wood saws – band, bench, circular, hand, jig and wall saws.
Blades must be sharp, with a slight side set. Hold and support sheets to avoid stress and vibration, particularly in cold conditions. Blunt blades and very fine tooth metal cutting blades, or incorrectly held material, produce an unsatisfactory finish. When using power tools, clear swarf and avoid heat build-up at the cut to produce clean edges.

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