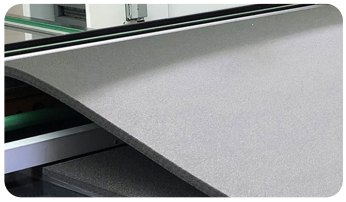
Fabrication Methods

PJBowers
Engineered & Specialty Foam Solutions

Splitting



Taking a thicker foam sheet, typically 100mm thick and splitting or slicing down to a thinner sheet. Tolerances as fine as 0.2mm. A high vacuum bed holds your foam steady, the foam is then moved across a fine, consistently sharpened blade.

Bandsaw

Used for creating a consistent, straight cut to alter the width or length of the foam sheets, slabs or blocks.

CNC Routing - Varying Pocket Depths, Patterns and Profiled Edges

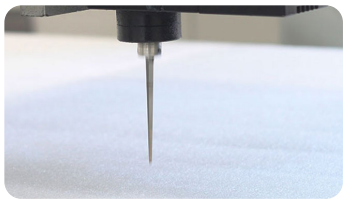
PJ Bower's CNC routing machines remove material from the secured foam sheet to create any shape or beveled edge required. The specialized router bit, specifically chosen for quality foam conversion, will follow the precise path as programed by our engineers. Detail as fine as Intricate patterns can be machined into the foam.

CNC Water Jet Cutting - Deep, Precise, Computer Controlled Cuts

CNC Water Jet Cutting is a more affordable CNC fabrication method, there is no variable depth and the strength of the pressurized water quickly cuts through very thick material in a single pass, this reduces production time and overall cost of the job.

Also, small radius cuts can be made as the thin stream of water removes very fine amounts of material.

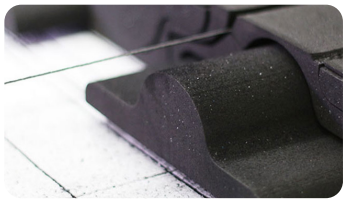
CNC Knife Cutting - Fast, Precise, Computer Controlled Cuts



The speed in which our knife cutting machines operate can reduce machine time and the overall job cost, however some limitations include: limited cutting depth (the length of the knife) and that the cut must penetrate through the entire piece of foam material.

However various depths may still be achieved by layering, adhering, or butt welding different pieces of cut foam together.

CNC Wire Cutting - Long Profile Cuts



A 2D profile can be cut from the length of a foam sheet or slab (up to 2.4 metres in length) and of any height. This can be referred to as a profile cut.

Surfacing and Adhesion Methods can be found on the next page.

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Surfacing

Buffing

The foam material is passed through brushed and knurled rolls, creating a 'furry' surface to the top and bottom surfaces of the foam. This is often used for improved grip in wet or slip conscious areas.

Embossing

This involves the surface heating of foam followed by cooling under a patterned or smooth surface. The foam surface will mould to the pattern or create a smoother 'skin' of the affected sides of the foam. The embossed surface is fused and no longer has a typical fine cell structure. resulting in the surface being more abrasion resistant and easier to clean.

Laser Cutting & Etching

For absolutely perfect removal of material, used for lettering, logos, and any shallow cuts or customisation to a surface.

Joining

Laminating

Joining of two foam sheets into one to increase thickness. The strength of the join is stronger than a 'virgin' unmodified sheet. This is done by applying evenly distributed heat to 2 sheets of foam, simultaneously feeding through rollers that apply a very specific amount of compression at a precise feed rate.

Butt Welding

When a large cubic size of foam is required, or the joining of different parts post machining (such as a top and base) or if foam sheets, slabs or blocks can be joined end-to-end or on top of one another. The strength of the join is stronger than a 'virgin' unmodified sheet.

Adhesion Tapes

Adhesive, peel off tapes, such as 3M, Stickyback or Stix2Bricks™ self-adhesive tapes can be applied to sheets of foam, this can make for easy adhesion for the end user's application.

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