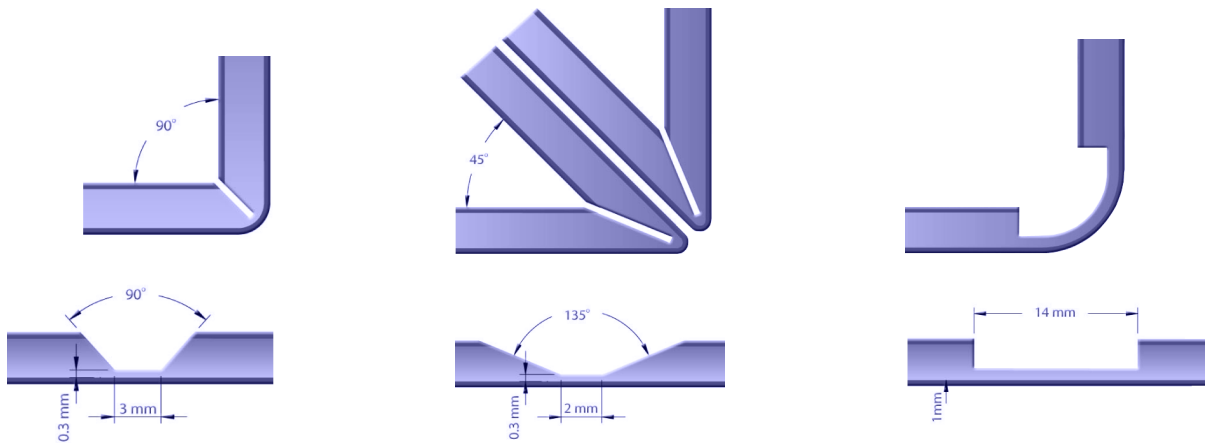


ALUBOND_{U.S.A} CUTTING, FOLDING & ROUTING TECHNIQUES



V-Shaped Groove for 90° folding

V-Shaped Groove for 45° folding

Bull nosed groove for foldings upto 150°

Conventional, off the shelf equipment can be used including; universal, vertical and horizontal routing machines.

To avoid pressure marks on the Alubond surface when chucking the work pieces, wooden or plastic shims should be used.

The most suitable cutters for both aluminum and Alubond are high-speed steel or carbon tipped cutters which have a wide tooth spacing, radiused and small grooves and small lip angles. These produce perfect cuts under the following conditions:

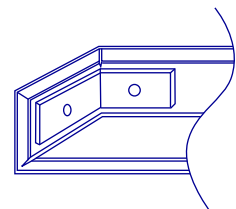
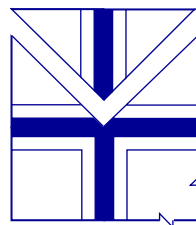
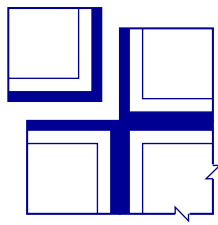
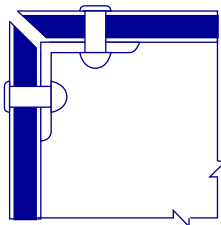
High-speed steel (HSS) cutters:

Cutting speed max : 3000 m/min.
Feed max : 25 m/min.

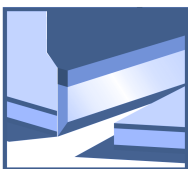
Carbide tipped (CT) cutters:

Cutting speed : 5000 m/min.
Feed max : 30 m/min.

The very simple method of routing makes the shaping ability to Alubond one of its major features. The system allows shapes of various kinds and sizes to be formed out of Alubond. A V-shaped groove is formed in the panel allowing it to be bent without the use of a press brake machine.

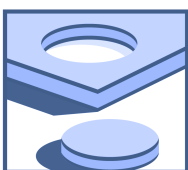


SHEARING



The shearing of Alubond u.s.a ACP panels can easily be done using rotary shears or a guillotine. To prevent damage to the panel, the hold down on the shear should be fitted with a shock absorbing rubber pad.

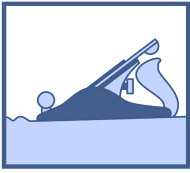
PUNCHING



Punching flat-formed parts from Alubond u.s.a is performed in the same way as solid aluminum sheet, using the narrowest possible cutting gap and evenly ground tools.

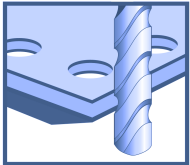
Processing Methods

PLANING AND FILING OF EDGES



When using a jig saw on Alubond u.s.a, swarf is often left behind on the edges of the sheet. For removing this swarf and finishing off the edges, plane cutting files work best. Files with screen-like perforated roots, or tools with very coarse or rasp-like cut are recommended for filing. Through these perforations the swarf will be removed from the tool surface. The file profile should be from slightly to fully rounded. The proper filing direction is lengthways along the edge. When clamping a sheet of Alubond u.s.a between jaws, a shim of wood or plastic will protect the surface against damage.

DRILLING



The drilling of Alubond u.s.a ACP panels can be achieved with twist drills normally used for aluminum and plastics on machines common for metals.

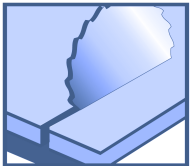
By using high-speed, low feed, occasional raising of the drill and blowing with compressed air, the swarf will be rapidly removed.

WELDING



The Alubond u.s.a ACP panels can be successfully welded using polyethylene welding rods and a hot-air gun. Slender pieces of Alubond u.s.a ACP panels can also be used on a welding rod. Reinforcement on the welded joint is recommended.

CUTTING / SAWING



A fine tooth tungsten - carbide tipped (CT) saw blade is the most suitable for cutting Alubond u.s.a ACP panel. Eg. A 60 tooth on 250mm diameter.

CURVING / FOLDING

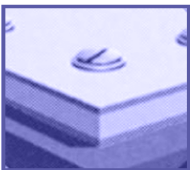


Using the standard 3004 H4 alloy, Alubond can be curved to the following minimum radii:

Panel Thickness	3mm	4mm	6mm
Radius	120mm	175mm	275mm

Tighter radii can be achieved with other alloys or tempers.

RIVETTING / BOLTING



Use aluminum blind rivet for junction. Fixing work can be done from one direction. Use stainless steel bolt/nut. When panels are connected with junction hole, the equation of $e > 2D$ indicates a suitable relation between the hole diameter (D) and the distance from the hole center to panel end (e), to ensure sufficient tensile strength of the hole.