

Fabrication

Cutting



ALUCOBOND® can be cut with a vertical panel saw, circular or jig saw. Conditions for cutting with a circular saw:

Cutting tools/carbide

tipped, blade geometry: Thickness of cutting teeth approx. 2-4mm;
Tapered from outside to inside to prevent jamming.

Tooth geometry: Trapeze tooth/fl at tooth

Pitch t: 10-12mm

Clearance angle : 15°

Rake angle : 10° (positive)

Max cutting speed v: 5000 m/min.

Max feed s: 30 m/min.

Drilling



ALUCOBOND® can be drilled with twist drills normally used for aluminium and plastics on machines common for metals. Drill material: High-speed steel (HSS) We recommend metal drills with centre-point.

Contour cutting



ALUCOBOND® can be cut to shape using CNC machining centres, water jet cutting machines, copy routers and jig saws.

Shearing



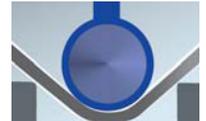
Shearing can be done with a guillotine. To prevent surface damage, use protective pads between down-holders and ALUCOBOND® surface and adjust to minimum down holding pressure. Use carpet protection on feeder table. Do not use ball supports as they damage the ALUCOBOND® surface. Shearing will cause a slight deflection of the cut edge on the impact side.

Punching



ALUCOBOND® can be punched using conventional sheet metal punching machines or manual notchers. For clean cuts use sharp tools and dies with minimal cutting clearance. Punching will cause a slight deflection of the cut edge on the impact side.

Bending



Bending is possible with a folding table or a bending press. Min required inside radius:

ALUCOBOND®: $r = 10 \times t$

t = panel thickness

To protect the surface finish of ALUCOBOND® during bending use padding strips. The springback of ALUCOBOND® is greater than that of a solid aluminium sheet. To determine spring-back for serial production, make tests on sample panels.

Roll Bending



ALUCOBOND® can be bent using a roll bending machine (pyramid or pinch rollers). To protect the surface finish of ALUCOBOND® during bending use only polished rollers free of dents and other defects.

Riveting



Riveting is possible using solid or blind rivets with conventional riveting tool. For exterior applications allow for thermal expansion and possible building movements.

Welding



The plastic core of ALUCOBOND® can be hot-air welded using conventional hot-air welding equipment and plastic filler rod. Hot-air welding provides a water-tight joint for decorative purpose only. It is not suitable for joints where structural strength is required.

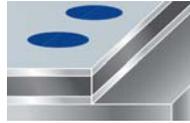
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Screwing

Use conventional wood, sheet-metal or machine screws made of stainless steel. For exterior applications allow for thermal expansion and possible building movements.



Clamping

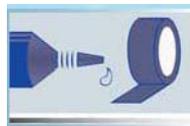
With serrated cornerjoint or butt-joint sections or clamped between special aluminium extrusions



Bonding

For exterior use and structural applications:

- Adhesive sealing compounds
- Double-sided VHB tapes



Consult sealant manufacturer for correct application.

For interior applications:

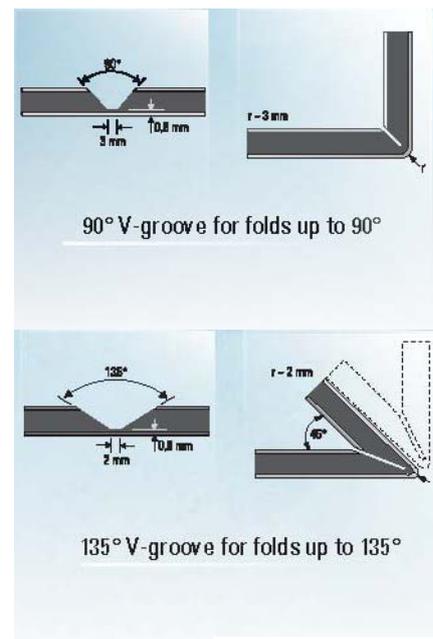
- Metal adhesives
- Double-sided VHB tapes

Adhesives and sealants do not adhere to the plastic core.

Apply to the aluminium cover sheet only.

Routing & Folding

ALUCOBOND® composite panels can be shaped using a very simple processing method. The technique, called the routing and folding method, enables a fabricator to produce shapes of various kinds and sizes. A V-shaped or rectangular groove is routed on the reverse side of the ALUCOBOND® composite panel using a disk or end milling cutter. A thin layer of the core material should be left at the base of the groove, i.e. on the inside of the outer cover sheet. The untouched outer cover sheet can now be bent manually, giving an exact and clean folding line which follows the routed groove. The outer radius of the folded edge depends on the shape of the groove and its depth. The routing can be done using a vertical panel saw equipped with ALUCOBOND® grooving accessories, a CNC machining centre, a portable sheet milling machine or a hand router. The routing and folding method can be used for ALUCOBOND® composite panels with all available standard surface finishes.



Surfaces

ALUCOBOND® surfaces are coated using exclusively high-quality and eco-friendly lacquer systems.

They are highly weather resistant and resistant to industrial emissions. These properties are achieved using UV-resistant bonding agents. For standard finishes, fluoropolymeric top coats (e.g. PVDF) are used. All surface coats are applied in a continuous coil-coating process, i.e. with a continuous coating and stove-lacquering procedure.

The quality of the coating is tested according to standards established by E.C.C.A. (European Coil Coating Association), of which 3A Composites are a member.

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