

Description

AYRLITE 2016 is an aluminium honeycomb panel faced with glassfibre reinforced epoxy resin.

Strain-hardened hexagonal cell aluminium honeycomb has optimal mechanical properties and is able to carry shear loads at significantly lower weight than foams or other core types.

Features

- ISO 1182 Non-Combustibility of core.
- 6 mm (0.24 in) cell, aluminium honeycomb core.
- Aluminium honeycomb core meets the requirements of MIL-C-7438 salt fog anti-corrosion performance.
- Low weight.
- A single ply skin face sheet has 300 gsm of glass fibre reinforcement. Any number of plies can be specified.
- The same number of plies has to be used on both sides, to maintain flatness.
- High stiffness and strength at low weight.
- Easy to fabricate.

Applications

- Automotive tooling.
- Panels for stone bonding.
- Lightweight, high strength models and structures.

Fabrication

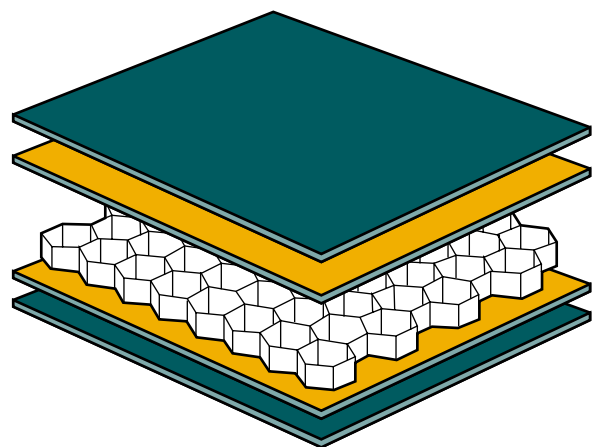
AYRLITE 2016 can be easily cut and drilled with standard tools such as circular saws, routers etc. Glassfibre dust is an irritant, so the use of a good dust extraction system is recommended.

Face skins must be clean and free of any oil or grease before any assembly bonding is done. A peel ply can be incorporated to maintain cleanliness of the outer surfaces, if required.

Components or complete interiors can be fabricated using Ayres Composite Panels aluminium extrusions, cutters and polyurethane paste adhesives. Alternatively, traditional tongue-and-groove (mortice and tenon) methods can be used.

Additionally, the cut-and-fold method can be used to produce curves or bends: by cutting a strip of skin material from one face, folding to close the gap created and permanently bonding the gap closed using adhesive (contact Ayres Composite Panels for more details).

A CD is available, showing assembly techniques (contact Ayres Composite Panels for details).



Physical and Mechanical Performance

Typical room temperature properties for 1 ply epoxy faced panels.

Thickness	Weight Kg/m ²	Long Beam		Climbing Drum Peel (longitudinal) (N/76mm)	Face Compression (MPa)
		Max Load (N)	Deflection at Max Load (mm)		
10 mm (0.39 in)	1.7 (0.35 lb/ft ²)	500	24	228	2.6
20 mm (0.79 in)	2.2 (0.45 lb/ft ²)	830	11	228	2.6
30 mm (1.18 in)	2.7 (0.55 lb/ft ²)	1080	8	228	2.6

Mechanical test procedures to MIL-STD-401

Availability

Standard Dimensions
2400 x 1200 mm (94 x 47 in)
Panel Thickness
Made to order, minimum thickness 6 mm (0.24 in)

Safety

As with cutting operations on most materials, avoid inhalation and eye contact with machining dust. Wear protective equipment such as ear defenders and safety glasses during any cutting operations. Use machine guards. Wear gloves to avoid cuts. Wash hands before eating, drinking or smoking and after finishing work.



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