

Description

AYRLITE 2054 is an aluminium honeycomb panel with decorative laminate faces reinforced by aluminium sheet.

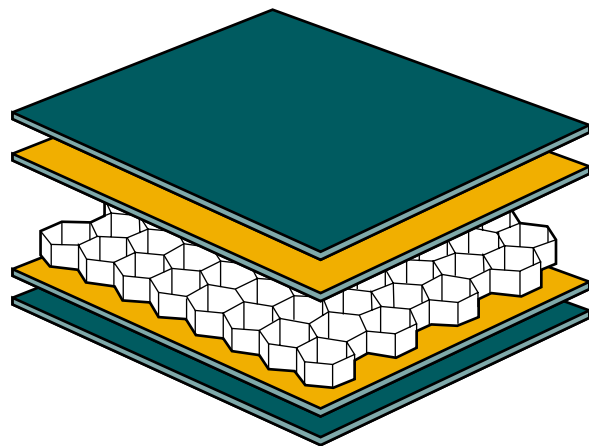
Strain-hardened hexagonal cell aluminium honeycomb has optimum mechanical properties and is able to carry shear loads at much lower weight than foams or other core types.

Advanced adhesive technology has enabled AYRLITE 2054 to achieve excellent results in International Maritime Organisation (IMO) fire tests, while retaining excellent bond strength.

Although principally developed for high-performance marine vessel interior applications, AYRLITE 2054 is also attracting interest in other marine sectors, rail and construction industries.

Features

- DNV Type Approval, for SOLAS C-Class applications.
- DNV Type Examination Certificate for SOLAS C-Class applications.
- Fully compliant with Marine Equipment Directive (MED) 96/98/EC, and so may be used on vessels registered or operated in the European Union.
- US Coast Guard Certificate of Approval for interior finish.
- IMO SOLAS MSC 61(67) Fire Test Procedures Code.
- ISO 5659-2 Smoke and Toxicity.
- IMO Res.A.653(16) Surface Spread of Flame.
- ISO 1182 for Non-Combustibility of core.
- 6 mm (0.24 in) cell, aluminium honeycomb core.
- Aluminium honeycomb core meets the requirements of MIL-C-7438 for salt fog anti-corrosion performance.
- Wide range of decorative finishes: colours, patterns, wood grains.
- Panels are produced with the same decorative facing on both sides, or with a backing grade on the reverse side.
- Decorative faces are reinforced with a minimum of 0.3 mm (0.012 in) of aluminium sheet. Thicker reinforcements are available as required. 0.5 mm (0.02 in) is the standard reinforcement thickness.
- Aluminium reinforcement sheets can be different thicknesses on front and back faces: eg 1 mm (0.039 in) on front face, 0.3 mm (0.012 in) on back face (for maximum robustness and weight saving).
- Aluminium reinforcement sheets are of 5052/5251 alloy for maximum strength and anti-corrosion performance.
- Low weight.
- High stiffness.
- Easy to fabricate.
- Wide selection of assembly extrusions available.



Physical and Mechanical Performance

Typical room temperature properties for laminate face panels, reinforced with 0.5 mm (0.02 in) aluminium sheet.

Thickness	Weight Kg/m ²	Long Beam		Flatwise Tensile (MPa)	Flatwise Compression (MPa)
		Max Load (N)	Deflection at Max Load (mm)		
10 mm (0.39 in)	4.5 (0.92 lb/ft ²)	1379	21	1.2	2.6
20 mm (0.79 in)	5.1 (1.04 lb/ft ²)	2697	9	1.2	2.6
30 mm (1.18 in)	5.6 (1.15 lb/ft ²)	3695	7	1.2	2.6

For weight with 0.3 mm (0.012 in) reinforced skins, subtract 1 kg/m² (0.2 lb/ft²)

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)

Applications

- Furniture.
- C-class Bulkheads.
- Internal modules eg Galleys, toilets, kiosks etc.
- Cabin linings.
- Partitions.
- Ceilings.
- Tables.
- Doors.

Fabrication

AYRLITE 2054 can be easily cut and drilled with standard tools for laminate-faced boards, such as circular saws, routers, etc. Negative rake blades are recommended for circular saws.

Components and 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.

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

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.

AYRLITE® 2054
Honeycomb Sandwich Panel



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Lighten Up!

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