

AYRLITE® 2054

Decorative Faced, Aluminum Honeycomb Panel



AYRES
Lightweight Panel Systems
www.ayrescom.com

DATA SHEET Issue 3

Description

AYRLITE 2054 is an aluminum honeycomb panel **with decorative laminate faces** reinforced with aluminum sheet.

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

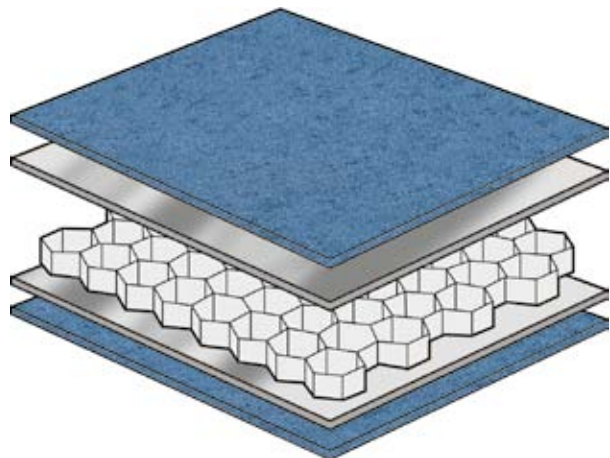
Advanced adhesive technology has enabled **AYRLITE 2054** to achieve excellent fire performance.

AYRLITE 2054 has been principally developed for high-performance marine vessel interior applications

Features

- ABS Type Approved Product
- High Speed Naval Craft Guide Approved
- US Coast Guard Certificate of Approval, for Interior Finish.
- Transport Canada Approval
- Fully compliant with European Union Marine Equipment Directive (EU-MED) 96/98/EC, and so may be used on vessels constructed, registered or operated in Europe.
- IMO SOLAS MSC 61(67) Fire Test Procedures Code compliant (also suitable for HSC vessels).
- Meets IMO Res.A.653(16) Surface Spread of Flame.
- Meets ISO 1182 for Non-Combustibility of aluminum honeycomb core.
- Meets ISO 5659-2 for Smoke and Toxicity performance.
- 1/4" cell size, aluminum honeycomb core.

- Aluminum honeycomb core meets the requirements of MIL- C - 7438 for salt fog anti-corrosion performance.
- Wide range of decorative options: colours, patterns, wood grains, etc.
- Panels are produced with the same decorative laminate on both faces, or with a backing laminate on the reverse face.
- Decorative faces are reinforced with a minimum of 0.3mm (0.012") of aluminum sheet. Thicker reinforcements are available as required. 0.5mm (0.020") is the standard reinforcement thickness.
- Aluminum reinforcement sheets can be selected with different thicknesses on different faces: for example, 1mm (0.040") for front face, 0.5mm (0.020") for back face (for weight saving on back face).
- Aluminum reinforcement sheets are of 5000 series alloy for maximum strength and anti-corrosion performance.
- Low weight.
- High stiffness.
- Easy to fabricate.
- Wide selection of anodized aluminum assembly extrusions available.



AYRES Lightweight Panel Systems

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Physical and Mechanical Performance

Typical room temperature properties for laminate faced panels, reinforced with 0.5mm (0.020”) aluminum sheet.

Thickness (inches)	Weight (lb/ft ²)	Long Beam		Flatwise Tensile (MPa)	Flatwise Compression (MPa)
		Max Load (Newtons)	Deflection at Max Load (inches)		
0.4	0.96	1379	0.82	1.2	2.6
0.8	1.08	2697	0.35	1.2	2.6
1.2	1.19	3695	0.27	1.2	2.6

For weight with 0.3mm (0.012”) reinforced skins on both faces, subtract 0.22 lb/ft².
Mechanical test procedures to MIL-STD-401

Availability

Standard Dimensions
96” x 48”
Panel Thickness
Made to order, minimum thickness 1/4”

Applications

- Wall linings.
- Furniture.
- C-class Bulkheads.
- Internal modules eg. galleys, toilets, kiosks etc.
- Cabinetry.
- 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 aluminum extrusions, cutters and polyurethane

paste adhesives. Traditional tongue-and-groove methods can also be used.

A DVD is available showing assembly techniques, contact Ayres Composite Panels for a copy.

Safety

As with cutting operations on most materials, avoid inhalation and eye contact with machining dust. Wear protective equipment such as hearing protection 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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