

Description

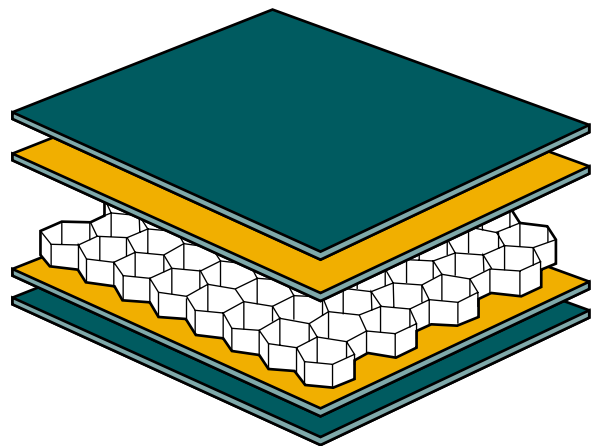
AYRLITE 2022 is an aluminium honeycomb panel faced with aluminium sheets. The panel is very lightweight and has excellent fire performance.

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.

Although principally developed for high-performance marine vessel interior applications, AYRLITE 2022 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 SOLAS C-Class divisions and other Non-Combustible constructions.
- IMO SOLAS.MSC 61(67) Fire Test Procedures Code.
- IMO Res.A.653(16) Surface Spread of Flame.
- ISO 1182 Non-Combustibility of core.
- DIN 5510 Teil 2 - S4 SR2 ST2 certified for railway interiors.
- 6 mm cell (0.24 in), aluminium honeycomb core.
- Aluminium honeycomb core meets the requirements of MIL-C-7438 for salt fog anti-corrosion performance.
- Aluminium Face sheets are 5052/5251 alloy, for maximum strength and anti-corrosion performance.
- Aluminium face sheets are available in a range of thicknesses from 0.3 mm (0.012 in) upwards. 0.5 mm (0.02 in) is the standard thickness.
- Panels may be produced with different aluminium face sheet thicknesses thicknesses on front and back faces: eg 1 mm (0.039 in) front face, 0.3 mm (0.012 in) back face (for extra weight saving).
- Mill finish panels are suitable for painting, or secondary bonding with decorative laminates.
- Brushed and anodised aluminium finishes are also available.
- Low weight.
- High stiffness.
- Easy to fabricate.
- Wide selection of assembly extrusions available.
- Recyclable.



Physical and Mechanical Performance

Typical room temperature properties for 0.5mm (0.02 in) aluminium 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)	3.4 (0.70 lb/ft ²)	1054	25	360	2.6
20 mm (0.79 in)	3.9 (0.80 lb/ft ²)	2005	12	360	2.6
30 mm (1.18 in)	4.4 (0.90 lb/ft ²)	2776	9	360	2.6

For weight with 0.3 mm (0.012 in) 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). Other L x W available on request.

Panel Thickness

Made to order, minimum thickness 6 mm (0.24 in).

Applications

- Cabin linings.
- Doors.
- Furniture.
- Partitions.
- C-Class bulkheads.
- Internal modules eg galleys, toilets, kiosks etc.
- Ceilings.

Fabrication

AYRLITE 2022 can be easily cut and drilled with standard tools, such as circular saws, routers etc. Negative rake blades are recommended for circular saws. Caution should be taken in case of aluminium burrs on cut edges. Face sheets must be clean and free from any oil or grease before painting or bonding.

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.

The cut-and-fold method can also 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.

Bends can also be produced by using a brake press to locally collapse the core, and open curves can be rolled.

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.

Certification

For copies of certificates contact Ayres Composite Panels.

- IMO Solas Type Approval Certificate

- MED Type-Examination Certificate



AYRLITE® 2022
Honeycomb Sandwich Panel



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Lighten Up!

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