

AYRLITE® 2022

Aluminium Faced, Aluminium Honeycomb Panel



AYRES
Lightweight Panel Systems
www.ayrescom.com

DATA SHEET Issue 2

Description

AYRLITE 2022 is an aluminium honeycomb panel faced with aluminium sheets. The panel is very lightweight and non-combustible.

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.

AYRLITE 2022 is principally developed for high-performance marine vessel interior applications.

Features



- 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.



- DNV Type Examination Certificate, for SOLAS C-Class applications.



- DNV Type Approval, for SOLAS C-Class applications.



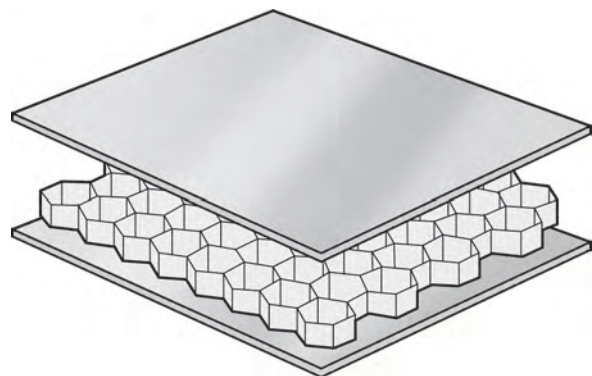
- US Coast Guard Certificate of Approval, for Non-Combustible material.



- 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 Non-Combustibility of aluminium honeycomb core.
- 6.35mm cell size, aluminium honeycomb core.

- Aluminium honeycomb core meets the requirements of MIL -C-7438 for salt fog anti-corrosion performance.
- Mill finish aluminium face sheets are 5000 series alloy, for maximum strength and anti-corrosion performance.
- Aluminium face sheets are available in a range of thicknesses from 0.3mm upwards. 0.5mm is the standard thickness.
- Panels can be produced with different aluminium sheet thicknesses on front and back faces: for example 1mm front face, 0.5mm back face.
- Aluminium faced panels are suitable for painting, or the application of decorative laminates.
- Brushed and anodised aluminium finishes are also available.
- Low weight.
- High stiffness.
- Easy to fabricate.
- Wide selection of anodised aluminium assembly extrusions available.
- Recyclable.



Physical and Mechanical Performance

Typical room temperature properties for 0.5mm aluminium faced panels.

Thickness (mm)	Weight (Kg/m ²)	Long Beam		Climbing Drum Peel (MPa)	Flatwise Compression (MPa)
		Max Load (N)	Deflection at Max Load (mm)		
10	3.4	1054	25	360	2.6
20	3.9	2005	12	360	2.6
30	4.4	2776	9	360	2.6

For weight with 0.3mm skins on both faces, subtract 1 kg/m². Mechanical test procedures to MIL -STD - 401

Availability

Standard Dimensions
2400 x 1200mm
Panel Thickness
Made to order, minimum thickness 6mm

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.

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 a copy.

Applications

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

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.

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 anodised aluminium extrusions, cutters and polyurethane paste adhesives. Traditional tongue-and-groove (mortice and tenon) cabinetry methods can also be used.

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Lighten Up!

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