

# AYRLITE® 2022

Aluminum Faced, Aluminum Honeycomb Panel



**AYRES**  
Lightweight Panel Systems  
www.ayrescom.com

DATA SHEET Issue 3

## Description

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

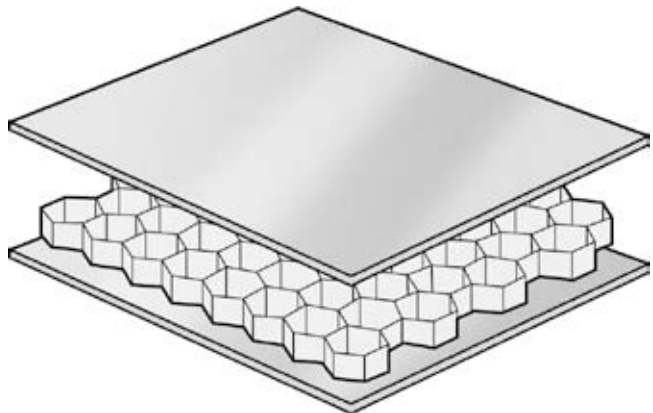
Strain-hardened hexagonal cell aluminum honeycomb has optimum mechanical properties and is able to carry shear loads at much lower weight than foams or other core types.

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

## Features

- ABS Type Approved Product
- High Speed Naval Craft Guide Approved
- US Coast Guard Certificate of Approval, for Non-Combustible material.
- Transport Canada Approval
- IMO SOLAS MSC 61(67) Fire Test Procedures Code compliant (also suitable for HSC vessels).
- Meets ISO 1182 Non-Combustibility of anodized aluminum core.
- 1/4" cell size, aluminum honeycomb core.
- Aluminum honeycomb core meets the requirements of MIL -C-7438 for salt fog anti-corrosion performance.
- Mill finish aluminum face sheets are 5000 series alloy, for maximum strength and anti-corrosion performance.
- Aluminum face sheets are available in a range of thicknesses from 0.3mm (0.012") upwards. 0.5mm (0.020") is the standard thickness.

- Panels can be produced with different aluminum sheet thicknesses on front and back faces: for example 1mm (0.040") front face, 0.5mm (0.020") back face for weight saving on back face.
- Aluminum faced panels are suitable for painting, or applying of decorative laminates.
- Brushed and anodized aluminum finishes are also available.
- Low weight.
- High stiffness.
- Easy to fabricate.
- Wide selection of anodized aluminum assembly extrusions available.
- Recyclable.



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*Lighten Up!*



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## Physical and Mechanical Performance

Typical room temperature properties for 0.5mm (0.020") aluminum faced panels.

Thickness (inches)	Weight (lb/ft <sup>2</sup> )	Long Beam		Climbing Drum Peel (N/76mm)	Flatwise Compression (MPa)
		Max Load (Newtons)	Deflection at Max Load (inches)		
0.4	0.70	1054	0.98	375	2.6
0.8	0.80	2005	0.47	375	2.6
1.2	0.90	2776	0.35	375	2.6

For weight with 0.3mm (0.012") skins on both faces, subtract 0.22 lb/ft<sup>2</sup>. Mechanical test procedures to MIL - STD- 401

### Availability

<b>Standard Dimensions</b>
96" x 48"
<b>Panel Thickness</b>
Made to order, minimum thickness 1/4"

### Applications

- Wall linings.
- Furniture.
- Partitions.
- C-Class bulkheads.
- Cabinetry.
- Internal modules eg. galleys, toilets, kiosks etc.
- Doors.
- Tables.
- 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 aluminum 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 anodized aluminum extrusions, cutters and polyurethane paste adhesives. Traditional tongue-and-groove cabinetry methods can also 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.

Small radius bends may be produced using a brake press to locally collapse the core, open radius curves may be rolled.

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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