

AYRLITE® 2041

Honeycomb Sandwich Panel



DATA SHEET Issue 1A

Description

AYRLITE 2041 is an aluminium honeycomb panel faced with exterior grade plywood.

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

Features

- ISO 1182 Non-Combustibility of core.
- 6 mm (0.24 in) cell, aluminium honeycomb core.
- Aluminium honeycomb core meets the requirements of MIL-C-7438 salt fog anti-corrosion performance.
- Exterior grade plywood face sheets (1.5mm minimum thickness). Various thicknesses of plywood are available, but the same thickness must be used on both sides of the panel to maintain flatness.
- Suitable for veneer application, painting or secondary bonding with decorative laminates.
- High stiffness.
- Low weight.
- High mechanical strength at low weight.
- Easy to fabricate

Applications

- Cabin linings.
- Doors.
- Tables.
- Furniture.
- Partitions.

- Internal modules. eg. galleys, toilets, etc.
- Ceilings.
- Bulkheads

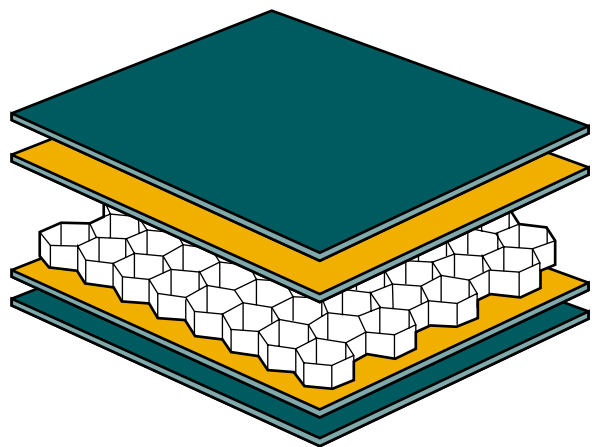
Fabrication

AYRLITE 2041 can be easily cut and drilled with standard tools, such as circular saws, routers etc. Components or 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).

Storage

NOTE: Unbalanced exposure of the panel faces to ambient moisture levels during transport and storage can induce bow in some panels; typically the top and/or bottom panel of a pack. To restore moisture balance and flatness, simply expose the concave face to the atmosphere overnight.



Physical and Mechanical Performance

Typical room temperature properties for 3 mm (0.12 in) plywood faced panels.

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)	4.4 (0.90 lb/ft ²)	960	39	1.2	2.6
20 mm (0.79 in)	4.9 (1.00 lb/ft ²)	1591	18	1.2	2.6
30 mm (1.18 in)	5.4 (1.11 lb/ft ²)	2079	14	1.2	2.6

For weight with 1.5 mm (0.06 in) skins, subtract 1.7 kg/m² (0.32 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)

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.



Ayres Composite Panels Pty Ltd
ABN 84 071 540 568

Asia-Pacific
asia-pacific@ayrescom.com

Europe
europe@ayrescom.com

USA
usa@ayrescom.com

www.ayrescom.com

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