



ALUMICLAD®

Sign and Display

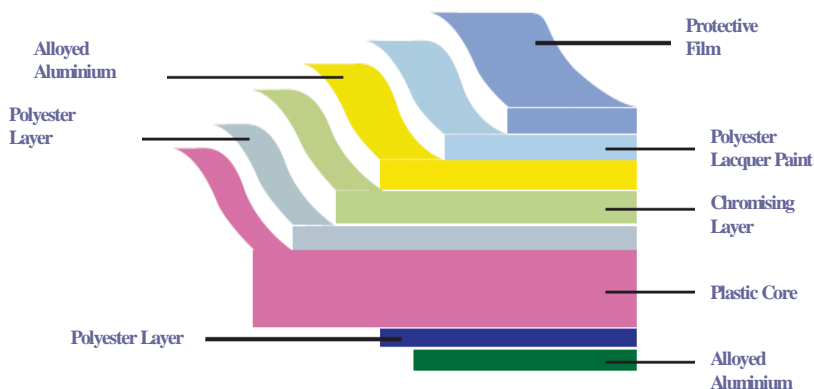
ALUMINIUM COMPOSITE PANELS

“The creative possibilities are endless”

- ☞ Signmaking
- ☞ Digital printing
- ☞ Point of Sale Displays
- ☞ Light boxes
- ☞ Exhibits
- ☞ Shopfitting
- ☞ Transport



Alumaticlad® is the Aluminium composite panel of choice for the twenty first century, an economical synthesis of aesthetics and function.



Alumaticlad® is an Aluminium Composite Material consisting of low-density polyethylene core sandwiched in between aluminium outer layers. Alumaticlad is widely used in the signage industries due to its versatility and the ease of use. It is becoming the material of choice; its modern appearance and longevity, combined with a vast colour range make it a perfect material for numerous applications.



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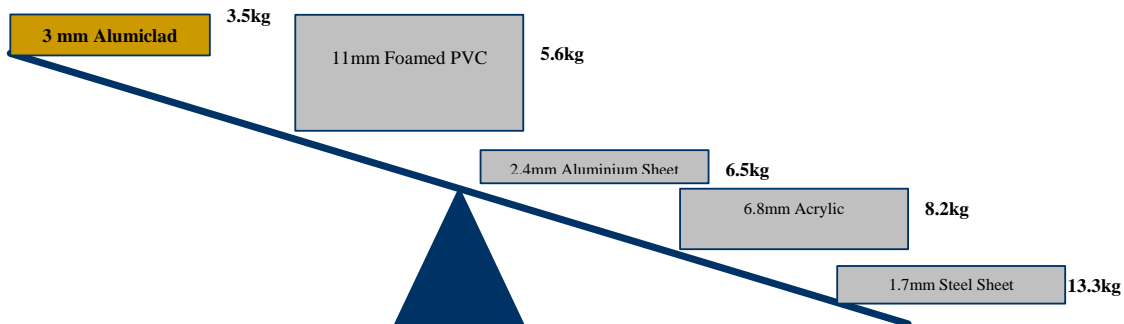
Rigid and Lightweight

Alumaticlad® is lightweight, flat and highly rigid due to the sandwich panel design, making it ideal for sign and display applications. Alumaticlad 3mm panels are as strong as 2mm solid aluminium sheets and 10mm rigid foam PVC, but almost half the weight.

Compared to products of equal rigidity, Alumaticlad is the lightest per m²

RIGIDITY VS. WEIGHT

Comparison of weight (kg/m²) between Alumaticlad and other materials of the same rigidity



Weather Resistant

Alumaticlad® has a factory applied polyester lacquer, which is durable and allows it to perform for the long term in all types of climatic and environmental conditions.

Superior Finish

The smooth surface and excellent flatness provides an ideal surface for sign and display manufacturing. Alumaticlad can be digitally and screen printed, have vinyl lettering applied and can also be spray painted.

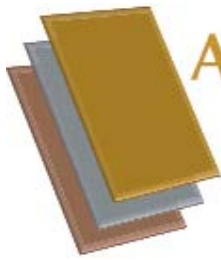
Workability

Alumaticlad® is easy to cut, bend, groove and machine, making it extremely flexible and suitable to a variety of sign applications.

Recyclable

The aluminium cover sheets and core material that make up the Alumaticlad® panel are totally recyclable and environmentally friendly.





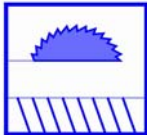
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Fabrication Methods



Forming

A major feature of Alumiclad is the possibility to form the panels into a myriad of shapes using a simple routing and folding method. It enables a fabricator to produce various shapes without the need for heavy equipment such as folding machines or brake presses. Hand routers and sheet milling machines can also be used. They are inexpensive and can be used either in the workshop or onsite.



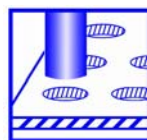
Cutting

Alumiclad PE or Alumiclad FS can be cut easily with circular saw, vertical saw or jig saw as used for metal or wood cutting. Carbide tipped blades for aluminium or plastic are recommended. Thickness of cutting teeth should be 2 – 4mm and tapered from outside in to prevent jamming. Shear cutting with a guillotine is also an efficient method for sizing a large quantity of panels. Please note that shearing will cause a slight deflection of the cut edge on the impact side and protection pads should be used to minimise any surface damage



Routing

Routing or grooving the Alumiclad panel allows it to be folded easily. For processing large quantities of material a circular saw or panel saw with a groove cutter is recommended. A carbide tip should be used and we recommend 110° of grooving angle to achieve 90° bends. It is important to leave 0.2-0.4mm of core material when U grooving (on the inside of the outer cover sheet).



Punching

Alumiclad PE or Alumiclad FS can be punched using conventional sheet metal punching machines or manual punches. To achieve the cleanest edges use sharp dies and tools. Please note that punching will cause a slight deflection on the impact side of the cut edge. The panels can also be drilled with high-speed steel drills with centre point.



Bending

Alumiclad PE or Alumiclad FS can be bent easily using a folding table or brake press where the minimum required inside radius equates to ten times the panel thickness ($r = 10 \times t$). To protect the surface during bending use padded strips. For larger radius a 3 roll bending machine should be used. It is best to groove and slit the curving edge before bending. Rollers should be polished and free of dents and other defects.



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Fixing



☛ **Screwing** of Alumiclad panels can be done so with conventional wood, sheet metal or machine screws made of stainless steel or aluminium. It is important that an allowance is made for thermal expansion. If screws are used made of any other metal, a barrier such as plastic washer must be used, as the interaction of other metals with aluminium can lead to corrosion.



☛ **Bonding** is possible with double sided VHB tape or adhesive sealants (dependant on type of application). The double sided VHB tape or adhesive sealants do not adhere to the panel core and thus must be applied to the aluminium cover sheet only.



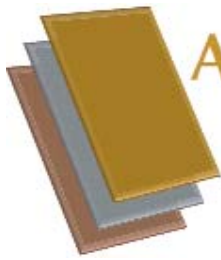
☛ **Riveting** is possible using solid or blind rivets made of stainless steel or aluminium applied with conventional riveting tools. It is important that an allowance is made for thermal expansion and possible building movement

☛ **Linear Expansion** - Alumiclad is appropriate for uses in temperature ranges between -50°C and $+80^{\circ}\text{C}$. Its linear expansion totals $0.024 \text{ mm/m}/^{\circ}\text{C}$, which amounts to 2.4 mm/m during a temperature fluctuation between -20°C and 80°C .

☛ **Storage and Handling** - It is important that Alumiclad panels are stored, handled and cleaned correctly. The panels should be stored flat and kept in a dry environment. Alumiclad has a plastic film protecting the surface of the panel during fabrication and installation. This should be removed as soon as possible after installation completion. Arrows are printed on the film to indicate the direction of coating.



☛ **Cleaning** - The level of cleaning required is typically dependant on the environmental conditions of the installation (pollution, costal salt spray etc.) but in normal instance cleaning once a year is sufficient. The Alumiclad coating will not normally show an appreciable amount of dirt collection and rainfall will often be sufficient to keep the surface clean. Where additional cleaning is required, low water volume at moderate pressure, mild detergent and soft sponges or rags should be used. A non-visible area should be tested first. Do not use strong alkaline, acid or abrasive cleaners.



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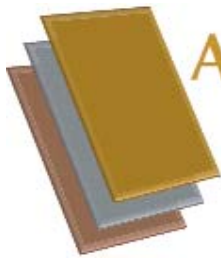
Datasheet

Panel Physical Properties

Property		Measurement
Panel Thickness		3mm
Aluminium Thickness		4mm
		0.21mm
		0.50mm
Standard Panel Size		
	Width	1220mm
	Length	2440mm
Custom Panel Sizes		Subject to minimum quantities.
	Width	1500mm
	Length	5800mm
Panel Weight		5.5kg/m ² (4mm / 0.5mm panel) 3.49 kg/m ² (3mm / 0.21mm panel)
Panel Tolerances		
	Width	+/- 3mm
	Length	+/- 3mm
	Thickness	+/- 0.2mm
	Panel Bow	Max 0.8%
	Flatness	Max 0.2%

Mechanical Properties

Property	3mm	4mm
Surface Density	3.49kg/m ²	5.5kg/m ²
Bending Strength	75.8Mpa	128Mpa
Bending Elasticity Module	1.74x10 ⁴ Mpa	2.8x10 ⁴ Mpa
Penetrating Resistance	5.12kN	9.3kN
Shear Strength	22.1Mpa	29.6Mpa
180 Peeling Strength	6.5N/mm	9.8N/mm
Thermal Expansion Coefficient	2.45x10 ⁻⁵ °C	2.01x10 ⁻⁵ °C
Temperature resistance	97 °C	106 °C
Acc to GB/T 17748-1999		



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Acoustic Properties

Property	Result
Transmission Loss (100hz to 5KHz)	22dB
The Sound Transmission Class	STC26
The Outdoor Indoor Transmission Class	OITC20
Acc to AS1191-1985 (4mm)	

Coating Properties

Property	3mm	4mm
Coating Thickness	25um	25um
Pencil Hardness	2H	3H
Coating Flexibility	0T	2T
Adhesion	Grade 1 Circling Grade 0 by Checking	Grade 1 Circling Grade 0 by Checking
Impact Resistance	50kg/cm No paint removal/ fracture	50kg/cm No paint removal/ fracture
Washing and Brushing resistance	>10000 no change	>10000 no change
Acid / Alkaline / Oil Resistance	No Change	No Change
Chromatic Aberration (<3.0)		1.2
Chalkiness Grade (< Grade2)		Grade 1
Other Aging properties (Grade 0)		Grade 0
Acc to GB/T 17748-1999		

Fire Behavior

Property	Result
Ignitability	Index 0
Heat evolved	Index 0
Spread of flame	Index 0
Smoke developed	Index 1
Acc to AS1530, Part 3 – (4mmPE)	

Quality Assurance Alumiclad[®] composite panels are manufactured in accordance with ISO9001 quality system.



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