

Summary of Technical Data Sheet – ALPOLIC™ A2 reAL anodised (Made in Germany)

1. General

ALPOLIC™ A2 reAL anodised is an aluminum composite material (ACM) with a high fire-retardant core, used as exterior and interior claddings and roof covering in new buildings and retrofit applications. The material is manufactured by Mitsubishi Polyester Film GmbH with the address, Kasteler Strasse 45/E512, 65203 Wiesbaden Germany, and furnished by approved dealers or distributors.

Technical data may be changed in part without affecting the material quality.

2. Product composition

ALPOLIC A2 is composed of a superior fire-retardant core sandwiched between two skins of 0.5mm thick aluminum alloy:

Composition	Skin material	(Top) 0.5mm thick aluminum alloy (5005-H14 or equivalent) (Back) 0.5mm thick aluminum alloy (3005-H14, 3105-H14, 5005-H14 or equivalent)
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	Core material	high mineral filled fire-retardant core
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The surface is finished with an anodic oxide layer by continuous process on an aluminium coil. Continuous anodising builds and enhances the surface oxidation using an electro-chemical process under precisely controlled conditions.

The back side of ALPOLIC A2, which will face the structural wall or steel when it is installed as a cladding panel, has a polyester-based wash coating or a service coating to protect it from possible corrosion problems.

The surface is protected with a self-adhesive peel-off protective film consisting of two polyethylene layers of white and black. According to weathering tests under normal outdoor conditions, the protective film will withstand six months' exposure without losing its original peel-off characteristic or causing stains or other damages.

3. Product dimension and tolerance

- (1) Panel thickness: 4 mm
- (2) Panel size: Standard width = 1270 and 1575 mm
Maximum length = up to 7300 mm

(3) Product tolerance

Width: ± 2.0 mm

Length: ± 1.0 mm/m

Thickness: ± 0.2 mm in 4 mm thick

Bow: Maximum 0.5% (5mm/m) of the length or width

Square-ness (diagonal difference): Maximum 5.0 mm

Surface defect: The surface shall not have any irregularities such as roughness, buckling and other imperfections in accordance with our visual inspection rules. ALPOLIC A2 is supplied with a cut edge and without aluminum sheet displacement or core protrusion.

4. Principal properties

(1) Panel weight: 8.1 kg/m^2

(2) Thermal expansion ratio: $19 \times 10^{-6} / ^\circ\text{C}$

(3) Mechanical properties of ALPOLIC A2 as an aluminum composite material:

Item	Unit	
Tensile strength (ASTM E8)	MPa or N/mm ²	43
0.2% proof stress (ASTM E8)	MPa or N/mm ²	41
Elongation (ASTM E8)	%	3.8
Flexural elasticity (ASTM C393)	GPa or kN/mm ²	38.5

(4) Mechanical properties of aluminum alloy:

0.2% proof stress: 150 MPa or N/mm²

Flexural elasticity: 70 GPa or kN/mm²

(5) Deflection temperature (ISO 75-2): 110 °C

(6) Sound transmission loss (ASTM E413): STC (Standard Transmission Class) 27

5. Summary of fire tests

ALPOLIC A2 fluoropolymer coated finish has passed the following fire test.

Country	Test standard	Results & classification
EU	EN 13823, EN ISO 11925-2, EN 13501-1	Class A2-s1, d0

As the top anodised layer has no organic components, ALPOLIC A2 reAL anodised can meet the fire performance requirement of the above test standards.

6. Anodised finish

The top surface is finished with anodic oxide layer and it is produced in a continuous anodising line on an aluminium coil. Continuous anodising builds and enhances the surface oxidation using an electro-chemical process under precisely controlled conditions. The anodic oxide layer is 8 micron thick. Comparing with conventional batch anodising process, the continuous anodising finish has excellent color uniformity.



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7. Notes

- Panels from different production lots should not be mixed on a building elevation.
- Brake bend or other forming operation shall cause visible cracking on the surface.
- The panels should not be fabricated at temperatures lower than 10 degrees C.
- Panels should be stored flat in a dry indoor environment.
- Please refer to the fabrication manuals for routing and fabrication recommendations.

The material properties or the test data in this leaflet are portrayed as general information only and a guide without warranty. Due to product changes, improvements and other factors, Mitsubishi Chemical Infratec Co., Ltd. reserves the right to change or withdraw information contained herein without prior notice.

The determination of suitability for use, design, fabrication, installation, and interface with other products of the ALPOLIC materials is the sole responsibility of the purchaser. The information contained on this Technical Manual is for conceptual use only. Mitsubishi Chemical Infratec Co., Ltd. shall have no responsibility or liability for the products usage or infringement of any patent or other proprietary right.

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