

# ALPOLIC™ A1

## Aluminium composite panels

### Technical data


**ALPOLIC™ A1 aluminium composite panels are classified according to the European fire protection standard DIN EN 13501-1 for building material for fire protection class A1 ("Euroclass A1"). ALPOLIC™ is the world's first aluminium composite material (ACM) with A1 Fire classification. This means that the product is non-combustible and does not produce any smoke in the event of fire. It therefore offers an ideal sustainable alternative to façade materials made of metal or other cladding materials used for ventilated rainscreen cladding façades systems.**

ALPOLIC™ A1 is manufactured from two 0.5 mm thick aluminium cover sheets. These are applied to the non-combustible mineral core (3.0 mm) in a special fusing process. The particularly durable fluoropolymer resin coating LUMIFLON™ is applied to one side of the cover sheets in a coil coating process using latest coil coating technology.

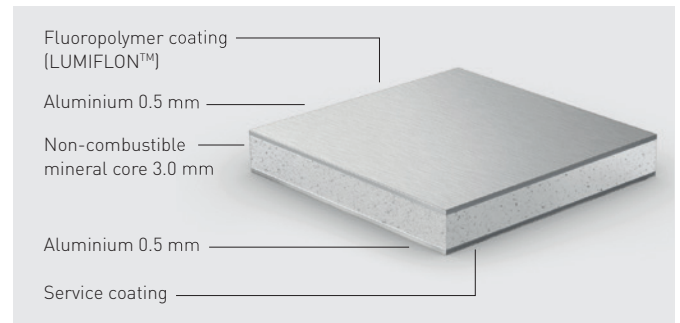
### Product features

- Excellent flatness
- High rigidity
- Low weight
- Robust and durable
- Impact and fracture resistant
- Corrosion, weather, UV-resistant
- Easy to process
- Fire protection class A1 (non-combustible)
- High-quality surface coating with LUMIFLON™
- Consistent colour quality and consistency
- Wide variety of colours and designs
- Almost 100% recyclable

### Surface coating

 The front side of the ALPOLIC™ aluminium composite panels is coated with LUMIFLON™. It is considered to be one of the world's highest quality coatings based on a transparent fluoropolymer resin (FEVE). It ensures a high colour fastness, protects reliably against weather influences, UV irradiation, corrosion, acidity and colour bleaching. The integrated anti-graffiti protection makes it easy to wipe off paint smears. The coating is guaranteed for up to 20 years. The reverse side of the composite panels is provided with a polyester-based coating to protect against corrosion. Further technical details on LUMIFLON™ can be found in the corresponding data sheet, which you can download from the website: [www.alpolic.eu](http://www.alpolic.eu)

WORLD FIRST:  
Fire protection class A1



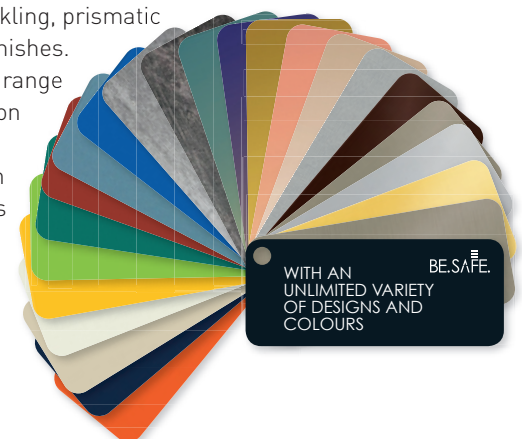
### Areas of application

As non-combustible aluminium composite panel with A1 classification according to EN 13501-1, ALPOLIC™ A1 is particularly suitable for areas where very high fire protection or the use of non-combustible façade materials is required – for example on high-rise buildings or high-risk buildings, fire exit stair cases and the like. In addition, ALPOLIC™ A1's excellent product and processing properties as well as its wide range of choice of finishes guarantee almost unlimited architectural design possibilities – both in refurbishment and new buildings.

- Ventilated rainscreen cladding façade constructions
- Façade and roof cladding
- Veneers
- Corporate Identity
- Interior architecture

### Colours and surfaces

The range comprises more than 200 colours and surface designs in various degrees of gloss (15 - 80%): solid colours, metallic, sparkling, prismatic and pattern finishes. The complete range can be found on our website, where you can order samples and download color charts and technical information.



#### Specifications

Dimensions	Standard	Unit	Value
Total Thickness	-	mm	4 (± 0.2 mm)
Cover sheet thickness	-	mm	0.5
Core thickness	-	mm	3
Width	-	mm	1,270/1,575 (± 2 mm)
Length	-	mm	1,800 – 7,200 (± 1 mm/m)
Bow tolerance	-	mm	max. 0.5% (5 mm/m) of the length or width
Squareness tolerance	-	mm	max. 5
Technological Value			
Weight	-	kg/m <sup>2</sup>	8.6
Specific gravity	-		2.15
Tensile strength	ASTM E8	N/mm <sup>2</sup>	48.2
0.2% proof stress	ASTM E8	N/mm <sup>2</sup>	46.5
Elongation	ASTM E8	%	2.7
Flexural elasticity, E	ASTM D7250	kN/mm <sup>2</sup>	45.6
Deflection temperature	ISO 75-2	°C	115
Thermal expansion	ASTM D696	10 <sup>-6</sup> /°C	20.6
Thermal Conductivity	Calculated Value	W/m-K	0.4
Acoustical Properties			
Sound Transmission Loss	ASTM E413	STC	27
Surfaces			
Coil-Coating Lacquering	-	-	LUMIFLON™ (FEVE) – based fluoropolymer coating
Aluminium alloy	-	-	3105 H44 and 3005 H44
Gloss (measured at 60°)	ASTM D523	%	15 – 80
Pencil hardness	ASTM D3363	-	H

Further certifications and approvals in planning.

#### International fire classifications

Country	Test Standard ...	Results & Classification	Remarks
EU	EN 13501-1 (below tests as required)	Reaction to fire classification: A1	
	EN ISO 1182	Passed	Core test
	EN ISO 1716	Passed	Heat potential value
	EN 13823	Passed	Panel test
Australia	AS 1530.1	Passed	Core test
	AS 1530.3	Ignitability Index 0, Spread of Flame Index 0, Heat Evolved Index 0, Smoke Developed Index 0	Panel test
Singapore	BS 476 Part 4	Passed	Core test

#### Core material combustibility comparison

	ALPOLIC™/fr	ALPOLIC™ A2	ALPOLIC™ A1
Portion of combustible ingredients within the core material	≤30%	≤10%	≤5%
Heat potential of the core material	≤14MJ/kg	≤3MJ/kg	≤1MJ/kg

#### ALPOLIC™ – the world's first address for aluminium composite panels

ALPOLIC™ is a brand of Mitsubishi Chemicals Corporation. For more than 50 years, planners, architects, builders and processors worldwide have been relying on our high-quality products for the building façade. BE.SAFE. is the claim that ALPOLIC™ not only holds as a product, but holistically as a corporate philosophy. This is backed by tangible arguments for more quality and safety for the building façade – from fire protection to sustainability.



#### Recycling

Our materials are almost 100% recyclable. Even waste from ALPOLIC™ plants is recycled.



Trademark of AGC Chemicals, Asahi Glass Co., Ltd.



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