

Aluminium composite panels

Technical data



ALPOLIC™/fr aluminium composite panels consist of two 0.5mm thick aluminium cover sheets which are applied to a flame-retardant mineral polymer core in a fusing process.

The front side is coated with LUMIFLON™ based on a fluoropolymer resin (FEVE). It is manufactured by coil-coating using the latest technology. The composite panels meet the fire protection requirements of EN 13501-1, class B - s1, d0 (flame-retardant) and are approved by the building authorities (DIBt, Berlin). Due to the special product properties such as excellent flatness, easy to process, low weight and high UV and corrosion resistance, they are the ideal material for exterior and interior applications in providing futuristic building architecture.

Product features

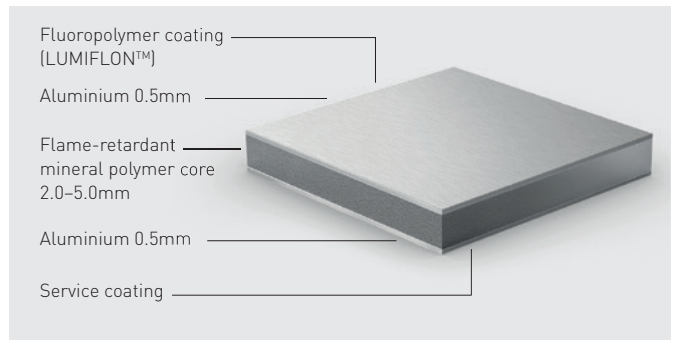
- Excellent flatness
- High rigidity
- Low weight
- Robust and durable
- Impact and fracture resistant
- Corrosion, weather, UV-resistant
- Easy to process
- Fire protection class B - s1, d0 (flame-retardant)
- High-quality surface coating with LUMIFLON™
- Consistent colour quality and consistency
- Wide variety of colours and designs
- Approved by building authorities
- 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 coating 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



Areas of application

ALPOLIC™/fr aluminium composite panels are ideally suited for the sophisticated design of ventilated rainscreen cladding façade system and decorate façade for both internal and external applications. The product is suitable for both new and refurbishment projects.

- 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, reAL Anodised, metallic, sparkling, prismatic, decors and real metals. The complete range can be found in our website, where you can order samples and download color charts and technical information.



Specifications

Dimensions	Standard	Unit	Value
Total thickness	-	mm	3* / 4 / 6 (± 0.2 in 3 and 4) (± 0.3 in 6)
Cover sheet thickness	-	mm	0.5
Core thickness	-	mm	2/3/5
Width	-	mm	1,035/1,285/1,535/2,050 (± 2)
Length	-	mm	max. 7,300 (±1mm/m)
Bow tolerance	-	mm	max. 0.5% (5mm/m) of the length or width
Squareness tolerance	-	mm	max. 5
Technological Value			
Weight	-	kg/m ²	6.0/7.6/10.9
Tensile strength	ASTM E8	N/mm ²	61/49/29
0.2% proof stress	ASTM E8	N/mm ²	53/44/26
Elongation	ASTM E8	%	4/5/2
Flexural elasticity, E	ASTM D393	kN/mm ²	49/39.8/29.1
Deflection temperature	ISO 75-2	°C	115/116/109
Thermal expansion	ASTM D696	10 ⁻⁶ /°C	24
Heat potential of the core	-	MJ/kg	< 15
Surfaces			
Coil-Coating	-	-	LUMIFLON™ -based fluoropolymer coating/ reAL Anodised
Aluminium alloy	-	-	3105-H14/3005-H14/5005A
Gloss (measured at 60°)	EN 13523-2	%	15-80
Pencil hardness	EN 13523-4	-	H
Resistance to rapid deformation	EN 13523-4	-	Rear impact deepening at 7.5Nm/mm: No cracks
Resistance to immersion in water	EN 13523-9	-	After 500 hours: No influence
Chalking resistance	EN 13523-14	-	Chalking out after 1,000 Q-UV test hours (= 500 hours UV-B): ≤ 10%

*3mm does not correspond with the general building authority approval DIBt, Berlin.

International fire classifications

Country	Test standard	Results & Classification
EU (applicable in Europe, Switzerland and Turkey)	EN 13823, EN ISO 11925-2, EN 13501-1	Class B - s1, d0
Germany	DIN 4102-1	B1
Switzerland	VKF	RF2
France	-	M1
Great Britain	BS 476 Part 6 & 7, BS 8414-1, BS 8414-2	BR 135
Poland	PN/B-02867	-
Czech Republic	CSN 73 0862, CSN 73 0863	Class C1
Hungary	MSZ 14800-6:2009	passed
Austria	OENORM B 3800-5	passed
Russia	GOST 30244-94 method II, SNIP 21-01-97, TsNIISK Natural Fire Test	Class G1 „Hardly Inflammable Materials“
USA	NFPA 259-93 (British Thermal Unit)	passed
	ASTM D1781-76 (Climbing Drum Peel Test)	passed
	ASTM E-84 (Steiner Tunnel Test)	Class A/Class 1
	ASTM E-108 Modified	passed
	UBC 26-9 & NFPA 285 (ISMA Test)	passed
	ASTM E108 (Fire Test for Roof Covering)	Class A
	ASTM E119 (1 hr and 2 hrs Fire Rating)	passed
	UBC 26-3 (Interior Room Corner Test)	passed
Combustion Toxicity Test New York State Uniform Fire Prevention and Building Code	passed	

Certifications and approvals

Country	Certifications and approvals
Germany	General Construction Approval, DIBt
Great Britain	BBA
France	Avis techniques
International	Environmental Product Declaration (EPD)

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 100% recyclable. Even waste from ALPOLIC™-plants is recycled.

Certifications



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



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