

ALUBOND FR-B ALUMINUM COMPOSITE MATERIAL

TECHNICAL PROPERTY GUIDE

1. Construction and dimensions

Property	Standard / reference	4 mm	6 mm
Overall panel thickness	Product designation	4.0 mm nominal	6.0 mm nominal
Aluminium skin thickness	EN 485-4	0.5 mm each face	
Alloy	TDS	3105 / 3003 H16 and 5005 H16/24	
Core	—	70–75% mineral-filled, polymer balance	
Weight	DMS-036 (±5%)	7.2 kg/m ²	10.5 kg/m ²
Standard widths	—	1000, 1250, 1500 mm	
Width tolerance	—	± 2 mm	
Length tolerance	—	± 4 mm	
Thickness tolerance	—	± 0.2 mm	
Squareness	—	Max 5 mm	
Bow	—	± 0.8%	

2. Mechanical properties

Property	Standard / reference	4 mm	6 mm
Tensile strength	ASTM E8	50 MPa	28 MPa
0.2% proof stress	ASTM E8	45 MPa	25 MPa
Elongation	ASTM E8	5%	2%
Flexural elasticity, E	ASTM C393	38 GPa	28 GPa
Flexural rigidity, E×I	ASTM C393	135 kN·mm ² /mm	345 kN·mm ² /mm

3. Acoustic properties

Property	Standard / reference	4 mm	6 mm
Sound transmission loss	ASTM E413	26 dB	
Sound absorption factor	ISO 354	0.05	

4. Thermal properties

Property	Standard / reference	4 mm	6 mm
Deflection temperature	ASTM D648	> 105 °C	
Thermal resistance, R	ASTM C518	0.07 m ² ·K/W	0.08 m ² ·K/W
Thermal conductivity, K	ASTM C518	0.6761 W/m·K	0.639 W/m·K

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Property	Standard / reference	4 mm	6 mm
Heat transition coefficient, U	DIN 4108	5.6 W/m ² ·K	5.4 W/m ² ·K
Temperature resistance	ASTM C518	-48 °C to +82 °C	
Linear thermal expansion	EN 1999-1-1	2.4 mm/m at 100 °C	

5. Fire performance

FR-B is built on a 70–75% mineral-filled core and holds a Euroclass B-s1,d0 reaction-to-fire classification. It has passed NFPA 285 full-scale façade testing in both thicknesses.

Property	Standard / reference	4 mm	6 mm
Core	—	70–75% mineral-filled core with additives, polymer balance	
Reaction to fire	EN 13501-1	B-s1, d0	
Surface-burning characteristics	ASTM E84 (TBW0300879)	Class A / Class 1	
Self-ignition temperature	ASTM D1929	Not less than 343 °C	
Exterior wall assembly	NFPA 285	Passed (TBW0300129, TBW0300245)	Passed (TBW0300138)
Listed assemblies	—	MH-AED-002, MH-AED-005 Rev 0, MH-AED-009 Rev 00	MH-AED-005 Rev 00

6. Coating and surface performance

Property	Standard / reference	4 mm	6 mm
Number of coats	—	Standard 2 / 3 / 4 coat	
Type / finish	—	PVDF / FEVE / HDPE	
Gloss @ 60°	—	20–40 / 20–80	
Adhesion (dry)	AAMA 2605-13	No adhesion loss	
Coating thickness (DFT)	AAMA 2605-13	PVDF 2C: 25–30 µm; PVDF 3C: 35–40 µm	
Corrosion, humidity & salt spray	AAMA 2605-13	No change	
Film adhesion	AAMA 2605-13	No change	
Impact resistance (50 kg·cm)	—	47 L	
Weathering resistance	ASTM E481	No removal	
Abrasion resistance	ASTM D968	No removal	
Pencil hardness	ASTM D3363	≥ HB	

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7. Approvals and standards

- UAE Civil Defence approved product.
 - Reaction to fire classified B-s1,d0 to EN 13501-1.
 - Surface burning: Class A / Class 1 to ASTM E84.
 - NFPA 285 full-scale façade testing passed in 4 mm and 6 mm.
 - Listed wall assemblies: MH-AED-002, MH-AED-005 (Rev 0) and MH-AED-009 (Rev 00) for 4 mm; MH-AED-005 (Rev 00) for 6 mm.
 - Coating qualified to AAMA 2605-13.
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