

ALUBOND FR-A2 ALUMINUM COMPOSITE MATERIAL

TECHNICAL PROPERTY GUIDE

1. Construction and dimensions

Property	Standard / reference	Value
Construction	—	Aluminum composite panel, mineral-filled A2 core
Overall panel thickness	SASO 2752:2019	4 mm nominal
Facings	—	Coil-coated aluminum, both faces
Core	—	Mineral-filled A2-grade core
Thickness tolerance	SASO Cl. 10.3.2	± 0.2 mm
Length tolerance	SASO Cl. 10.3.1	± 3 mm
Width tolerance	SASO Cl. 10.3.1	± 2 mm
Diagonal deviation	SASO Cl. 10.3.3	≤ 5 mm
Straightness at sides	SASO Cl. 10.3.4	≤ 1 mm/m
Warpage	SASO Cl. 10.3.5	≤ 5 mm/m

2. Mechanical and structural properties

Property	Standard / reference	Value
Shear strength	ASTM C393	25 MPa
Bending strength	ASTM C393	113 MPa
Bend elastic modulus	ASTM C393	22,142 MPa
Drum peel strength	ASTM D1781	108 N·mm/mm
180° peel strength	SASO ISO 8510-2	9.56 N/mm

3. Thermal properties

Property	Standard / reference	Value
Heat deflection temperature	SASO ISO 75-2	257 °C
Thermal conductivity (core)	ASTM C518	0.2116 W/m·K
Total thermal resistance	ASTM C518	0.2237 m ² ·K/W
Thermal transmittance, U-value	ASTM C518	4.47 W/m ² ·K
Linear thermal expansion	ASTM D696	144 µm/m·°C

4. Fire performance

FR-A2 is built on a limited-combustibility mineral core and holds a self-ignition temperature above 350 °C. Its fire behaviour was verified as part of full SASO 2752:2019 testing.

ALUBOND FR-A2 ALUMINUM COMPOSITE MATERIAL

TECHNICAL PROPERTY GUIDE

Property	Standard / reference	Value
Fire grade	—	FR-A2 (limited combustibility)
Core	—	Mineral-filled A2-grade core
Self-ignition temperature	ASTM D1929	Greater than 350 °C
Heat deflection temperature	SASO ISO 75-2	257 °C

5. Coating and surface performance

Property	Standard / reference	Value
Coating thickness	SASO ISO 2360	30.8 µm
Pencil hardness	SASO ISO 15184	F-3H
Coating flexibility (T-bend)	ISO 17132	No cracking
Adhesion (cross-cut)	SASO ISO 2409	Grade 0 (highest)
Impact resistance	SASO ISO 6272-2	No cracking at 50 kg·cm
Abrasion resistance	SASO ASTM D968	> 2 L/µm
Stain resistance	SASO ISO 11998	3%
Gloss deviation	SASO ISO 2813	4
Colour deviation	ASTM D2244	$\Delta E \leq 2$

6. Chemical resistance

Property	Standard / reference	Value
Alkali resistance	SASO ISO 2812-1	Resistant
Acid resistance	SASO ISO 2812-1	Resistant
Oil resistance	SASO ISO 2812-1	Resistant
Solvent resistance	SASO ISO 2812-1	Resistant
Hot water resistance	SASO ISO 2812-2	Resistant

7. Durability

Property	Standard / reference	Value
Accelerated weathering (2000 h)	SASO ISO 16474-2	No change
Salt-fog resistance (2000 h)	ISO 11997-1	No change

ALUBOND FR-A2 ALUMINUM COMPOSITE MATERIAL TECHNICAL PROPERTY GUIDE

8. Approvals and standards

- Complies with SASO 2752:2019 — every tested parameter passed.
- Independently tested by an IAS-accredited laboratory to ISO/IEC 17025:2017.
- FR-A2 limited-combustibility mineral core; self-ignition above 350 °C.
- Fully bonded core verified for shear, bending and peel strength.
- Surface finish free of waves, bubbles, spots, scratches and stains; colour deviation $\Delta E \leq 2$.
- Coating verified for adhesion, flexibility, weathering and salt-fog resistance.