TECHNICAL DATA SHEET

Alfrex FR Metal Composite Material 4mm

alfrex

Fire Resistant & Non-Combustible Cladding

COMPOSITION

PROPERTY	4mm FR	UNITS
Aluminum Skin Alloy	3003-H16	
Panel Thickness	0.157	in
	4.0	mm
Skin Thickness (nominal)	0.020	in
	0.5	mm
Core Material	Fire rated mineral filled core	
Panel Weight	1.51	lbs/ft^2
	7.37	kg/m^2
Specific Gravity (Product)	1.76	
Specific Gravity (Core Layer)	1.43	

STANDARD SIZES

PROPERTY	4mm FR		UNITS
Standard Widths	50	62	in
	1,270	1,575	mm
Other Available Widths	40	49.2	in
	1,020	1,250	mm
Standard Lengths	Max 25 (300)		ft (in)
	7,620		mm

PRODUCTION TOLERANCES

PROPERTY	4mm FR	UNITS
Width	- 0 / + 0.157	in
	- 0 / + 4.0	mm
Length	- 0 / + 0.394	in
	- 0 / + 10.0	mm
Thickness	- 0 / + 0.008	in
	- 0 / + 0.20	mm
Squareness	- 0 / + 0.197	in
	- 0 / + 5.0	mm

FIRE PERFORMANCE

TEST	RESULT
ASTM E84 (Product)	Class A
ASTM E84 (Core Exposed)	Class A
NFPA 285	Passed
CAN/ULC S102	Class A
CAN/ULC S134	Passed
ASTM E119	2 Hour Rating
ASTM D635	Classified CC1

PRODUCT WARRANTY

See warranty tables and sample warranties for conditions and exclusions

Bond Integrity	Alfrex FR MCM	10 Years

FINISH WARRANTIES

See warranty tables and sample warranties for conditions and exclusions

2 Coat Solid / 2 Coat Mica	Alfrex FR MCM	30 Years
3 Coat Metallic	Alfrex FR MCM	30 Years
3 Coat Vivid Solid	Alfrex FR MCM	20 Years
Wood and Metal Series	Alfrex FR MCM	20 Years
Hairline Aluminum / Mirror	Alfrex FR MCM	10 Years

TECHNICAL PROPERTIES

PROPERTY		4mm FR	UNITS
Minimum Bond Strength	ASTM D1781	22.5	in•lb/in
		100	Nm/m
Flatwise Shear Strength	ASTM C273	978	Psi
		6.74	Mpa
Flatwise Tensile Strength	ASTM C297	938	Psi
		6.47	Mpa
Core Shear Modulus	ASTM C393	9.42×10^3	Psi
		64.9	Mpa
Transverse Shear Stress	ASTM C393	3.34	Psi
		23×10^{-3}	Mpa
Flexular Stiffness	ASTM C393	1.02×10^3	Psi
		7.03	Mpa
Flexular Modulus *(Flexural Elasticity)*	ASTM C393	5.38×10^6	Psi
		3.79×10^3	Mpa
Modulus of Elasticity	ASTM E8	2.46×10^6	Psi
		17×10^3	Mpa
Tensile Strength	ASTM E8	6.96×10^3	Psi
		48	Mpa
Yield Strength	ASTM E8	6.23×10^3	Psi
		43	Mpa
Elongation	ASTM E8	5	%
Moment on Inertia	-	1.90×10^{-4}	in^4/in
		1.36×10^{-3}	cm^4/cm
Section Modulus	-	1.81×10^{-3}	in^3/in
		6.77×10^{-3}	cm^3/cm
Coefficient of Expansion	ASTM D696	1.44×10^{-5}	in/in°F (@-22-86°F)
Deflection Temperature	ASTM D648	› 239	°F
		› 115	°C
Self Ignition Temperature	ASTM 1929	775	°F
		413	°C
Core Density	-	0.054	lb/in^3
		1.5	g/cm^3

COATING PROPERTIES

70% Kynar 500 / Hylar 5000 Pvdf Resin Coatings
AAMA 2605 Compliant

PROPERY	STANDARD	COIL COATED ALUMINUM
Color Uniformity	ASTM D2244	Max. 2 Delta E
Color Retention - Fade	ASTM D2244	Delta E ≤ 5 units
Chalk Rating	ASTM D4214	≤ 8 units
Specular Gloss	ASTM D523	± 5 units
Dry Film Hardness	ASTM D3363	F - 2H
Dry Adhesion	ASTM D3359	No coating removal
Abrasion Resistance	ASTM D968	Abrasion Coefficient Value ≥ 40
Reverse Impact	ASTM D2794	No coating removal
Muriatic Acid Resistance	ASTM D1308	No blistering or visual change
Nitric Acid Resistance	ASTM D1308	≤ 5 Delta E
Alkali Mortar Resistance	ASTM D1308	No removal. No loss of adhesion or visual change
Flexibility	ASTM D4145	2T - no pick off
Humidity Resistance	ASTM D714	4000 hour exposure
	ASTM D2247	Less than "few" blisters Size No. 8
Cyclic Corrosion	ASTM B117	2000 hour exposure
	AAMA 2605-13	Min. rating of 7 scribe or cut edge Min. blister rating of 8