

**ALFLEX FR MCM TECHNICAL DATA SHEET**
**COMPOSITION**

Aluminum Skin Alloy	3003-H14	
Core Material	Fire rated mineral filled core	
<b>PROPERTY</b>	<b>4mm FR</b>	<b>UNITS</b>
Panel Thickness	0.157	in
	4.0	mm
Skin Thickness ( <i>nominal</i> )	0.020	in
	0.50	mm
Panel Weight	1.51	lb / ft <sup>2</sup>
	7.37	kg / m <sup>2</sup>
Specific Gravity (Product)	1.76	
Specific Gravity (Core Layer)	1.43	

**STANDARD SIZES**

<b>PROPERTY</b>	<b>4mm FR</b>		<b>UNITS</b>
Standard Widths	50	62	in
	1,270	1,575	mm
Other Available Widths	40.2	49.2	in
	1,020	1,270	mm

**PRODUCTION TOLERANCES**

<b>PROPERTY</b>	<b>4mm FR</b>	<b>UNITS</b>
Width	+/- 0.080	in
	2.0	mm
Length	+/- 0.157	in
	4.0	mm
Thickness	+/- 0.008	in
	0.20	mm
Squareness	+/- 0.157	in
	4.0	mm

**FIRE PERFORMANCE**

<b>TEST</b>	<b>RESULT</b>
ASTM E84	Class A
NFPA 285	Passed
CAN/ULC-S102	Class A
CAN/ULC-S134	Passed
ASTM E119	2 Hours Passed
CAN/ULC S102 & S134	Passed

**WARRANTIES**

See warranty tables and sample warranties for conditions and exclusions

Bond Integrity	10 Years	Product
Hairline Aluminum	10 Years	Finish
2-Coat Solid 2-Coat Mica	30 Years	Finish
2-Coat Vivid Solid	20 Years	Finish
3-Coat Metallic	30 Years	Finish
Wood and Metal Series	20 Years	Finish

**TECHNICAL PROPERTIES**

<b>PROPERTY</b>		<b>4mm FR</b>	<b>UNITS</b>
Minimum Bond Strength	ASTM D1781	22.5	in•lb/in
		100	Nm/m
Transverse Shear Stress	ASTM C393	3.34	Psi
		23 X 10 <sup>-3</sup>	Mpa
Coefficient of Expansion	ASTM E831	182 X 10 <sup>-6</sup>	in/in/°F (@ 32-212°F)
Flexural Modulus	ASTM C393	5.22 X 10 <sup>6</sup>	Psi
		36 X 10 <sup>3</sup>	Mpa
Modulus of Elasticity	ASTM E8	2.46 X 10 <sup>6</sup>	Psi
		17 X 10 <sup>3</sup>	Mpa
Moment of Inertia		1.9 X 10 <sup>-4</sup>	in <sup>4</sup> /in
		7.9 X 10 <sup>-3</sup>	cm <sup>4</sup> /m
Section Modulus		1.81 X 10 <sup>-3</sup>	in <sup>3</sup> /in
		29.7 X 10 <sup>-3</sup>	cm <sup>3</sup> /m
Tensile Strength ( <i>Aluminum Skin</i> )	ASTM E8	6.96 X 10 <sup>3</sup>	Psi
		48	Mpa
Yield Strength ( <i>Aluminum Skin</i> )	ASTM E8	6.23 X 10 <sup>3</sup>	Psi
		43	Mpa
Elongation	ASTM E8	5	%
Deflection Temperature	ASTM D648	> 428	°F
		> 220	°C
Core Density		0.054	lb/in <sup>3</sup>
		1.5	g/cm <sup>3</sup>
Self Ignition Temperature	ASTM 1929	775	°F
		413	°C
Oxygen Index	D2863	32	%
Thermal Conductivity	C518	0.422	W/(m•K)

**COATING PROPERTIES**

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

<b>PROPERTY</b>	<b>STANDARD</b>	<b>COIL COATED ALUMINUM</b>
Color Uniformity	ASTM D2244	Max. 2 Delta E
Color Retention - Fade	ASTM D2244	≤ 5 Delta E 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 (10% HCl, 15 mins)	ASTM D1308	No blistering or visual change
Nitric Acid Resistance (HNO <sub>3</sub> , 30 mins)	ASTM D1308	≤ 5 Delta E
Alkali Mortar Resistance (10%, 25% NaOH, 60 mins)	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