



## ALUCOBOND PLUS

Alucobond® PLUS has been developed exclusively for the higher requirements of the fire regulations in architecture. Due to its fire resistant core (FR Core), Alucobond® PLUS meets the higher requirements of fire classifications while offering the proven product properties of the Alucobond® family, such as flatness, formability, resistance to wear and simple processing. The superb properties of this material boost one's inspiration and offer architecture a wide range of solutions while meeting fire performance requirements of today's building standards. Alucobond® PLUS is available in most of our current finishes and most custom colors.

## PRODUCT DESCRIPTION

### Material Composition

- › Aluminum interior and exterior facings in 0.020" nominal thickness to ensure flatness
- › Proprietary fire-resistant core available in 4mm nominal thickness only

### Sheet Widths

- › Standard coil coated widths include 50" and 62"
- › Standard anodized widths include 62"
- › Custom width 40"

### Sheet Lengths

- › Standard lengths include 146" and 196"
- › Custom lengths for coil coating up to a maximum of 360"
- › Custom lengths for anodized up to a maximum of 216"

### Minimum Bending Radius

- › The minimum bending radius of Alucobond Plus without routing the interior skin is 15 times the thickness of the material

## FIRE TESTING

### Wall Assembly Fire Performance Tests

- › NFPA 285: Passed
- › CAN/ULC-S134: Passed

## TECHNICAL SUMMARY

### Temperature Resistance

- › Withstands environmental temperature changes from -55°F to +175°F
- › Coefficient of linear expansion is governed by the aluminum sheet

### Technical Properties

Nominal Thickness:	4mm
Nominal Weight:	1.56 lb/ft <sup>2</sup>
Moment of Inertia:	.000212 in <sup>4</sup> /in
Section Modulus:	.00275 in <sup>3</sup> /in
Rigidity:	2143 lb-in <sup>2</sup> /in

### Sustainability Design

- › LEED 3
- › LEED v4
  - LCA Industry Standard
  - EPD Industry Standard



### Accepted Code Evaluation Reports

- › 1. ICC-ES
- › 2. Florida Product Approval
- › 3. City of Los Angeles
- › 4. Miami-Dade County NOA

## MANUFACTURING

### Manufacturing Location

- › Alucobond PLUS is currently manufactured in Benton, Kentucky USA

To download PDF or AutoCAD details and specifications, visit our website at [www.alucobondusa.com](http://www.alucobondusa.com).

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### ENGINEERING PROPERTIES FOR ALUCOBOND<sup>®</sup> PLUS MATERIAL

Standard Test Method*	Description	Category	4mm
ASTM D-635	Rate of Burning	Fire Performance Properties	CLASSIFIED CC1
ASTM D-1929	Ignition Temperature-Self	Fire Performance Properties	783°F
ASTM D-1929	Ignition Temperature-Flash	Fire Performance Properties	784°F
ASTM E-84	Surface Burning Characteristics (Flame Spread Index)	Fire Performance Properties	0
ASTM E-84	Surface Burning Characteristics (Smoke Development Index)	Fire Performance Properties	0
CAN/ULC-S102	Surface Burning Characteristics (Smoke Development Index)	Fire Performance Properties	30
CAN/ULC-S102	Surface Burning Characteristics (Flame Spread Index)	Fire Performance Properties	0
ASTM C-365	Flatwise Compression Strength (Ultimate)	Mechanical Properties	9291 psi
ASTM C-393	Core Shear Properties (Perpendicular) Ultimate Facing Bending Stress	Mechanical Properties	24,720 psi
ASTM C-393	Core Shear Properties (Parallel) Ultimate Facing Bending Stress	Mechanical Properties	22,732 psi
ASTM D-790	Flexural Modulus (Perpendicular)	Mechanical Properties	1891 ksi
ASTM D-790	Ultimate Flexural (Perpendicular)	Mechanical Properties	18,573 psi
ASTM D-790	Flexural Modulus (Parallel)	Mechanical Properties	1815 ksi
ASTM D-790	Ultimate Flexural (Parallel)	Mechanical Properties	17,703 psi
ASTM D-790	Yield Flexural Stress (Perpendicular)	Mechanical Properties	6667 psi
ASTM D-790	Yield Flexural Stress (Parallel)	Mechanical Properties	6930 psi
ASTM D-638	Modulus of Elasticity (Perpendicular)	Mechanical Properties	2930 ksi
ASTM D-638	Tensile Strength (Perpendicular)	Mechanical Properties	7750 psi
ASTM D-638	Tensile Yield at .2% Offset (Perpendicular)	Mechanical Properties	6570 psi
ASTM D-638	Elongation (Perpendicular)	Mechanical Properties	14.2%
ASTM D-732	Punching Shear (Maximum Shear Load)	Mechanical Properties	2198 lbs
ASTM D-732	Punching Shear (Shear Strength)	Mechanical Properties	4615 psi
ASTM C-518	Thermal Conductivity	Thermal Properties	U=6.5 Btu/hr ft <sup>2</sup> °F
ASTM C-518	Thermal Resistance	Thermal Properties	R=0.16
ASTM C-518	Thermal Conductance	Thermal Properties	6.25
ASTM D-648	Deflection Temperature - Perpendicular	Thermal Properties	185°C
ASTM D-648	Deflection Temperature - Parallel	Thermal Properties	189°C
ASTM C-273	Shear Test in Flatwise Plane (Ultimate Core Shear Strength)	Bond Integrity Properties	765 psi
ASTM C-297	Tensile Bond Strength Test in Flatwise Plane (Ultimate)	Bond Integrity Properties	1016 psi
ASTM D-1781	Bond Integrity	Bond Integrity Properties	123 N mm/mm
ASTM E-90	Sound Transmission (STC)	Acoustical Properties	30
ASTM E-90	Sound Transmission (OITC)	Acoustical Properties	24
ASTM C-272	Water Absorption	Physical Properties	0.003%
ASTM D-696	Coefficient of Linear Thermal Expansion	Physical Properties	1.11x10 <sup>-5</sup> in/in °F

\*The ASTM (American Society for Testing and Materials) Standard Test Method defines the way a test is performed and the precision of the result. The result of the test is then used to assess compliance with a Standard Specification.<sup>6</sup>