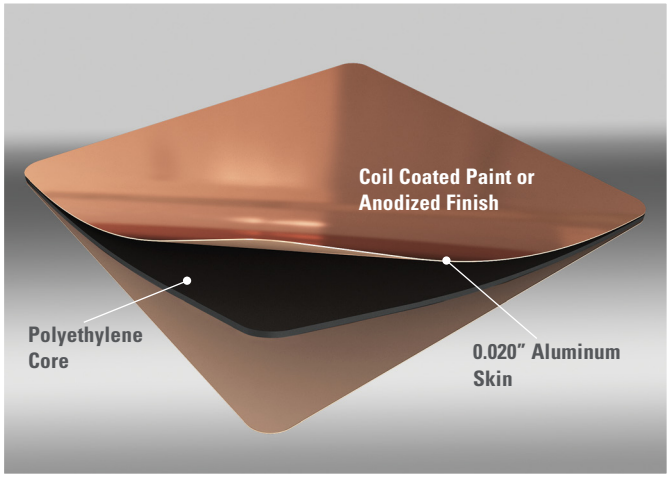

ALUCOBOND PE

Alucobond® PE consists of two sheets of smooth 0.020" nominal aluminum thermobonded to a polyethylene core in a continuous process. Alucobond® PE offers 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 architects a wide range of lengths, widths and a rainbow of consistent color and finish options.

PRODUCT DESCRIPTION

Material Composition

› Aluminum interior and exterior facings in 0.020" nominal thickness to ensure flatness
› Polyethylene (PE) core available in 3mm, 4mm and 6mm nominal thickness

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 PE without routing the interior skin is 15 times the thickness of the material

FIRE TESTING

UL-94

› In a test of 6mm Alucobond PE material, all test criteria were passed, resulting in a 94 V-0 rating for Alucobond material

ASTM E-108, Modified

› This test impinges a gas flame on a vertically erected panel with a typical construction joint to simulate an exterior installation. In tests of both 4mm and 6 mm Alucobond material, the basic 15 minute test objective was exceeded. Neither of the material thickness contributed to vertical or horizontal flame spread and no significant outgassing was observed

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

	3mm	4mm	6mm
› Nominal Thickness:			
› Nominal Weight:	0.92 lb/ft^2	1.12 lb/ft^2	1.49 lb/ft^2
› Moment of Inertia:	.000108 in^4/in	.000212 in^4/in	.000525 in^4/in
› Section Modulus:	.00196 in^3/in	.00275 in^3/in	.00432 in^3/in
› Rigidity:	1091 lb-in^2/in	2143 lb-in^2/in	5299 lb-in^2/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. Miami-Dade County NOA
› 4. City of Los Angeles

MANUFACTURING

Manufacturing Location

› Alucobond PE is currently manufactured in Benton, Kentucky USA

To download PDF or AutoCAD details and specifications, visit our website at www.alucobondusa.com.

ENGINEERING PROPERTIES FOR ALUCOBOND® PE MATERIAL

Standard Test Method*	Description	Category	3mm	4mm	6mm
ASTM D-635	Rate of Burning	Fire Performance Properties	–	CLASSIFIED CC1	–
ASTM D-1929	Ignition Temperature-Self	Fire Performance Properties	–	716°F	–
ASTM D-1929	Ignition Temperature-Flash	Fire Performance Properties	–	716°F	–
ASTM E-84	Surface Burning Characteristics (Flame Spread)	Fire Performance Properties	0	5	5
ASTM E-84	Surface Burning Characteristics (Smoke Development)	Fire Performance Properties	0	0	5
ASTM E-162	Surface Flammability Using Radiant Energy Source	Fire Performance Properties	0	0	0
ASTM C-365	Flatwise Compression Strength	Mechanical Properties	–	6277 psi	–
ASTM C-393	Flexural Stiffness	Mechanical Properties	1335 lbs-in^2	2566 lbs-in^2	4387 lbs-in^2
ASTM D-297	Flatwise Tensile Strength	Mechanical Properties	1972 psi	1625 psi	1448 psi
ASTM D-790	Flexural Strength	Mechanical Properties	18,350 psi	14,510 psi	10,490 psi
ASTM D-790	Flexural Modulus	Mechanical Properties	1695 ksi	1660 ksi	1525 ksi
ASTM D-638	Modulus of Elasticity	Mechanical Properties	1.98 psi x 10^6	1.38 psi x 10^6	0.87 psi x 10^6
ASTM D-638	Elongation @ Yield	Mechanical Properties	5.6%	8.8%	10.9%
ASTM D-638	Tensile Stength (Ultimate)	Mechanical Properties	7820 psi	6400 psi	4590 psi
ASTM D-638	Tensile Yield	Mechanical Properties	7820 psi	5300 psi	4590 psi
ASTM C-177	Thermal Conductivity	Thermal Properties	2.86 Btu-in/hr ft^2 °F	3.21 Btu-in/hr ft^2 °F	2.46 Btu-in/hr ft^2 °F
ASTM C-177	Thermal Resistance	Thermal Properties	0.0412 hr ft^2 °F/Btu	0.0489 hr ft^2 °F/Btu	0.096 hr ft^2 °F/Btu
ASTM C-177	Thermal Conductance	Thermal Properties	24.3 Btu/hr ft^2 °F	20.5 Btu/hr ft^2 °F	10.5 Btu/hr ft^2 °F
ASTM D-648	Deflection Temperature - Perpendicular	Thermal Properties	–	327°F	–
ASTM D-648	Deflection Temperature	Thermal Properties	>380°F	380°F	>450°F
ASTM C-273	Shear Test in Flatwise Plane	Bond Integrity Properties	990 psi	920 psi	890 psi
ASTM C-297	Tensile Bond Strength Test in Flatwise Plane	Bond Integrity Properties	1972 psi	1625 psi	1448 psi
ASTM D-1781	Bond Integrity	Bond Integrity Properties	–	172.38 N mm/mm	177.31 N mm/mm
ASTM E-90	Sound Transmission (STC)	Acoustical Properties	25	28	28
ASTM C-272	Water Absorption	Physical Properties	Nil	Nil	0.02%
ASTM D-696	Coefficient of Linear Thermal Expansion	Physical Properties	1.31 x 10^{-5} in/in °F	1.19 x 10^{-5} in/in °F	1.235 x 10^{-5} 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 test method does not define pass/fail criteria. The result of the test is used to assess compliance with a Standard Specification.