

Engineering Properties

U.S. and Metric Equivalent

Typical Engineering Properties

Composite-designed Reynobond® panels consist of a thermoplastic compound core faced with two sheets of aluminum. There are two varieties, a Polyethylene (PE) core and a Fire Resistant (FR) core.

Property		Units	RB120PE-3mm	RB160PE-4mm	RB240PE-6mm	RB160FR-4mm	RB240FR-6mm	Solid Al ⁽¹⁾
Thickness		in	0.118	0.157	0.236	0.157	0.236	0.197
		mm	3.0	4.0	6.0	4.0	6.0	5.0
Weight		lb/ft ²	0.94	1.12	1.49	1.53	2.10	2.78
		kg/m ²	4.59	5.47	7.28	7.48	10.25	13.57
BOND INTEGRITY	Min. Bond Strength ASTM D1781	in-lb/in Nm/m	40 178	40 178	40 178	22.5 100	22.5 100	—
	Flatwise Shear ASTM D1002	lb/in ² MPa	1,297 8.94	1,221 8.42	2,055 14.7	92.8 6.4	70.8 4.8	—
Allowable Bending Stress		lb/in ² MPa	11,500 79.3	11,500 79.3	11,500 79.3	11,500 79.3	11,500 79.3	11,500 79.3
Coeff. of Expansion ASTM E228		in/in/°F	1.31x10 ⁻⁵	1.31x10 ⁻⁵	1.31x10 ⁻⁵	1.31x10 ⁻⁵	1.31x10 ⁻⁵	1.31x10 ⁻⁵
		mm/mm/°C	2.36x10 ⁻⁵	2.36x10 ⁻⁵	2.36x10 ⁻⁵	2.36x10 ⁻⁵	2.36x10 ⁻⁵	2.36x10 ⁻⁵
Stiffness (EI) ASTM D393		lb-in ² /in	807	1,140	1,896	1,262	2,450	6,434
		MPa-cm ⁴ /m	9.1x10 ³	1.3x10 ⁴	2.1x10 ⁴	1.4x10 ⁴	2.4x10 ⁴	7.4x10 ⁴
Flexural Modulus ASTM C393		lb/in ²	8.3x10 ⁶	6.0 x10 ⁶	4.0 x10 ⁶	6.7 x10 ⁶	3.0x10 ⁷	10 x10 ⁶
		MPa	5.7 x10 ⁴	4.1 x10 ⁴	2.8 x10 ⁴	4.6 x10 ⁴	2.6x10 ⁵	6.9x10 ⁴
Moment of Inertia		in ⁴ /in	0.97x10 ⁴	1.89 x10 ⁴	4.58 x10 ⁴	1.89 x10 ⁴	4.58 x10 ⁴	6.37x10 ⁴
		cm ⁴ /m	0.159	0.310	0.751	0.310	0.751	1.042
Section Modulus		in ³ /in	1.65x10 ⁻³	2.41x10 ⁻³	3.88 x10 ⁻³	2.41x10 ⁻³	3.88 x10 ⁻³	6.47x10 ⁻³
		cm ³ /m	1.065	1.555	2.503	1.555	2.503	4.167
Tensile Yield		lb/in ²	8,300	6,405	5,314	6,367	6,010	19,000
		MPa	57.23	44.16	36.64	43.90	41.44	130.0
Flatwise Tensile ASTM C297		lb/in ²	1,483	1,371	1,099	961	—	—
		MPa	10.22	9.45	7.58	6.62	—	—
"R" Thermal Resistance		ft ² hr°F/BTU	0.034	0.051	0.086	0.026	0.04	—
		m ² K/w	6.0x10 ⁻³	9.0 x10 ⁻³	1.5x10 ⁻²	4.5x10 ⁻³	7.0x10 ⁻³	—
Maximum Width		in	62	62	62	62	62	—
		mm	1,575	1,575	1,575	1,575	1,575	—
Maximum Length		in	243	243	243	243	243	—
		mm	6,172	6,172	6,172	6,172	6,172	—
Sound Transmission Coefficient ASTM E90		—	—	26	—	—	—	
Fire Performance ⁽²⁾ ASTM E84 & NFPA 285		ASTM E84	Class A	Class A	Class A	Class A	Class A	—
		NFPA 285	Untested	Untested	Untested	Pass	Pass	—

(1) Solid aluminum properties are based on alloy 3105-H25

(2) For a complete list of Fire Tests and results, contact manufacturer

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