



Alcoa Architectural Products

ENGINEERING PROPERTIES

METRIC

Typical Engineering Properties

Composite designed REYNOBOND panels consist of a thermoplastic compound core faced with two sheets of aluminum, Alloy 3105-H25, mill edge. There are two varieties, an LDPE core and an FR core.

Property	Units	RB120	RB160	RB200	RB240	RB160FR	RB200FR(2)	Solid Al (3)
Thickness	mm	3.0	4.0	5.0	6.0	4.0	5.0	5.0
Weight	Kg/m ²	4.59	5.47	6.44	7.37	7.96	9.86	13.57
Allowable Bending Stress(4)	MPa	79.3	79.3	79.3	79.3	79.3	79.3	79.3
Coefficient of Expansion ASTM E228	mm/mm/°C	-	2.36x10 ⁻⁵	-	-	-	-	2.36x10 ⁻⁵
Stiffness (EI)	MPa cm ⁴ /m	9.1x10 ³	12.8x10 ³	-	21.4x10 ³	14.3x10 ³	37.8x10 ³	74.1x10 ³
Flexural Modulus Aged per ASTM C393	MPa	57.2x10 ³	41.4x10 ³	-	27.6x10 ³	46.2x10 ³	47.6x10 ³	68.9x10 ³
Moment of Inertia	cm ⁴ /m	0.159	0.310	0.515	0.751	0.310	0.661	1.042
Section Modulus	cm ³ /m	1.065	1.555	2.058	2.503	1.560	2.642	4.167
Tensile Yield ASTM D-638-82a	MPa	57.23	44.16	-	36.64	43.90	39.44	130.0
Flatwise Tensile ASTM C-297-61 (80)	MPa	10.22	9.45	-	7.58	5.99	4.98	-
Min. Bond Strength ASTM D-1781-76	Nm/m	178	178	178	178	(1)	(1)	-
Flatwise Shear ASTM D-1002-72 (83)	MPa	8.94	8.42	-	-	7.78	8.07	-
"R" Thermal Resistance (core only)	$\frac{m^2K}{W}$	6.0x10 ⁻³	9.0x10 ⁻³	12.1x10 ⁻³	15.1x10 ⁻³	-	5.4x10 ⁻³	0.0
STC Sound Transmission Coefficient ASTM E90		-	26	-	-	-	29	-
Maximum Width	mm	1575	1575	1575	1575	1575	1575	-
Maximum Length	mm	6172	6172	6172	6172	6172	6172	-

(1) For RB200 FR and RB160 FR, minimum value of 35 Newtons/Linear centimeter (N/Linear cm) per ASTM D903.

(2) RB200 FR has a fire resistant polymeric compound core with 0.7mm thick aluminum skins.

LDPE and RB160 FR core panels have aluminum skins 0.5mm thick.

(3) Solid aluminum properties are based on Alloy 3105-H25.

(4) Allowable stress may be increased by 33% for wind load.

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