

Tepex® *flowcore* 102-RGR2400/47%

Roving Glass Random Mat - PA6 Consolidated Composite Laminate

Layup	Test Condition	According to Standard	Unit	Value	
				Longitudinal	Transversal
Fiber	-	-	-	E-Glass Roving	
Weaving style	-	DIN ISO 9354	-	Random Mat	
Area weight (dry fabric)	-	DIN EN 12127	g/m ²	600	
Yarn	-	DIN EN ISO 1889	tex	30	
Yarn length (nominal)	-	-	mm	50	
Polymer	-	-	-	Polyamide 6 (PA6)	
Fiber content (nominal)	-	-	vol.-%	47	
Thickness per layer (nominal)	-	-	mm	2.0	
Laminate density	-	ISO 1183-1	g/cm ³	1.80	

Mechanical properties	Test Condition	According to Standard	Unit	Value	
				Longitudinal	Transversal
Tensile modulus	23 °C, ISO 1110	ISO 527-4/5 ¹⁾	GPa	14	11
Tensile strength	23 °C, ISO 1110	ISO 527-4/5 ¹⁾	MPa	240	190
Tensile elongation at break	23 °C, ISO 1110	ISO 527-4/5 ¹⁾	%	1.9	1.9
Tensile modulus	23 °C, dry	ISO 527-4/5 ¹⁾	GPa	19	14
Tensile strength	23 °C, dry	ISO 527-4/5 ¹⁾	MPa	260	220
Tensile elongation at break	23 °C, dry	ISO 527-4/5 ¹⁾	%	1.9	2.2
Flexural modulus	23 °C, dry	ISO 14125 ²⁾	GPa	18	14
Flexural strength	23 °C, dry	ISO 14125 ²⁾	MPa	450	300

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Thermal properties	Test Condition	According to Standard	Unit	Value	
				Longitudinal	Transversal
Melting temperature	10 K/min	ISO 11357-3	°C	220	
Heat deflection temperature ³⁾	14 GPa	ISO 75-1/-3	°C	210	
Coefficient of linear thermal expansion	-35 °C to 23 °C, dry	ISO 11359-1/2	E ⁻⁶ /K	15.9	24.9
Coefficient of linear thermal expansion	23 °C to 80 °C, dry	ISO 11359-1/2	E ⁻⁶ /K	15.7	25.3

Legend

- : Not relevant
- dry: dry as manufactured
- ISO 1110: Conditioned acc. to ISO 1110, 70 °C, 62 % RH, equilibrium
- 1) Test specimen (250 x 25 x 2) mm
- 2) Test specimen (80 x 25 x 2) mm
- 3) Based on ISO 75-1/-3

® Bond-Laminates registered trademark

The values in the datasheet are for this specific composition only, the characteristics of composites depend on the reinforcement level and the fibre orientation. Non-standard thickness may also alter some or all of these properties. The data listed here fall within the normal range of product properties, but they should not be used to establish specification limits nor used alone as basis of design. The underlying tests were conducted at room temperature and with 2 mm specimen thickness.

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Caution: Do not use this product in medical applications involving permanent implantation in human body.