

Bond Laminates TEPEX® dynalite 102-RG600(x)/47% Roving Glass – PA 6 Consolidated Composite Laminate

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6 , 50% Glass Fiber Filled

Material Notes:

Within the TEPEX® composite laminate, Polyamide 6 is a resin known for its toughness, stiffness, abrasion resistance, heat and chemical resistances. Roving E-Glass fibers have an excellent impact performance. This makes the composite material tough and fatigue resistant while offering excellent mechanical properties. Typical application environments are within automotive applications, large structural parts, bumper systems, structural sporting goods applications, helmet shells. Information provided by Bond Laminates, GmbH.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Bond-Laminates-TEPEX-dynalite-102-RG600x47-Roving-Glass-PA-6-Consolidated-Composite-Laminate.php

Physical Properties	Metric	English	Comments
Density	1.80 g/cc	0.0650 lb/in ³	
Filler Content	47 %	47 %	by volume
Thickness	500 microns	19.7 mil	laminate layer thickness

Mechanical Properties	Metric	English	Comments
Tensile Strength	390 MPa	56600 psi	transverse; ISO 527-4/5
	404 MPa	58600 psi	longitudinal; ISO 527-4/5
Elongation at Break	2.2 %	2.2 %	longitudinal; ISO 527-4/5
	2.2 %	2.2 %	transverse; ISO 527-4/5
Tensile Modulus	21.5 GPa	3120 ksi	transverse; ISO 527-4/5
	22.4 GPa	3250 ksi	longitudinal; ISO 527-4/5
Flexural Strength	585 MPa	84800 psi	transverse; ISO 178
	620 MPa	89900 psi	longitudinal; ISO 178
Flexural Modulus	18.7 GPa	2710 ksi	transverse; ISO 178
	19.2 GPa	2780 ksi	longitudinal; ISO 178
Poissons Ratio	0.17	0.17	longitudinal; ISO 527-4/5
	0.17	0.17	transverse; ISO 527-4/5
Charpy Impact Unnotched	14.5 J/cm ²	69.0 ft-lb/in ²	longitudinal; ISO 179/1eU

Thermal Properties	Metric	English	Comments
CTE, linear	15.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	8.33 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	longitudinal; ASTM E831
	@Temperature 23.0 - 80.0 $^\circ\text{C}$	@Temperature 73.4 - 176 $^\circ\text{F}$	
	15.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	8.33 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	transverse; ASTM E831
	@Temperature 23.0 - 80.0 $^\circ\text{C}$	@Temperature 73.4 - 176 $^\circ\text{F}$	
	19.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	10.6 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	longitudinal; ASTM E831
	@Temperature -30.0 - 23.0 $^\circ\text{C}$	@Temperature -22.0 - 73.4 $^\circ\text{F}$	
	19.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	10.6 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	transverse; ASTM E831
	@Temperature -30.0 - 23.0 $^\circ\text{C}$	@Temperature -22.0 - 73.4 $^\circ\text{F}$	
Melting Point	220 $^\circ\text{C}$	428 $^\circ\text{F}$	DSC 3146
Maximum Service Temperature, Air	120 $^\circ\text{C}$	248 $^\circ\text{F}$	Relative Temperature Index; IEC 216/1
	@Time 7.20e+7 sec	@Time 20000 hour	
Deflection Temperature at 1.8 MPa (264 psi)	215 $^\circ\text{C}$	419 $^\circ\text{F}$	ISO 75-1/2
Minimum Service Temperature, Air	-30.0 $^\circ\text{C}$	-22.0 $^\circ\text{F}$	
Glass Transition Temp, Tg	60.0 $^\circ\text{C}$	140 $^\circ\text{F}$	DSC 3146

Processing Properties	Metric	English	Comments
Processing Temperature	240 - 260 $^\circ\text{C}$	464 - 500 $^\circ\text{F}$	

Descriptive Properties	Value	Comments
Reinforcement	Area weight	600 g/m ²
	Fabric	twill
	Fibers	roving glass
	Weight Rate	50% longitudinal and transverse
	Yarn	1200 tex longitudinal and transverse

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