

Teijin Panlite® B-8110R Carbon Fiber Reinforced Polycarbonate Resin

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, Carbon Fiber Reinforced

Material Notes:

CF 10% reinforced grade, meeting UL 94 V-2. It has excellent strength, stiffness, heat resistance and electric conductivity. Other features are low molding shrinkage and dimensional accuracy. Applications: Mechanical, electric and electronic components that need stiffness and strength. Mechanical, electric and electronic components that need extremely high dimensional accuracy. Mechanical, electric and electronic components that need electric conductivity or antistatic property. Information provided by Teijin Chemicals Ltd.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Teijin-Panlite-B-8110R-Carbon-Fiber-Reinforced-Polycarbonate-Resin.php

Physical Properties	Metric	English	Comments
Density	1.24 g/cc	0.0448 lb/in ³	ISO 1183
Water Absorption	0.16 %	0.16 %	in water, 23 [°] C, 24h; ISO 62
Linear Mold Shrinkage	0.0010 - 0.0030 cm/cm @Thickness 4.00 mm	0.0010 - 0.0030 in/in @Thickness 0.157 in	
Linear Mold Shrinkage, Transverse	0.0040 - 0.0060 cm/cm @Thickness 4.00 mm	0.0040 - 0.0060 in/in @Thickness 0.157 in	

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	110 MPa	16000 psi	50mm/min; ISO 527
Elongation at Break	2.5 %	2.5 %	50mm/min; ISO 527
Tensile Modulus	7.70 GPa	1120 ksi	1mm/min; ISO 527
Flexural Strength	165 MPa	23900 psi	2mm/min; ISO 178
Flexural Modulus	7.40 GPa	1070 ksi	2mm/min; ISO 178
Charpy Impact Unnotched	3.50 J/cm ²	16.7 ft-lb/in ²	ISO 179
Charpy Impact, Notched	0.800 J/cm ²	3.81 ft-lb/in ²	ISO 179

Thermal Properties	Metric	English	Comments
CTE, linear	30.0 $\mu\text{m/m-}^{\circ}\text{C}$ @Temperature 20.0 $^{\circ}\text{C}$	16.7 $\mu\text{in/in-}^{\circ}\text{F}$ @Temperature 68.0 $^{\circ}\text{F}$	ISO 11359
CTE, linear, Transverse to Flow	60.0 $\mu\text{m/m-}^{\circ}\text{C}$ @Temperature 20.0 $^{\circ}\text{C}$	33.3 $\mu\text{in/in-}^{\circ}\text{F}$ @Temperature 68.0 $^{\circ}\text{F}$	ISO 11359

Thermal Properties	Metric	English	Comments
Thermal Deflection Temperature at 0.46 MPa (66 psi)	145 Â°C	303 Â°F	ISO 75
Deflection Temperature at 1.8 MPa (264 psi)	146 Â°C	295 Â°F	ISO 75
Vicat Softening Point	152 Â°C	306 Â°F	50Â°C/hr, 50N; ISO 306
UL RTI, Electrical	80.0 Â°C @Thickness 1.47 mm	176 Â°F @Thickness 0.0579 in	UL 746B
UL RTI, Mechanical with Impact	80.0 Â°C @Thickness 1.47 mm	176 Â°F @Thickness 0.0579 in	UL 746B
UL RTI, Mechanical without Impact	80.0 Â°C @Thickness 1.47 mm	176 Â°F @Thickness 0.0579 in	UL 746B
Flammability, UL94	V-2 @Thickness 0.750 mm	V-2 @Thickness 0.0295 in	
	V-1 @Thickness 3.00 mm	V-1 @Thickness 0.118 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.0 - 100 ohm-cm	1.0 - 100 ohm-cm	IEC 60093
Surface Resistance	10 - 1000 ohm	10 - 1000 ohm	IEC 60093

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