

Teijin Panlite® B-8120R Carbon Fiber Reinforced Polycarbonate Resin

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

Material Notes:

CF 20% 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-8120R-Carbon-Fiber-Reinforced-Polycarbonate-Resin.php

Physical Properties	Metric	English	Comments
Density	1.29 g/cc	0.0466 lb/in ³	ISO 1183
Water Absorption	0.14 %	0.14 %	in water, 23°C, 24h; ISO 62
Linear Mold Shrinkage	0.00020 - 0.0020 cm/cm @Thickness 4.00 mm	0.00020 - 0.0020 in/in @Thickness 0.157 in	
Linear Mold Shrinkage, Transverse	0.0030 - 0.0050 cm/cm @Thickness 4.00 mm	0.0030 - 0.0050 in/in @Thickness 0.157 in	

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	130 MPa	18900 psi	50mm/min; ISO 527
Elongation at Break	1.5 %	1.5 %	50mm/min; ISO 527
Tensile Modulus	13.6 GPa	1970 ksi	1mm/min; ISO 527
Flexural Strength	185 MPa	26800 psi	2mm/min; ISO 178
Flexural Modulus	12.0 GPa	1740 ksi	2mm/min; ISO 178
Charpy Impact Unnotched	2.50 J/cm ²	11.9 ft-lb/in ²	ISO 179
Charpy Impact, Notched	0.700 J/cm ²	3.33 ft-lb/in ²	ISO 179

Thermal Properties	Metric	English	Comments
CTE, linear	20.0 µm/m-°C @Temperature 20.0 °C	11.1 µin/in-°F @Temperature 68.0 °F	ISO 11359
CTE, linear, Transverse to Flow	60.0 µm/m-°C @Temperature 20.0 °C	33.3 µin/in-°F @Temperature 68.0 °F	ISO 11359

Thermal Properties Deflection Temperature at 0.46 MPa (0.07 psi)	Metric 149 °C	English 300 °F	Comments ISO 75
Deflection Temperature at 1.8 MPa (264 psi)	147 °C	297 °F	ISO 75
Vicat Softening Point	152 °C	306 °F	50°C/hr, 50N; ISO 306
UL RTI, Electrical	80.0 °C @Thickness 1.47 mm	176 °F @Thickness 0.0579 in	UL 746B
UL RTI, Mechanical with Impact	80.0 °C @Thickness 1.47 mm	176 °F @Thickness 0.0579 in	UL 746B
UL RTI, Mechanical without Impact	80.0 °C @Thickness 1.47 mm	176 °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	0.10 - 10 ohm-cm	0.10 - 10 ohm-cm	IEC 60093
Surface Resistance	1.0 - 100 ohm	1.0 - 100 ohm	IEC 60093

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