

PolyOne Therma-Tech™ LC-6000 TC Liquid Crystal Polymer (LCP)

Category : Polymer , Thermoplastic , Liquid Crystal Polymer (LCP)

Material Notes:

Therma-Tech™ Thermal Management Compounds have been engineered to combine the heat transfer and cooling capabilities of metals with the design freedom, weight reduction and cost advantages of thermoplastics. These materials provide the benefits of proprietary conductive additive technologies and the performance of select engineering thermoplastic resins. Therma-Tech compounds have been shown to improve thermal conductivity up to 100-times that of conventional plastics and can be used in a wide range of thermal management applications. Information provided by PolyOne

Order this product through the following link:

http://www.lookpolymers.com/polymer_PolyOne-Therma-Tech-LC-6000-TC-Liquid-Crystal-Polymer-LCP.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.82 g/cc	1.82 g/cc	ASTM D792
Water Absorption	0.010 % @Thickness 3.18 mm	0.010 % @Thickness 0.125 in	@ 24 hrs; ASTM D570
Linear Mold Shrinkage, Flow	0.0020 - 0.0030 cm/cm	0.0020 - 0.0030 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	82.7 MPa	12000 psi	Type I, 5.1 mm/min; ASTM D638
Elongation at Break	0.50 %	0.50 %	Type I, 5.1 mm/min; ASTM D638
Tensile Modulus	20.7 GPa	3000 ksi	Type I, 5.1 mm/min; ASTM D638
Flexural Strength	103 MPa	14900 psi	ASTM D790
Flexural Modulus	16.5 GPa	2390 ksi	ASTM D790
Izod Impact, Notched	0.270 J/cm @Thickness 6.35 mm, Temperature 23.0 °C	0.506 ft-lb/in @Thickness 0.250 in, Temperature 73.4 °F	Injection Molded; ASTM D256A

Thermal Properties	Metric	English	Comments
Thermal Conductivity	19.0 W/m-K	132 BTU-in/hr-ft ² -°F	ASTM C177
Deflection Temperature at 0.46 MPa (66 psi)	282 °C @Thickness 6.35 mm	540 °F @Thickness 0.250 in	Unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	277 °C @Thickness 6.35 mm	531 °F @Thickness 0.250 in	Unannealed; ASTM D648

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.0 - 10 ohm-cm	1.0 - 10 ohm-cm	ASTM D257
Surface Resistance	1.0 - 10 ohm	1.0 - 10 ohm	ASTM D257

Processing Properties	Metric	English	Comments
Melt Temperature	316 - 341 °C	601 - 646 °F	
Mold Temperature	93.3 - 121 °C	200 - 250 °F	

Descriptive Properties	Value	Comments
Features	Electrically Conductive	
	Thermally Conductive	
Forms	Pellets	
Generic Material	LCP	
Generic Name	Liquid Crystal Polymer (LCP)	
Processing Method	Injection Molding	
Regional Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	
Uses	Automotive Applications	
	Automotive Under the Hood	
	Consumer Applications	
	Electrical/Electronic Applications	
	Housings	
	Industrial Applications	

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