



## CoolPoly® D5506 Thermally Conductive Liquid Crystalline Polymer (LCP)

CoolPoly D series of thermally conductive plastics transfers heat, a characteristic previously unavailable in injection molding grade polymers. CoolPoly is lightweight, netshape moldable and allows design freedom in applications previously restricted to metals. The D series is electrically non-conductive and can be used for its dielectric properties.

Thermal	SI/Metric		Testing Standard
Thermal Conductivity	10 W/mK		ASTM E1461
Thermal Diffusivity	0.05 cm <sup>2</sup> /sec		ASTM E1461
Specific Heat	1.0 J/g°C		ASTM E1461
Coefficient of Linear Thermal Expansion			
Parallel	6.2 ppm/°C		ASTM E831-03
Normal	5.6 ppm/°C		ASTM E831-03
Temperature of Deflection			
@ 0.45MPa	>300 °C		ISO 75-1,2
@ 1.80MPa	263 °C		ISO 75-1,2
Flammability	V0 @ 1.0mm		UL 94
Mechanical	SI/Metric	English	Testing Standard
Tensile Modulus	10900 MPa	1581 ksi	ISO 527-1
Tensile Strength	50 MPa	7250 psi	ISO 527-1
Nominal Strain @ Break	0.7 %	0.7 %	ISO 527-1
Flexural Strength	84 MPa	12180 psi	ISO 178
Flexural Modulus	12300 MPa	1784 ksi	ISO 178
Impact Strength			
Charpy Unnotched	6.0 kJ/m <sup>2</sup>	2.9 ft-lb/in <sup>2</sup>	ISO 179-1
Charpy Notched	3.2 kJ/m <sup>2</sup>	1.5 ft-lb/in <sup>2</sup>	ISO 179-1
Electrical	SI/Metric		Testing Standard
Surface Resistivity	2.0E14 ohm/square		ASTM D257
Volume Resistivity	1.6E16 ohm - cm		ASTM D257
Physical	SI/Metric	English	Testing Standard
Density	1.80 g/cc	0.065 lb/in <sup>3</sup>	ISO 1183
Mold Shrinkage			
Flow	0.1 %	0.001 in/in	ASTM D551
Cross-Flow	0.3 %	0.003 in/in	ASTM D551

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