



## CoolPoly® E2 Thermally Conductive Liquid Crystalline Polymer (LCP)

CoolPoly E 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 E series is electrically conductive and provides inherent EMI/RFI shielding characteristics.

Thermal	SI/Metric		Testing Standard
Thermal Conductivity	20 W/mK		ASTM E1461
Thermal Diffusivity	0.1 cm <sup>2</sup> /sec		ASTM E1461
Specific Heat	0.9 J/g°C		ASTM E1461
Coefficient of Linear Thermal Expansion			
Parallel	8.2 ppm/°C		ISO 11359-2
Normal	9.1 ppm/°C		ISO 11359-2
Temperature of Deflection			
@ 0.45MPa	>300 °C		ISO 75-1,2
@ 1.80MPa	268 °C		ISO 75-1,2
Flammability	V-0 @ 1.5mm		UL 94
Mechanical	SI/Metric	English	Testing Standard
Tensile Modulus	24300 MPa	3524 ksi	ISO 527-1
Tensile Strength	80 MPa	11600 psi	ISO 527-1
Nominal Strain @ Break	0.25 %	0.25 %	ISO 527-1
Flexural Modulus	32300 MPa	4640 ksi	ISO 178
Flexural Strength	139 MPa	20155 psi	ISO 178
Impact Strength			
Charpy Unnotched	4.74 kJ/m <sup>2</sup>	2.26 ft-lb/in <sup>2</sup>	ISO 179-1
Charpy Notched	1.96 kJ/m <sup>2</sup>	0.933 ft-lb/in <sup>2</sup>	ISO 179-1
Electrical	SI/Metric		Testing Standard
Surface Resistivity	1 ohm/square		ASTM D257
Volume Resistivity	70 ohm - cm		ASTM D257
Physical	SI/Metric	English	Testing Standard
Density	1.84 g/cc	0.066 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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