



## CoolPoly® E5109 Thermally Conductive Polyphenylene Sulfide (PPS)

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	6 W/mK		ASTM E1461
Thermal Diffusivity	0.0322 cm <sup>2</sup> /sec		ASTM E1461
Specific Heat	0.963 J/g°C		ASTM E1461
Temperature of Deflection			
@ 0.45MPa	280 °C		ISO 75-1,2
@ 1.80MPa	267 °C		ISO 75-1,2
Coefficient of Linear Thermal Expansion			
CLTE - Parallel	18.4 ppm/°C		ASTM D696
CLTE - Normal	20.6 ppm/°C		ASTM D696
Mechanical	SI/Metric	English	Testing Standard
Tensile Modulus	17500 MPa	2538 ksi	ISO 527-1
Tensile Strength	70 MPa	10150 psi	ISO 527-1
Nominal Strain @ Break	0.42 %	0.42 %	ISO 527-1
Flexural Modulus	17500 MPa	2538 ksi	ISO 178
Flexural Strength	129 MPa	18705 psi	ISO 178
Impact Strength			
Charpy Notched	2.5 kJ/m <sup>2</sup>	1.19 ft-lb/in <sup>2</sup>	ISO 179-1
Charpy Unnotched	7.0 kJ/m <sup>2</sup>	3.33 ft-lb/in <sup>2</sup>	ISO 179-1
Physical	SI/Metric	English	Testing Standard
Density	1.71 g/cc	0.0618 lb/in <sup>3</sup>	ISO 1183
Mold Shrinkage			
Flow	0.25 %	0.0025 in/in	ASTM D551
Cross-Flow	0.45 %	0.0045 in/in	ASTM D551

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