Product Data
Rev. 12/7/2007

CoolPoly® D5110 Thermally Conductive Polyphenylene Sulfide (PPS)

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	2 W/mK	ASTM E1461
Thermal Diffusivity	0.0126 cm²/sec	ASTM E1461
Specific Heat	1.10 J/g°C	ASTM E1461
Temperature of Deflection		
@ 0.45MPa	280 °C	ISO 75-1,2
@ 1.80MPa	260 °C	ISO 75-1,2
Coefficient of Linear Thermal Expansion		
Parallel (-30°C to +30°C)	15.9 ppm/°C	ASTM D696
Normal (-30°C to +30°C)	19.8 ppm/°C	ASTM D696
Flammability	V0 @ 1.5mm	UL 94

Mechanical	SI/Metric	English	Testing Standard
Tensile Modulus	14600 MPa	2117 ksi	ISO 527-1
Tensile Strength	90 MPa	13050 psi	ISO 527-1
Nominal Strain @ Break	0.8 %	0.8 %	ISO 527-1
Flexural Modulus	14000 MPa	2030 ksi	ISO 178
Flexural Strength	150 MPa	21750 psi	ISO 178
Impact Strength			
Charpy Unnotched	14.4 kJ/m²	6.85 ft-lb/in²	ISO 179-1
Charpy Notched	3.8 kJ/m²	1.8 ft-lb/in²	ISO 179-1

Electrical	SI/Metric	Testing Standard
Surface Resistivity	>2E+14 ohm/square	ASTM D257
Volume Resistivity	>3E+16 ohm - cm	ASTM D257

Physical	SI/Metric	English	Testing Standard
Density	1.63 g/cc	0.0589 lb/in³	ISO 1183
Mold Shrinkage			
Flow	0.3 %	0.003 in/in	ASTM D551
Cross-Flow	0.7 %	0.007 in/in	ASTM D551