



CoolPoly® D5108 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	10 W/mK		ASTM E1461
Thermal Diffusivity	0.07 cm ² /sec		ASTM E1461
Specific Heat	1.00 J/g°C		ASTM E1461
Coefficient of Linear Thermal Expansion			
Parallel	6.5 ppm/°C		ISO 11359-2
Normal	5 ppm/°C		ISO 11359-2
Temperature of Deflection			
@ 0.45MPa	276 °C		ISO 75-1,2
@ 1.80MPa	239 °C		ISO 75-1,2
Flammability	V-0 @ 1.0mm		UL 94
Mechanical	SI/Metric	English	Testing Standard
Tensile Modulus	23600 MPa	3422 ksi	ISO 527-1
Tensile Strength	37 MPa	5365 psi	ISO 527-1
Nominal Strain @ Break	0.16 %	0.16 %	ISO 527-1
Flexural Modulus	19400 MPa	2813 ksi	ISO 178
Flexural Strength	69 MPa	10005 psi	ISO 178
Impact Strength			
Charpy Unnotched	2.50 kJ/m ²	1.19 ft-lb/in ²	ISO 179-1
Charpy Notched	1.10 kJ/m ²	0.523 ft-lb/in ²	ISO 179-1
Electrical	SI/Metric		Testing Standard
Surface Resistivity	4.50E14 ohm/square		ASTM D257
Volume Resistivity	2.50E16 ohm - cm		ASTM D257
Dielectric Constant			
@ 100Hz	4.8		ASTM D150
@ 1MHz	3.7 kV/mm	V/mil	ASTM D150
Dissipation Factor			
@ 100Hz	0.022		ASTM D150
@ 1MHz	0.0023		ASTM D150
Dielectric Strength	29 kV/mm	727 V/mil	ASTM D149
Comparative Tracking Index	580 volts		ASTM D3638
High Voltage Arc Resistance to Ignition	>300 sec		UL-746A

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Electrical	SI/Metric		Testing Standard
High Voltage Arc Tracking Rate	DID NOT TRACK		UL-746A
Arc Resistance	300 sec		ASTM D495
Hot Wire Ignition	>120 sec		ASTM D3874
Physical	SI/Metric	English	Testing Standard
Density	1.82 g/cc	0.0658 lb/in ³	ISO 1183
Mold Shrinkage			
Flow	0.2 %	0.002 in/in	ASTM D551
Cross-Flow	0.4 %	0.004 in/in	ASTM D551

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