

CoolPoly® E5107

Polyphenylene Sulfide

Cool Polymers, Inc.

Message:

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.

General Information			
Features	Conductivity		
	Heat conduction		
	Good formability		
RoHS Compliance	RoHS compliance		
Forms	Particle		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	1.59	g/cm ³	ISO 1183
Molding Shrinkage			ASTM D955
Flow	0.40	%	ASTM D955
Transverse flow	0.80	%	ASTM D955
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	12600	MPa	ISO 527-2
Tensile Stress (Yield)	100	MPa	ISO 527-2
Nominal Tensile Strain at Break	0.95	%	ISO 527-2
Flexural Modulus	11600	MPa	ISO 178
Flexural Stress	170	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength	5.0	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength	20	kJ/m ²	ISO 179
Thermal	Nominal Value	Unit	Test Method
Specific Heat	1100	J/kg/°C	ASTM C351
Thermal Conductivity	1.4	W/m/K	ASTM C177
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	5.0E+8	ohms	ASTM D257
Volume Resistivity	9.0E+7	ohms · cm	ASTM D257
Additional Information			
The value listed as Thermal Conductivity, ASTM D177C, was tested in accordance with ASTM E1461The value listed as Specific Heat ASTM C351, was tested in accordance with ASTM E1461.Thermal Diffusivity, ASTM E1461: 0.0082 cm ² /secInsulation Resistance, EN 50014: 1E7 ohms			
Injection	Nominal Value	Unit	
Drying Temperature	150	°C	

Drying Time	6.0	hr
Dew Point	-40.0	°C
Suggested Max Moisture	0.020	%
Rear Temperature	282 - 299	°C
Middle Temperature	288 - 307	°C
Front Temperature	293 - 321	°C
Nozzle Temperature	293 - 332	°C
Processing (Melt) Temp	293 - 332	°C
Mold Temperature	135 - 175	°C
Injection Pressure	60.0 - 165	MPa
Injection Rate	Slow-Moderate	
Holding Pressure	40.0 - 105	MPa
Back Pressure	0.200 - 0.500	MPa
Screw Speed	75 - 180	rpm
Cushion	5.00 - 13.0	mm

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