

CoolPoly® E5109

Thermally Conductive Polyphenylene Sulfide (PPS)

Description

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.

Physical Properties	Value	Unit	Test Standard
Density	1710	kg/m ³	ISO 1183
Mold Shrinkage – Parallel	0.25	%	ISO 294-4
Mold Shrinkage – Normal	0.45	%	ISO 294-4
Mechanical Properties	Value	Unit	Test Standard
Tensile Modulus	17500	MPa	ISO 527-1
Tensile Strength	70	MPa	ISO 527-1
Strain @ Break	0.42	%	ISO 527-1
Flexural Modulus	17500	MPa	ISO 178
Flexural Strength	129	MPa	ISO 178
Charpy Unnotched (23°C)	2.5	kJ/m ²	ISO 179-1
Charpy Notched (23°C)	7.0	kJ/m ²	ISO 179-1
Thermal Properties	Value	Unit	Test Standard
Thermal Conductivity, In-Plane	6.0	W/mK	ASTM E1461
Thermal Diffusivity, In-Plane	0.0322	cm ² /sec	ASTM E1461
Specific Heat	0.963	J/g°C	ASTM E1461
DTUL @ 1.8 MPa	267	°C	ISO 75-1/-2
DTUL @ 0.45 MPa	280	°C	ISO 75-1/-2
CLTE – Parallel	18.4	ppm/°C	ASTM D696
CLTE – Normal	20.6	ppm/°C	ASTM D696

