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

Disclaimer:
NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for precolored material. These values are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Any determination of the suitability of this material for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use.

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