CoolPoly® D8102

Thermoplastic Elastomer

Celanese Corporation

Message:

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.

General Information			
Features	Heat conduction Insulation		
RoHS Compliance	RoHS compliance		
Forms	Particle		
Processing Method	Injection molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Density	1.25	g/cm³	ISO 1183
Molding Shrinkage			ASTM D955
Flow	0.50	%	ASTM D955
Transverse flow	2.0	%	ASTM D955
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (Shore A)	45		ISO 868
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress (Yield)	2.25	MPa	ISO 37
Tensile Elongation (Break)	73	%	ISO 37
Tear Strength [1]	12	kN/m	ISO 34-1
Thermal	**Nominal Value**	**Unit**	**Test Method**
Specific Heat	1750	J/kg/°C	ASTM C351
Thermal Conductivity	3.0	W/m/K	ASTM C177
Electrical	**Nominal Value**		**Test Method**
Dielectric Constant (1 MHz)	2.64		ASTM D150
Dissipation Factor (1 MHz)	5.0E-3		ASTM D150
Flammability	**Nominal Value**		**Test Method**
Flame Rating (1.36 mm)	HB		UL 94

Additional Information
The value listed as Thermal Conductivity, ASTM C177, was tested in accordance with ASTM E1461.The value listed as Mold Shrinkage, ASTM D955, was tested in accordance with ASTM D551.The value listed as Specific Heat ASTM C351, was tested in accordance with ASTM E1461.Thermal Diffusivity, ASTM E1461: 0.0144 cm²/sec

Injection	Nominal Value	Unit
Drying Temperature	65.0	°C
Drying Time	2.0	hr

Dew Point	-18.0	°C
Rear Temperature	180 - 205	°C
Middle Temperature	195 - 230	°C
Front Temperature	200 - 240	°C
Processing (Melt) Temp	200 - 240	°C
Mold Temperature	40.0 - 65.0	°C
Injection Pressure	21.0 - 50.0	MPa
Injection Rate	Moderate-Fast	
Holding Pressure	3.50 - 35.0	MPa
Back Pressure	0.00 - 0.350	MPa
Screw Speed	40 - 65	rpm
Screw Compression Ratio	2.0:1.0	

NOTE	
1.	Method B, right-angle specimen (cut)

Recommended distributors for this material

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