CoolPoly® D1202

Celanese Corporation - Polypropylene

Tuesday, November 5, 2019

General Information

Product Description

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			
Material Status	• Experimental: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Electrically Insulating	• Thermally Conductive	
RoHS Compliance	• RoHS Compliant		
Processing Method	• Injection Molding		

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density	1.39	g/cm³	ISO 1183
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	368000	psi	ISO 527-2/1A
Tensile Stress (Break)	2230	psi	ISO 527-2/1A/5
Tensile Strain (Break)	5.5	%	ISO 527-2/1A/5
Flexural Modulus (73°F)	466000	psi	ISO 178
Flexural Stress (73°F)	4180	psi	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (73°F)	0.71	ft·lb/in²	ISO 179/1eA
Charpy Unnotched Impact Strength (73°F)	9.8	ft·lb/in²	ISO 179/1eU
Thermal	**Nominal Value**	**Unit**	**Test Method**
Specific Heat	0.311	Btu/lb/°F	ASTM E1461
Thermal Conductivity			ASTM E1461
-- [2]	6.9	Btu·in/hr/ft²/°F	
-- [3]	25	Btu·in/hr/ft²/°F	
-- [4]	31	Btu·in/hr/ft²/°F	

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	180	°F
Drying Time	2.0 to 4.0	hr
Rear Temperature	374 to 428	°F
Middle Temperature	401 to 437	°F
Front Temperature	410 to 446	°F
Processing (Melt) Temp	419 to 473	°F
Mold Temperature	68 to 149	°F
Injection Rate	Moderate-Fast	
Back Pressure	< 50.8	psi

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Injection Notes
Zone4 temperature: 215 to 245°C

Notes

[1] Typical properties: these are not to be construed as specifications.

[2] Thruplane

[3] Crossflow

[4] Flow