



CoolPoly® D5502

Celanese Corporation - Liquid Crystal Polymer

Sunday, November 3, 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	1.63	g/cm ³	ISO 1183
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2.15E+6	psi	ISO 527-2/1A
Tensile Stress (Break)	14400	psi	ISO 527-2/1A/5
Tensile Strain (Break)	1.2	%	ISO 527-2/1A/5
Flexural Modulus (73°F)	1.48E+6	psi	ISO 178
Flexural Stress (73°F)	18900	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (73°F)	1.4	ft·lb/in ²	ISO 179/1eA
Charpy Unnotched Impact Strength (73°F)	1.8	ft·lb/in ²	ISO 179/1eU
Thermal	Nominal Value	Unit	Test Method
Specific Heat	0.239	Btu/lb/°F	ASTM E1461
Thermal Conductivity ²	18	Btu·in/hr/ft ² /°F	ASTM E1461

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	356	°F
Drying Time	2.0 to 4.0	hr
Rear Temperature	626 to 680	°F
Middle Temperature	635 to 689	°F
Front Temperature	644 to 698	°F
Nozzle Temperature	662 to 716	°F
Processing (Melt) Temp	662 to 743	°F
Mold Temperature	203 to 347	°F
Injection Rate	Fast	
Back Pressure	< 50.8	psi

Injection Notes

Zone4 temperature: 345 to 380°C

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Notes

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

² Flow