



CoolPoly® E4501

Celanese Corporation - Polycarbonate

Monday, November 4, 2019

General Information

Product 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.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Electrically Conductive • Electromagnetic Shielding (EMI)	• Radio Frequency Shielding (RFI) • Thermally Conductive	
RoHS Compliance	• RoHS Compliant		
Processing Method	• Injection Molding		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.29	g/cm ³	ISO 1183
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	711000	psi	ISO 527-2/1A
Tensile Stress (Break)	6530	psi	ISO 527-2/1A/5
Tensile Strain (Break)	2.0	%	ISO 527-2/1A/5
Flexural Modulus (73°F)	725000	psi	ISO 178
Flexural Stress (73°F)	11600	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength (73°F)	8.6	ft-lb/in ²	ISO 179/1eU
Thermal	Nominal Value	Unit	Test Method
Thermal Conductivity			ASTM E1461
-- 2	6.2	Btu-in/hr/ft ² /°F	
-- 3	26	Btu-in/hr/ft ² /°F	
-- 4	31	Btu-in/hr/ft ² /°F	

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	248	°F
Drying Time	4.0	hr
Rear Temperature	545	°F
Middle Temperature	550	°F
Front Temperature	554	°F
Nozzle Temperature	563	°F
Processing (Melt) Temp	577	°F
Mold Temperature	176	°F
Injection Rate	Moderate-Fast	
Back Pressure	< 50.8	psi

CoolPoly® E4501

Celanese Corporation - Polycarbonate

Notes

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

² Thruplane

³ Crossflow

⁴ Flow