CoolPoly® E4501

Polycarbonate

Celanese Corporation

Message:

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 charactersitics.

General Information			
Features	Electrically Conductive		
	Electromagnetic Shielding (EMI)		
	Good Moldability		
	Radio Frequency Shielding (RFI)		
	Thermally Conductive		
RoHS Compliance	RoHS Compliant		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Density	1.28	g/cm³	ISO 1183
Molding Shrinkage			ASTM D955
Flow	0.40	%	
Across Flow	0.50	%	
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	4750	MPa	ISO 527-2
Tensile Stress (Yield)	43.0	MPa	ISO 527-2
Nominal Tensile Strain at Break	1.6	%	ISO 527-2
Flexural Modulus	4700	MPa	ISO 178
Flexural Stress	77.0	MPa	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength	4.0	kJ/m²	ISO 179
Charpy Unnotched Impact Strength	18	kJ/m²	ISO 179
Thermal	**Nominal Value**	**Unit**	**Test Method**
Thermal Conductivity	4.0	W/m/K	ASTM E1461
Heat Capacity	1410	J/kg/°C	ASTM E1461
Thermal Diffusivity	0.0230	cm²/s	ASTM E1461
Injection	**Nominal Value**	**Unit**	
Drying Temperature	105	°C	
Drying Time	4.0	hr	
Dew Point	-30.0	°C	
Rear Temperature	280 to 290	°C	

Middle Temperature	290 to 300	°C
Front Temperature	295 to 310	°C
Processing (Melt) Temp	295 to 310	°C
Mold Temperature	70.0 to 95.0	°C
Injection Pressure	75.0 to 150	MPa
Injection Rate	Moderate-Fast	
Holding Pressure	55.0 to 100	MPa
Back Pressure	0.100 to 0.400	MPa
Screw Speed	100 to 150	rpm
Screw Compression Ratio	2.0:1.0	

Recommended distributors for this material

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