

# CoolPoly® E4507

Polycarbonate  
Cool Polymers, Inc.

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 characteristics.

General Information			
Features	Conductivity		
	Heat conduction		
	Electromagnetic shielding (EMI)		
	Good formability		
	Radio frequency shielding (RFI)		
Forms	Particle		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	1.32	g/cm <sup>3</sup>	ISO 1183
Molding Shrinkage			ASTM D955
Flow	0.30	%	ASTM D955
Transverse flow	0.40	%	ASTM D955
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	4340	MPa	ISO 527-2
Tensile Stress (Yield)	40.0	MPa	ISO 527-2
Nominal Tensile Strain at Break	1.4	%	ISO 527-2
Flexural Modulus	4600	MPa	ISO 178
Flexural Stress	73.0	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength	3.3	kJ/m <sup>2</sup>	ISO 179
Charpy Unnotched Impact Strength	13	kJ/m <sup>2</sup>	ISO 179
Thermal	Nominal Value	Unit	Test Method
Specific Heat	1260	J/kg/°C	ASTM C351
Thermal Conductivity	3.6	W/m/K	ASTM C177
Flammability	Nominal Value		Test Method
Flame Rating (2.00 mm)	V-0		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: 0.022 cm <sup>2</sup> /sec			
Injection	Nominal Value	Unit	

Drying Temperature	105	°C
Drying Time	4.0	hr
Dew Point	-30.0	°C
Rear Temperature	280 - 290	°C
Middle Temperature	290 - 300	°C
Front Temperature	295 - 310	°C
Processing (Melt) Temp	295 - 310	°C
Mold Temperature	70.0 - 95.0	°C
Injection Pressure	75.0 - 150	MPa
Injection Rate	Moderate-Fast	
Holding Pressure	55.0 - 100	MPa
Back Pressure	0.100 - 0.400	MPa
Screw Speed	100 - 150	rpm
Screw Compression Ratio	2.0:1.0	

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#### Recommended distributors for this material

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