

# CoolPoly® E3605

Polyamide 46  
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)		
RoHS Compliance	RoHS compliance		
Forms	Particle		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	1.35	g/cm <sup>3</sup>	ISO 1183
Molding Shrinkage			ASTM D955
Flow	0.70	%	ASTM D955
Transverse flow	1.0	%	ASTM D955
Water Absorption (23°C, 24 hr)	1.3	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	5530	MPa	ISO 527-2
Tensile Stress (Yield)	49.0	MPa	ISO 527-2
Nominal Tensile Strain at Break	1.3	%	ISO 527-2
Flexural Modulus	5870	MPa	ISO 178
Flexural Stress	77.0	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength	1.9	kJ/m <sup>2</sup>	ISO 179
Charpy Unnotched Impact Strength	10	kJ/m <sup>2</sup>	ISO 179
Thermal	Nominal Value	Unit	Test Method
Specific Heat	1500	J/kg/°C	ASTM C351
Thermal Conductivity	6.0	W/m/K	ASTM C177
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 teste in accordance with ASTM E1461.Thermal Diffusivity, ASTM E1461: 0.029 cm²/sec			
Injection	Nominal Value	Unit	

Drying Temperature	104	°C
Drying Time	12	hr
Dew Point	-40.0	°C
Suggested Max Moisture	0.050	%
Rear Temperature	290 - 310	°C
Middle Temperature	300 - 315	°C
Front Temperature	305 - 320	°C
Nozzle Temperature	310 - 330	°C
Processing (Melt) Temp	310 - 316	°C
Mold Temperature	107 - 163	°C
Injection Pressure	70.0 - 105	MPa
Injection Rate	Moderate-Fast	
Holding Pressure	35.0 - 70.0	MPa
Back Pressure	0.00 - 0.700	MPa
Screw Speed	50 - 150	rpm
Screw Compression Ratio	2.5:1.0	

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#### Recommended distributors for this material

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