CoolPoly® D5108

Polyphenylene Sulfide

Celanese Corporation

Message:

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 Information			
UL YellowCard	E229777-101082284	E229777-538500	
Features	Heat conduction Insulation Good formability		
RoHS Compliance	RoHS compliance		
Forms	Particle		
Processing Method	Injection molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Density	1.82	g/cm³	ISO 1183
Molding Shrinkage			ASTM D955
Flow	0.20	%	ASTM D955
Transverse flow	0.40	%	ASTM D955
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	23600	MPa	ISO 527-2
Tensile Stress (Yield)	37.0	MPa	ISO 527-2
Nominal Tensile Strain at Break	0.16	%	ISO 527-2
Flexural Modulus	19400	MPa	ISO 178
Flexural Stress	69.0	MPa	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength	1.1	kJ/m²	ISO 179
Charpy Unnotched Impact Strength	2.5	kJ/m²	ISO 179
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature			
0.45 MPa, not annealed	276	°C	ISO 75-2/B
1.8 MPa, not annealed	239	°C	ISO 75-2/A
Linear thermal expansion coefficient			ISO 11359-2
Flow	6.5E-6	cm/cm/°C	ISO 11359-2
Lateral	5.0E-6	cm/cm/°C	ISO 11359-2
Thermal Conductivity	10	W/m/K	ASTM C177
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	4.5E+14	ohms	ASTM D257

Volume Resistivity	2.5E+16	ohms·cm	ASTM D257
Dielectric Strength	29	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
100 Hz	4.80		ASTM D150
1 MHz	3.70		ASTM D150
Dissipation Factor			ASTM D150
100 Hz	0.022		ASTM D150
1 MHz	2.3E-3		ASTM D150
Arc Resistance	300	sec	ASTM D495
Comparative Tracking Index (CTI)	580	V	UL 746
Hot-wire Ignition (HWI)	120	sec	UL 746

Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.00 mm)	V-0		UL 94

Additional Information

The value listed as Nominal Tensile Strain at Break, ISO 527-1, -2, was tested in accordance with ASTM D412.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: 0.07 cm^2/secComparative Tracking Index, ASTM 3638: 580 voltsHot Wire Ignition, ASTM D3874: >120 secHigh Voltage Arc Tracking Rate, UL-746A: did not trackHigh Voltage Arc Resistance to Ignition, UL-746A: >300 sec

Injection	Nominal Value	Unit
Drying Temperature	150	°C
Drying Time	6.0	hr
Dew Point	-40.0	°C
Suggested Max Moisture	0.0	%
Rear Temperature	290 - 315	°C
Middle Temperature	300 - 320	°C
Front Temperature	310 - 340	°C
Nozzle Temperature	316 - 340	°C
Processing (Melt) Temp	307 - 338	°C
Mold Temperature	135 - 177	°C
Injection Pressure	60.0 - 165	MPa
Injection Rate	Moderate-Fast	
Holding Pressure	40.0 - 105	MPa
Back Pressure	0.200 - 0.500	MPa
Screw Speed	75 - 180	rpm
Cushion	5.00 - 13.0	mm
Screw Compression Ratio	2.5:1.0	

The information and data on this page are provided by manufacturers and document providers. SHANGHAI SUSHENG assumes no legal liability. It is strongly recommended to verify all technical data with material suppliers before final material selection.All rights belong to the original authors. If any infringement occurs, please contact us immediately.

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

WECHAT