



Zenite® 5145L

Celanese Corporation - Liquid Crystal Polymer

Sunday, November 3, 2019

General Information

Product Description

Zenite® 5145L is a 45% glass fiber reinforced and toughened liquid crystal polymer for injection molding. It has improved toughness.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass Fiber, 45% Filler by Weight		
Features	• Good Toughness		
RoHS Compliance	• Contact Manufacturer		
Processing Method	• Injection Molding		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.75	g/cm ³	ISO 1183
Molding Shrinkage			ISO 294-4
Across Flow	0.50	%	
Flow	0.10	%	

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2.18E+6	psi	ISO 527-2/1A
Tensile Stress (Break)	16700	psi	ISO 527-2/1A/5
Tensile Strain (Break)	3.1	%	ISO 527-2/1A/5
Flexural Modulus (73°F)	1.60E+6	psi	ISO 178
Flexural Stress (73°F)	27600	psi	ISO 178
Compressive Stress (1% Strain)	3090	psi	ISO 604

Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (264 psi, Unannealed)	554	°F	ISO 75-2/A
Melting Temperature ²	606	°F	ISO 11357-3
CLTE - Flow	3.9E-6	in/in/°F	ISO 11359-2
CLTE - Transverse	3.3E-5	in/in/°F	ISO 11359-2

Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+15	ohms	IEC 60093
Volume Resistivity	1.0E+15	ohms·cm	IEC 60093
Electric Strength	1100	V/mil	IEC 60243-1
Relative Permittivity (1 MHz)	3.90		IEC 60250
Dissipation Factor (1 MHz)	0.018		IEC 60250
Comparative Tracking Index	175	V	IEC 60112

Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.031 in	V-0		
0.06 in	V-0		
Oxygen Index	33	%	ISO 4589-2

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Fill Analysis	Nominal Value	Unit	Test Method
Melt Density	1.48	g/cm ³	Internal Method
Melt Thermal Conductivity	2.4	Btu·in/hr/ft ² /°F	Internal Method
Ejection Temperature	509	°F	
Specific Heat Capacity of Melt	0.359	Btu/lb/°F	

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	302	°F
Drying Time	3.0	hr
Suggested Max Moisture	0.010	%
Hopper Temperature	68 to 86	°F
Rear Temperature	608 to 626	°F
Middle Temperature	635 to 653	°F
Front Temperature	635 to 653	°F
Nozzle Temperature	635 to 653	°F
Processing (Melt) Temp	617 to 653	°F
Mold Temperature	176 to 248	°F
Back Pressure	< 435	psi

Injection Notes

Feeding zone temperature: 40 to 60°C
 Zone4 temperature: 335 to 345°C

Notes

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

² 10°C/min