

Zenite® 5145L

Liquid Crystal Polymer

Celanese Corporation

Message:

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

General Information			
UL YellowCard	E344082-100831258		
Filler / Reinforcement	Glass fiber reinforced material, 45% filler by weight		
Additive	Lubricant		
Features	Good toughness		
	Lubrication		
RoHS Compliance	Contact manufacturer		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	1.75	g/cm³	ISO 1183
Molding Shrinkage			ISO 294-4
Vertical flow direction	0.50	%	ISO 294-4
Flow direction	0.090	%	ISO 294-4
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	15000	MPa	ISO 527-2/1A/1
Tensile Stress (Break)	115	MPa	ISO 527-2/1A/5
Tensile Strain (Break)	3.1	%	ISO 527-2/1A/5
Flexural Modulus (23°C)	11000	MPa	ISO 178
Flexural Stress (23°C)	190	MPa	ISO 178
Compressive Stress			ISO 604
1% strain	21.3	MPa	ISO 604
--	71.0	MPa	ISO 604
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	290	°C	ISO 75-2/A
Melting Temperature ¹	319	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow	7.0E-6	cm/cm/°C	ISO 11359-2
Lateral	6.0E-5	cm/cm/°C	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
Dielectric Strength	45	kV/mm	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
0.800 mm	V-0		UL 94
1.50 mm	V-0		UL 94
Oxygen Index	33	%	ISO 4589-2
Fill Analysis	Nominal Value	Unit	Test Method
Density of Melt	1.480	g/cm ³	Internal method
Ejection Temperature	265	°C	Internal method
Specific Heat Capacity of Melt	1500	J/kg/°C	Internal method
Thermal Conductivity of Melt	0.35	W/m/K	Internal method
Injection	Nominal Value	Unit	
Drying Temperature	150	°C	
Drying Time	3.0	hr	
Suggested Max Moisture	0.010	%	
Hopper Temperature	20.0 - 30.0	°C	
Rear Temperature	320 - 330	°C	
Middle Temperature	335 - 345	°C	
Front Temperature	335 - 345	°C	
Nozzle Temperature	335 - 345	°C	
Processing (Melt) Temp	325 - 345	°C	
Mold Temperature	80.0 - 120	°C	
Injection Pressure	50.0 - 150	MPa	
Holding Pressure	50.0 - 150	MPa	
Back Pressure	0.00 - 3.00	MPa	
Injection instructions			
Feed Temperature: 40 to 60°CZone 4 Temperature: 335 to 345°C			
NOTE			
1.	10°C/min		

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