

DuPont™ Zenite® LCP

liquid crystal polymer resin

Zenite® 5145L BK010

Zenite® 5145L BK010 is a 45% glass reinforced, lubricated liquid crystal polymer resin with improved toughness and a heat deflection temperature of 290°C.

Property	Test Method	Units	Value
Identification			
Resin Identification	ISO 1043		LCP-GF45
Part Marking Code	ISO 11469		>LCP-GF45<
Mechanical			
Stress at Break	ISO 527	MPa (kpsi)	115 (16.7)
Strain at Break	ISO 527	%	3.1
Tensile Modulus	ISO 527	MPa (kpsi)	15000 (2180)
Flexural Modulus	ISO 178	MPa (kpsi)	11000 (1600)
Flexural Strength	ISO 178	MPa (kpsi)	190 (27.6)
Izod Impact	ASTM D 256	J/m (ft lb/in)	250 (4.7)
Unnotched Impact	ASTM D 4812	J/m (ft lb/in)	600 (11.3)

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.
 ISO Mechanical properties measured at 4.0mm, ISO Electrical properties measured at 2.0mm, and all ASTM properties measured at 3.2mm.
 Test temperatures are 23°C unless otherwise stated.

During molding, use protective equipment and clothing. Skin contact with molten Zenite® resins can cause severe burns. Be particularly alert during purging.

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Property	Test Method	Units	Value
Thermal			
Deflection Temperature 1.80MPa	ISO 75-1/-2 1993/N ₂	°C (°F)	290 (554)
Melting Temperature 10°C/min	ISO 11357-1/-3	°C (°F)	319 (606)
CLTE, Parallel	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 260°C (-40 - 500°F), 4mm			0.04 (0.02)
-40 - 23°C (-40 - 73°F), 4mm			0.04 (0.02)
23 - 55°C (73 - 130°F), 4mm			0.05 (0.03)
55 - 160°C (130 - 320°F), 4mm			0.07 (0.04)
160 - 260°C (320 - 500°F), 4mm			0
CLTE, Normal	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 260°C (-40 - 500°F), 4mm			0.80 (0.44)
-40 - 23°C (-40 - 73°F), 4mm			0.52 (0.29)
23 - 55°C (73 - 130°F), 4mm			0.62 (0.34)
55 - 160°C (130 - 320°F), 4mm			0.83 (0.46)
160 - 260°C (320 - 500°F), 4mm			1.00 (0.56)
Electrical			
Surface Resistivity	ASTM D 257	ohm	1E15
Volume Resistivity	ASTM D 257	ohm cm	1E15
Dielectric Strength, Short Time 500 V/s	ASTM D 149	kV/mm (V/mil)	22 (560)
Electric Strength	IEC 60243-1	kV/mm (V/mil)	
23°C (73°F), 1.0mm			45 (1140)
100°C (212°F), 1.0mm			40 (1020)
100°C (212°F), 2.0mm			27 (690)
150°C (300°F), 1.0mm			40 (1020)
150°C (300°F), 2.0mm			24 (610)
200°C (390°F), 1.0mm			35 (900)
200°C (390°F), 2.0mm			24 (610)

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Property	Test Method	Units	Value	
Electrical				
Dielectric Constant	ASTM D 150			
1E3 Hz				3.4
1E4 Hz				3.3
1E5 Hz				3.3
1E6 Hz	ASTM D 2520 B			
Dielectric Constant				4.7
1E09 Hz, 2.0mm				4.8
1E10 Hz, 2.0mm				5.0
2E10 Hz, 2.0mm	ASTM D 150			
Dissipation Factor				0.017
1E3 Hz				0.012
1E4 Hz				0.016
1E5 Hz	ASTM D 2520 B			
1E6 Hz				0.015
Dissipation Factor				0.006
1E09 Hz, 2.0mm				0.006
1E10 Hz, 2.0mm	IEC 60112	V	175	
2E10 Hz, 2.0mm				0.008
CTI				
Flammability				
Flammability Classification	IEC 60695-11-10			
0.8mm				V-0
Flammability Classification	UL94			
0.8mm				V-0
Temperature Index				
RTI, Electrical	UL 746B	°C		
0.8mm				130
RTI, Impact	UL 746B	°C		
0.8mm				130
RTI, Strength	UL 746B	°C		
0.8mm				130

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Property	Test Method	Units	Value
Other			
Density	ISO 1183	kg/m ³ (g/cm ³)	1750 (1.75)
UL Regrind Approval	UL 746D	%	50
Molding Shrinkage	ISO 294-4	%	
Normal, 2.0mm			0.5
Parallel, 2.0mm			0.09
Processing			
Melt Temperature Range		°C (°F)	325-345 (620-650)
Melt Temperature Optimum		°C (°F)	335 (635)
Mold Temperature Range		°C (°F)	40-150 (105-300)
Mold Temperature Optimum		°C (°F)	80 (175)
Drying Time, Dehumidified Dryer		h	3
Drying Temperature		°C (°F)	150 (304)
Processing Moisture Content		%	<0.01

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