DuPont™ Zenite® LCP

liquid crystal polymer resin

Zenite® 6130 BK010

Zenite® 6130 BK010 is a 30% glass reinforced black liquid crystal polymer resin with a heat deflection temperature of 268°C.

Property	Test Method	Units	Value
Identification			
Resin Identification	ISO 1043		LCP-GF30
Part Marking Code	ISO 11469		>LCP-GF30<
Mechanical			
Stress at Break	ISO 527	MPa (kpsi)	130 (18.9)
Strain at Break	ISO 527	%	2
Tensile Modulus	ISO 527	MPa (kpsi)	13000 (1890)
Flexural Modulus	ISO 178	MPa (kpsi)	11000 (1600)
Flexural Strength	ISO 178	MPa (kpsi)	190 (27.6)
Flexural Fatigue	ASTM D 671	cycles	
45MPa (6500psi)			1,956,000
48MPa (7000psi)			1,035,000
52MPa (7500psi)			210,667
55MPa (8000psi)			39,667
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m^2	
-30°C (-22°F)			30
23°C (73°F)			35
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m^2	
-30°C (-22°F)			30
23°C (73°F)			40

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	ISO 75-1/-2	°C (°F)	
0.45MPa			300 (575)
1.80MPa			268 (514)
Melting Temperature	ISO 11357-1/-3	°C (°F)	
10°C/min			335 (635)
CLTE, Parallel	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 260°C (-40 - 500°F), 2mm			0.01
-40 - 260°C (-40 - 500°F), 4mm			0.02 (0.01)
-40 - 23°C (-40 - 73°F), 2mm			0.02 (0.01)
-40 - 23°C (-40 - 73°F), 4mm			0.04 (0.02)
23 - 55°C (73 - 130°F), 2mm			0.02 (0.01)
23 - 55°C (73 - 130°F), 4mm			0.04 (0.02)
55 - 160°C (130 - 320°F), 2mm			0.02 (0.01)
55 - 160°C (130 - 320°F), 4mm			0.04 (0.02)
160 - 260°C (320 - 500°F), 2mm			-0.05 (-0.03)
160 - 260°C (320 - 500°F), 4mm			-0.01
CLTE, Normal	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 260°C (-40 - 500°F), 2mm			0.85 (0.47)
-40 - 260°C (-40 - 500°F), 4mm			0.88 (0.49)
-40 - 23°C (-40 - 73°F), 2mm			0.60 (0.33)
-40 - 23°C (-40 - 73°F), 4mm			0.61 (0.34)
23 - 55°C (73 - 130°F), 2mm			0.68 (0.38)
23 - 55°C (73 - 130°F), 4mm			0.70 (0.39)
55 - 160°C (130 - 320°F), 2mm			0.88 (0.49)
55 - 160°C (130 - 320°F), 4mm			0.92 (0.51)
160 - 260°C (320 - 500°F), 2mm			1.01 (0.56)
160 - 260°C (320 - 500°F), 4mm			1.07 (0.59)
Glass Transition Temperature	ISO 11357-1/-2	°C (°F)	
10°C/min			120 (248)

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Electrical			
Surface Resistivity	IEC 60093	ohm	1E16
Volume Resistivity	IEC 60093	ohm m	1E14
Electric Strength	IEC 60243-1	kV/mm (V/mil)	
1.0mm			36 (920)
2.0mm			29 (740)
Dielectric Constant	ASTM D 2520 B		
1E09 Hz, 2.0mm			4.7
1E09 Hz, 4.0mm			4.5
1E10 Hz, 2.0mm			4.8
1E10 Hz, 4.0mm			4.6
Relative Permittivity	IEC 60250		
23°C (73°F), 1E2 Hz			4.5
23°C (73°F), 1E3 Hz			4.2
100°C (212°F), 1E3 Hz			4.6
150°C (300°F), 1E3 Hz			4.6
200°C (390°F), 1E3 Hz			4.6
23°C (73°F), 1E6 Hz			4.0
100°C (212°F), 1E6 Hz			4.3
150°C (300°F), 1E6 Hz			4.3
200°C (390°F), 1E6 Hz			4.3
Dissipation Factor	ASTM D 2520 B		
1E09 Hz, 2.0mm			0.009
1E09 Hz, 4.0mm			0.009
1E10 Hz, 2.0mm			0.011
1E10 Hz, 4.0mm			0.010

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Property	Test Method	Units	Value
Electrical			
Dissipation Factor	IEC 60250	E-4	
23°C (73°F), 1E2 Hz			150
23°C (73°F), 1E3 Hz			160
100°C (212°F), 1E3 Hz			100
150°C (300°F), 1E3 Hz			100
200°C (390°F), 1E3 Hz			130
23°C (73°F), 1E6 Hz			310
100°C (212°F), 1E6 Hz			450
150°C (300°F), 1E6 Hz			180
200°C (390°F), 1E6 Hz			70
CTI	IEC 60112	V	175
CTI	UL 746A	V	100-174
Flammability			
Flammability Classification	IEC 60695-11-10		
0.19mm			V-0
Flammability Classification	UL94		
0.19mm			V-0
Oxygen Index	ISO 4589-1/-2	%	41
Temperature Index			
RTI, Electrical	UL 746B	°C	
0.75mm			240
RTI, Impact	UL 746B	°C	
0.75mm			220
RTI, Strength	UL 746B	°C	
0.75mm			240
Other			
Density	ISO 1183	kg/m^3 (g/cm^3)	1620 (1.62)
UL Regrind Approval	UL 746D	%	50
Molding Shrinkage	ISO 294-4	%	
Normal, 2.0mm			0.8
Parallel, 2.0mm			0.05

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Property	Test Method	Units	Value
Processing			
Melt Temperature Range		°C (°F)	350-360 (660-680)
Melt Temperature Optimum		°C (°F)	355 (670)
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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