

liquid crystal polymer resin

Zenite® 6130L BK010

Lubricated 30% Glass Reinforced Liquid Crystal Polymer Resin

Zenite® 6130L is a lubricated 30% glass reinforced LCP resin. It is well suited for use in the automotive,

electrical/electronic, telecommunications, and aerospace industries.

Property	Test Method	Units	Value
Mechanical			
Stress at Break, 1.0mm	ISO 527-1/-2	MPa (kpsi)	
-40°C (-40°F)			260 (38)
-30°C (-20°F)			240 (35)
23°C (73°F)			180 (26.1)
120°C (250°F)			70 (10.2)
150°C (300°F)			55 (8)
200°C (390°F)			40 (5.8)
250°C (480°F)			22 (3.2)
Stress at Break, 2.0mm	ISO 527-1/-2	MPa (kpsi)	
-40°C (-40°F)			225 (33)
-30°C (-20°F)			210 (30)
23°C (73°F)			150 (21.7)
120°C (250°F)			60 (8.7)
150°C (300°F)			50 (7.3)
200°C (390°F)			35 (5.1)
250°C (480°F)			20 (2.9)

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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Mechanical			
Stress at Break, 4.0mm	ISO 527-1/-2	MPa (kpsi)	
-40°C (-40°F)			200 (29)
-30°C (-20°F)			190 (27.5)
23°C (73°F)			130 (18.9)
120°C (250°F)			55 (8)
150°C (300°F)			45 (6.5)
200°C (390°F)			30 (4.4)
250°C (480°F)			18 (2.6)
Strain at Break, 1.0mm	ISO 527-1/-2	%	
-40°C (-40°F)			1.7
-30°C (-20°F)			1.8
23°C (73°F)			1.9
120°C (250°F)			1.2
150°C (300°F)			1.2
200°C (390°F)			1.1
250°C (480°F)			1.0
Strain at Break, 2.0mm	ISO 527-1/-2	%	
-40°C (-40°F)			1.8
-30°C (-20°F)			1.9
23°C (73°F)			2.2
120°C (250°F)			1.5
150°C (300°F)			1.3
200°C (390°F)			1.1
250°C (480°F)			1.1
Strain at Break, 4.0mm	ISO 527-1/-2	%	
-40°C (-40°F)			1.9
-30°C (-20°F)			1.9
23°C (73°F)			1.8
120°C (250°F)			1.7
150°C (300°F)			1.4
200°C (390°F)			1.1
250°C (480°F)			1.0

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Property	Test Method	Units	Value
Mechanical			
Tensile Modulus, 1.0mm	ISO 527-1/-2	MPa (kpsi)	
-40°C (-40°F)			21900 (3180)
-30°C (-20°F)			20000 (2900)
23°C (73°F)			16700 (2430)
120°C (250°F)			7800 (1150)
150°C (300°F)			6900 (1000)
200°C (390°F)			5500 (800)
250°C (480°F)			4500 (650)
Tensile Modulus, 2.0mm	ISO 527-1/-2	MPa (kpsi)	
-40°C (-40°F)			19700 (2850)
-30°C (-20°F)			18300 (2650)
23°C (73°F)			15300 (2220)
120°C (250°F)			7300 (1050)
150°C (300°F)			6500 (950)
200°C (390°F)			4700 (680)
250°C (480°F)			3000 (430)
Tensile Modulus, 4.0mm	ISO 527-1/-2	MPa (kpsi)	
-40°C (-40°F)			19000 (2760)
-30°C (-20°F)			18000 (2600)
23°C (73°F)			13000 (1890)
120°C (250°F)			6400 (930)
150°C (300°F)			5900 (850)
200°C (390°F)			4200 (610)
250°C (480°F)			2700 (390)
Flexural Modulus, 1.0mm	ISO 178	MPa (kpsi)	
-40°C (-40°F)			20800 (3020)
23°C (73°F)			16200 (2350)
120°C (250°F)			7820 (1130)
150°C (300°F)			7500 (1100)
200°C (390°F)			5830 (850)
250°C (480°F)			3820 (550)

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Property	Test Method	Units	Value
Mechanical			
Flexural Modulus, 2.0mm	ISO 178	MPa (kpsi)	
-40°C (-40°F)			16600 (2400)
23°C (73°F)			12500 (1800)
120°C (250°F)			7600 (1100)
150°C (300°F)			7100 (1000)
200°C (390°F)			5070 (740)
250°C (480°F)			3690 (530)
Flexural Modulus, 4.0mm	ISO 178	MPa (kpsi)	
-40°C (-40°F)			15700 (2300)
23°C (73°F)			12000 (1740)
120°C (250°F)			6900 (1000)
150°C (300°F)			6200 (900)
200°C (390°F)			5050 (730)
250°C (480°F)			3560 (520)
Flexural Strength, 1.0mm	ISO 178	MPa (kpsi)	
-40°C (-40°F)			327 (47)
23°C (73°F)			211 (31)
120°C (250°F)			79 (12)
150°C (300°F)			65 (9)
200°C (390°F)			43 (6)
250°C (480°F)			23 (3)
Flexural Strength, 2.0mm	ISO 178	MPa (kpsi)	
-40°C (-40°F)			287 (42)
23°C (73°F)			191 (28)
120°C (250°F)			75 (11)
150°C (300°F)			61 (9)
200°C (390°F)			39 (6)
250°C (480°F)			21 (3)

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Property	Test Method	Units	Value
Mechanical			
Flexural Strength, 4.0mm	ISO 178	MPa (kpsi)	
-40°C (-40°F)			258 (37)
23°C (73°F)			167 (24)
120°C (250°F)			68 (10)
150°C (300°F)			54 (8)
200°C (390°F)			37 (5)
250°C (480°F)			20 (3)
Izod Impact	ASTM D 256	J/m (ft lb/in)	
3.2mm (0.126in)			120 (2.3)
Notched Charpy Impact	ISO 179/1eA	kJ/m ²	
-30°C (-22°F)			30
23°C (73°F)			35
Unnotched Charpy Impact	ISO 179/1eU	kJ/m ²	
-30°C (-22°F)			25
23°C (73°F)			35
Thermal			
Deflection Temperature	ISO 75-1/-2	°C (°F)	
1.80MPa			265 (510)
Melting Temperature	ISO 3146C	°C (°F)	335 (635)
Electrical			
Surface Resistivity	IEC 60093	ohm	>1E15
Relative Permittivity	IEC 60250		
1E2 Hz			4.5
1E6 Hz			4.0
Volume Resistivity	IEC 60093	ohm m	>1E14
Dielectric Strength, Short Time, 0.8mm	ASTM D 149	kV/mm (V/mil)	
23°C (73°F)			40 (1020)
120°C (250°F)			41 (1050)
150°C (300°F)			37 (950)
200°C (392°F)			40 (1010)

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Property	Test Method	Units	Value
Electrical			
Dielectric Strength, Short Time, 1.6mm	ASTM D 149	kV/mm (V/mil)	
23°C (73°F)			35 (900)
120°C (250°F)			33 (840)
150°C (300°F)			31 (800)
200°C (392°F)			33 (850)
Dielectric Strength, Short Time, 3.2mm	ASTM D 149	kV/mm (V/mil)	
23°C (73°F)			29 (740)
120°C (250°F)			28 (730)
150°C (300°F)			27 (680)
Dielectric Strength, Step by Step	ASTM D 149	kV/mm (V/mil)	
0.8mm (0.032in)			30 (760)
1.6mm (0.063in)			29 (740)
3.2mm (0.126in)			26 (650)
Dielectric Const, 1E03 Hz, 0.8mm (0.032in)	ASTM D 150		
23°C (73°F)			4.0
120°C (250°F)			4.5
150°C (300°F)			4.5
200°C (392°F)			4.5
Dielectric Const, 1E03 Hz, 3.2mm (0.125in)	ASTM D 150		
23°C (73°F)			4.4
120°C (250°F)			5.0
150°C (300°F)			5.0
200°C (392°F)			5.0
Dielectric Const, 1E06 Hz, 0.8mm (0.032in)	ASTM D 150		
23°C (73°F)			3.6
120°C (250°F)			4.3
150°C (300°F)			4.4
200°C (392°F)			4.4

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Property	Test Method	Units	Value
Electrical			
Dielectric Const, 1E06 Hz, 3.2mm (0.125in)	ASTM D 150		
23°C (73°F)			3.9
120°C (250°F)			4.8
150°C (300°F)			4.8
200°C (392°F)			4.9
Dielectric Const, 1E09 Hz, 0.8mm (0.032in)	ASTM D 2520 B		
23°C (73°F)			4.4
120°C (250°F)			4.4
150°C (300°F)			4.4
200°C (392°F)			4.5
Dielectric Const, 1E09 Hz, 1.6mm (0.063in)	ASTM D 2520 B		
23°C (73°F)			4.3
120°C (250°F)			4.4
150°C (300°F)			4.4
200°C (392°F)			4.5
Dielectric Const, 1E09 Hz, 3.2mm (0.125in)	ASTM D 2520 B		
23°C (73°F)			4.3
120°C (250°F)			4.4
150°C (300°F)			4.4
200°C (392°F)			4.5
250°C (482°F)			4.8
Dissipation Factor	IEC 60250	E-4	
1E2 Hz			150
1E6 Hz			310
Dissipation Fact, 1E03 Hz, 0.8mm (0.032in)	ASTM D 150		
23°C (73°F)			0.013
120°C (250°F)			0.008
150°C (300°F)			0.009
200°C (392°F)			0.015

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Property	Test Method	Units	Value
Electrical			
Dissipation Fact, 1E03 Hz, 3.2mm (0.125in)	ASTM D 150		
23°C (73°F)			0.013
120°C (250°F)			0.006
150°C (300°F)			0.007
200°C (392°F)			0.014
Dissipation Fact, 1E06 Hz, 0.8mm (0.032in)	ASTM D 150		
23°C (73°F)			0.026
150°C (300°F)			0.016
200°C (392°F)			0.010
Dissipation Fact, 1E06 Hz, 3.2mm (0.125in)	ASTM D 150		
23°C (73°F)			0.027
120°C (250°F)			0.032
150°C (300°F)			0.018
200°C (392°F)			0.009
Dissipation Fact, 1E09 Hz, 0.8mm (0.032in)	ASTM D 2520 B		
23°C (73°F)			0.004
120°C (250°F)			0.012
150°C (300°F)			0.018
200°C (392°F)			0.025
Dissipation Fact, 1E09 Hz, 1.6mm (0.063in)	ASTM D 2520 B		
23°C (73°F)			0.004
120°C (250°F)			0.014
150°C (300°F)			0.020
200°C (392°F)			0.028
Dissipation Fact, 1E09 Hz, 3.2mm (0.125in)	ASTM D 2520 B		
23°C (73°F)			0.004
120°C (250°F)			0.016
150°C (300°F)			0.023
200°C (392°F)			0.032
250°C (482°F)			0.034

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Property	Test Method	Units	Value
Electrical			
Electric Strength	IEC 60243-1	kV/mm	37
CTI	ASTM D 3638	V	100-174
Flammability			
Flammability Classification	UL94		
0.38mm			V-0
0.75mm			V-0
1.5mm			V-0
3.0mm			V-0
1.5mm Nominal Rating	UL94		V-0
1.5mm Nominal Thickness Tested	UL94	mm	1.5
Other Thickness Rating	UL94		V-0
Other Thickness Tested	UL94	mm	0.38
Oxygen Index	ISO 4589	%	41
Other			
Density	ISO 1183	$kg/m^3 (g/cm^3)$	1620 (1.62)
Processing			
Melt Temperature Range		°C (°F)	350-360 (660-680)
Melt Temperature Optimum		°C (°F)	355 (670)
Mold Temperature Range		°C (°F)	30-160 (85-320)
Mold Temperature Optimum		°C (°F)	90 (194)
Drying Time, Dehumidified Dryer		h	4
Drying Temperature		°C (°F)	130 (265)
Processing Moisture Content		%	< 0.01

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