Zenite™ LCP

liquid crystal polymer resin

Zenite™ 6130(L) BK & WT

30% Glass Reinforced Liquid Crystal Polymer Resin

Zenite™ 6130(L) is a 30% glass reinforced LCP resin having excellent toughness and an HDT of 260 C. The L version is lubricated . It is suited for use in automotive, electrical/electronic, telecommunications, and aerospace applications.

Property	Test Method	Units	Value
Mechanical			
Tensile Strength, 0.8mm (0.032in)	ASTM D 638	MPa (kpsi)	
-40C (-40F)			250 (36.3)
23C (73F)			165 (23.9)
120C (250F)			82 (11.9)
149C (300F)			55 (8.0)
200C (392F)			22 (3.2)
250C (482F)			21 (3.0)
Tensile Strength, 3.2mm (0.125in)	ASTM D 638	MPa (kpsi)	
-40C (-40F)			185 (26.8)
23C (73F)			130 (18.8)
120C (250F)			60 (8.7)
149C (300F)			50 (7.3)
200C (392F)			35 (5.2)
250C (482F)			14 (2.0)
Elongation at Break	ASTM D 638	%	2.5

Contact DuPont for MSDS, general guides and/or additional information about ventilation, handling, purging, drying, etc.
Mechanical properties measured at 23°C (73°F) unless otherwise stated.
Mechanical properties measured at 3.2mm (0.125in) 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
Mechanical			
Tensile Modulus, 1.6mm (0.063in)	ASTM D 638	MPa (kpsi)	
-40C (-40F)			20000 (2900)
23C (73F)			15000 (2200)
120C (250F)			8300 (1200)
149C (300F)			6700 (1000)
200C (392F)			4800 (700)
250C (482F)			3400 (500)
Tensile Modulus, 3.2mm (0.125in)	ASTM D 638	MPa (kpsi)	
-40C (-40F)			15900 (2300)
23C (73F)			11700 (1700)
120C (250F)			6200 (900)
149C (300F)			5500 (800)
200C (392F)			4800 (700)
250C (482F)			2800 (400)
Flexural Modulus, 0.8mm (0.032in)	ASTM D 790	MPa (kpsi)	
-40C (-40F)			25000 (3600)
23C (73F)			19000 (2700)
120C (250F)			10000 (1500)
149C (300F)			9000 (1300)
200C (392F)			6900 (1000)
250C (482F)			4100 (600)
Flexural Modulus, 1.6mm (0.063in)	ASTM D 790	MPa (kpsi)	
-40C (-40F)			19000 (2800)
23C (73F)			15000 (2200)
120C (250F)			8300 (1200)
149C (300F)			6900 (1000)
200C (392F)			6200 (900)
250C (482F)			3400 (500)
Flexural Modulus, 3.2mm (0.125in)	ASTM D 790	MPa (kpsi)	
-40C (-40F)			15000 (2100)
23C (73F)			11000 (1600)
120C (250F)			6200 (900)
149C (300F)			5500 (800)
200C (392F)			4800 (700)
250C (482F)			2800 (400)
Flexural Strength, 0.8mm (0.032in)	ASTM D 790	MPa (kpsi)	
-40C (-40F)			340 (49.3)
23C (73F)			195 (28.3)
120C (250F)			90 (13.0)
149C (300F)			70 (10.2)
200C (392F)			50 (7.2)
250C (482F)			23 (3.3)

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Mechanical properties measured at 3.2mm (0.125in) unless otherwise stated.

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Property	Test Method	Units	Value
Mechanical			
Flexural Strength, 1.6mm (0.063in)	ASTM D 790	MPa (kpsi)	
-40C (-40F)			295 (42.8)
23C (73F)			195 (28.3)
120C (250F)			80 (11.6)
149C (300F)			64 (9.3)
200C (392F)			45 (6.5)
250C (482F)			22 (3.2)
Flexural Strength, 3.2mm (0.125in)	ASTM D 790	MPa (kpsi)	
-40C (-40F)			245 (35.5)
23C (73F)			158 (22.9)
120C (250F)			62 (9.0)
149C (300F)			50 (7.3)
200C (392F)			33 (4.8)
250C (482F)			17 (2.5)
Compressive Strength	ASTM D 695	MPa (kpsi)	105 (15.2)
Compressive Modulus	ASTM D 695	MPa (kpsi)	0.8 (0.031)
Deformation Under Load	ASTM D 621	%	
27.6MPa (4000psi)			0.04
Izod Impact	ASTM D 256	J/m (ft lb/in)	
-40C (-40F), 0.8mm (0.032in)			300 (5.6)
-40C (-40F), 3.2mm (0.125in)			110 (2.1)
23C (73F), 0.8mm (0.032in)			215, 40%NB (4.0, 40%NB)
23C (73F), 1.6mm (0.063in)			200 (3.8)
23C (73F), 3.2mm (0.125in)			125 (2.4)
Unnotched Impact	ASTM D 4812	J/m (ft lb/in)	
-40C (-40F), 0.8mm (0.032in)			735, 60%NB (13.8, 60%NB)
-40C (-40F), 3.2mm (0.125in)			440 (8.2)
23C (73F), 0.8mm (0.032in)			NB
23C (73F), 1.6mm (0.063in)			685 (12.8)
23C (73F), 3.2mm (0.125in)			655 (12.3)
Thermal			
Heat Deflection Temperature	ASTM D 648	°C (°F)	
0.45MPa (66psi)			277 (530)
1.8MPa (264psi)			260 (500)
CLTE, Flow	ASTM E 228	E-4/K (E-4/F)	
23 to 150C (73 to 302F), 1.6mm (0.063in)			0.05 (0.03)
23 to 150C (73 to 302F), 3.2mm (0.125in)			0.13 (0.07)
CLTE, Transverse	ASTM E 228	E-4/K (E-4/F)	
23 to 150C (73 to 302F), 1.6mm (0.063in)			0.49 (0.27)
23 to 150C (73 to 302F), 3.2mm (0.125in)			0.37 (0.21)

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Mechanical properties measured at 3.2mm (0.125in) unless otherwise stated.

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Property	Test Method	Units	Value
Thermal			
Glass Transition Temperature	ASTM D 3418	°C (°F)	120 (250)
Extrapolated End Melt Temp.	ASTM D 3418	°C (°F)	350 (662)
Melting Point	ASTM D 3418	°C (°F)	335 (635)
Thermal Conductivity	ASTM C 177	W/m K (Btu in/h ft2 F)	0.27 (1.9)
Specific Heat	ASTM C 351	J/kg K (Btu/lb F)	
25C (77F)			800 (0.19)
125C (257F)			1100 (0.26)
225C (437F)			1300 (0.31)
325C (617F)			1400 (0.33)
Electrical			
Surface Resistivity	ASTM D 257	ohm	1 E16
Volume Resistivity	ASTM D 257	ohm cm	1 E17
Dielectric Strength, Short Time, 0.8mm	ASTM D 149	kV/mm (V/mil)	
23C (73F)			40 (1020)
120C (250F)			41 (1050)
150C (300F)			37 (950)
200C (392F)			40 (1010)
Dielectric Strength, Short Time, 1.6mm	ASTM D 149	kV/mm (V/mil)	
23C (73F)			35 (900)
120C (250F)			33 (840)
150C (300F)			31 (800)
200C (392F)			33 (850)
Dielectric Strength, Short Time, 3.2mm	ASTM D 149	kV/mm (V/mil)	
23C (73F)			29 (740)
120C (250F)			28 (730)
150C (300F)			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 (0.125in)			26 (650)
Dielectric Const, 1E03 Hz, 0.8mm (0.032in)	ASTM D 150		
23C (73F)			4.0
120C (250F)			4.5
150C (300F)			4.5
200C (392F)			4.5
Dielectric Const, 1E03 Hz, 3.2mm (0.125in)	ASTM D 150		
23C (73F)			4.4
120C (250F)			5.0
150C (300F)			5.0
200C (392F)			5.0

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Mechanical properties measured at 3.2mm (0.125in) unless otherwise stated.

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Property	Test Method	Units	Value
Electrical			
Dielectric Const, 1E06 Hz, 0.8mm (0.032in)	ASTM D 150		
23C (73F)			3.6
120C (250F)			4.3
150C (300F)			4.4
200C (392F)			4.4
Dielectric Const, 1E06 Hz, 3.2mm (0.125in)	ASTM D 150		
23C (73F)			3.9
120C (250F)			4.8
150C (300F)			4.8
200C (392F)			4.9
Dielectric Const, 1E09 Hz, 0.8mm (0.032in)	ASTM D 2520 B		
23C (73F)			4.4
120C (250F)			4.4
150C (300F)			4.4
200C (392F)			4.5
Dielectric Const, 1E09 Hz, 1.6mm (0.063in)	ASTM D 2520 B		
23C (73F)			4.3
120C (250F)			4.4
150C (300F)			4.4
200C (392F)			4.5
Dielectric Const, 1E09 Hz, 3.2mm (0.125in)	ASTM D 2520 B		
23C (73F)			4.3
120C (250F)			4.4
150C (300F)			4.4
200C (392F)			4.5
250C (482F)			4.8
Dissipation Fact, 1E03 Hz, 0.8mm (0.032in)	ASTM D 150		
23C (73F)			0.013
120C (250F)			0.008
150C (300F)			0.009
200C (392F)			0.015
Dissipation Fact, 1E03 Hz, 3.2mm (0.125in)	ASTM D 150		
23C (73F)			0.013
120C (250F)			0.006
150C (300F)			0.007
200C (392F)			0.014
Dissipation Fact, 1E06 Hz, 0.8mm (0.032in)	ASTM D 150		
23C (73F)			0.026
150C (300F)			0.016
200C (392F)			0.010

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Property	Test Method	Units	Value
Electrical			
Dissipation Fact, 1E06 Hz, 3.2mm (0.125in)	ASTM D 150		
23C (73F)			0.027
120C (250F)			0.032
150C (300F)			0.018
200C (392F)			0.009
Dissipation Fact, 1E09 Hz, 0.8mm (0.032in)	ASTM D 2520 B		
23C (73F)			0.004
120C (250F)			0.012
150C (300F)			0.018
200C (392F)			0.025
Dissipation Fact, 1E09 Hz, 1.6mm (0.063in)	ASTM D 2520 B		
23C (73F)			0.004
120C (250F)			0.014
150C (300F)			0.020
200C (392F)			0.028
Dissipation Fact, 1E09 Hz, 3.2mm (0.125in)	ASTM D 2520 B		
23C (73F)			0.004
120C (250F)			0.016
150C (300F)			0.023
200C (392F)			0.032
250C (482F)			0.034
CTI	ASTM D 3638	V	175
Flammability			
UL94 Rating at Min. Thickness	UL94		V-0
UL94 Min. Thickness Tested	UL94	mm (in)	
Black			0.19 (0.007)
Black(L)			0.19 (0.007)
White			0.38 (0.015)
White(L)			1.5 (0.059)
Limited Oxygen Index	ASTM D 2863	%	
3.2mm (0.125in)			38
Temperature Index			
Temperature Index, Elec	UL 746B	°C (°F)	
1.5mm (0.059in)			240 (464)
3.0mm (0.118in)			240 (464)
Temperature Index, Mech w Imp	UL 746B	°C (°F)	
1.5mm (0.059in)			210 (410)
3.0mm (0.118in)			220 (428)
Temperature Index, Mech w/o Imp	UL 746B	°C (°F)	
1.5mm (0.059in)			240 (464)
3.0mm (0.118in)			240 (464)

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Property	Test Method	Units	Value
Other			
Specific Gravity	ASTM D 792		
Black			1.63
White			1.68
UL Regrind Approval	UL 746D	%	50
Mold Shrinkage	ASTM D 955	%	
Flow, 0.8mm (0.032in)			-0.07
Flow, 1.6mm (0.063in)			-0.07
Flow, 3.2mm (0.125in)			-0.07
Transverse, 0.8mm (0.032in)			0.5
Transverse, 1.6mm (0.063in)			0.8
Transverse, 3.2mm (0.125in)			0.5
Processing			
Melt Temperature Range		°C (°F)	350-360 (660-680)
Mold Temperature Range		°C (°F)	30-95 (85-200)
Drying Time, Dehumidified Dryer		h	2
Drying Temperature		°C (°F)	135 (275)
Processing Moisture Content		%	<0.01

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