ZENITE® 6140L

Liquid Crystal Polymer

Zenite® 6140L is a 40% glass fiber reinforced and lubricated liquid crystal polymer for injection molding. It has excellent impact resistance and excellent heat deflection temperature.

Product information

Resin Identification	LCP-GF40		ISO 1043
Part Marking Code	>LCP-GF40<		ISO 11469

Rheological properties

Molding shrinkage, parallel	0.1	%	ISO 294-4, 2577
Molding shrinkage, normal	0.5	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	2.47E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	18900	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.1	%	ISO 527-1/-2
Flexural modulus	2.39E6	psi	ISO 178
Flexural strength	27600	psi	ISO 178
Charpy impact strength, 23°C	10.9	ftlb/in²	ISO 179/1eU
Charpy impact strength, -30°C	9.51	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	7.14	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -30°C	7.14	ftlb/in²	ISO 179/1eA
Izod notched impact strength, 23°C	5.71	ftlb/in²	ISO 180/1A

Thermal properties

Melting temperature, 10°C/min	635	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	536	°F	ISO 75-1/-2
Ball pressure test	500	°F	IEC 60695-10-2
Coefficient of linear thermal expansion (CLTE), parallel	0.02	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.356	E-4/°F	ISO 11359-1/-2

Flammability

Burning Behav. at 1.5mm nom. thickn.	V-0	class	IEC 60695-11-10
Thickness tested	0.0591	in	IEC 60695-11-10
Burning Behav. at thickness h	V-0	class	IEC 60695-11-10
Thickness tested	0.0157	in	IEC 60695-11-10
UL recognition	yes		UL 94

Electrical properties

Volume resistivity	>1E13	Ohm.m	IEC 62631-3-1
Surface resistivity	>1E15	Ohm	IEC 62631-3-2
Electric strength	1140	kV/in	IEC 60243-1
Comparative tracking index	175		IEC 60112

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Physical/Other properties

Density	0.0617	lb/in³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	302	°F
Drying Time, Dehumidified Dryer	4 - 6	h
Processing Moisture Content	≤0.01	%
Melt Temperature Optimum	671	°F
Min. melt temperature	662	°F
Max. melt temperature	680	°F
Max. screw tangential speed	0.2 - 0.3	m/s
Mold Temperature Optimum	212	°F
Min. mold temperature	176	°F
Max. mold temperature	248	°F

Characteristics

Processing	Injection Molding
Special characteristics	Flame retardant, Heat stabilized or stable to heat, High Flow, Lead-free soldering resistant

Additional information

Injection molding

Preprocessing

Drying Recommended = Yes
Drying Temperature = 130 °C
Drying Time, Dehumidified Dryer = 4h
Processing Moisture Content = <0.01 %

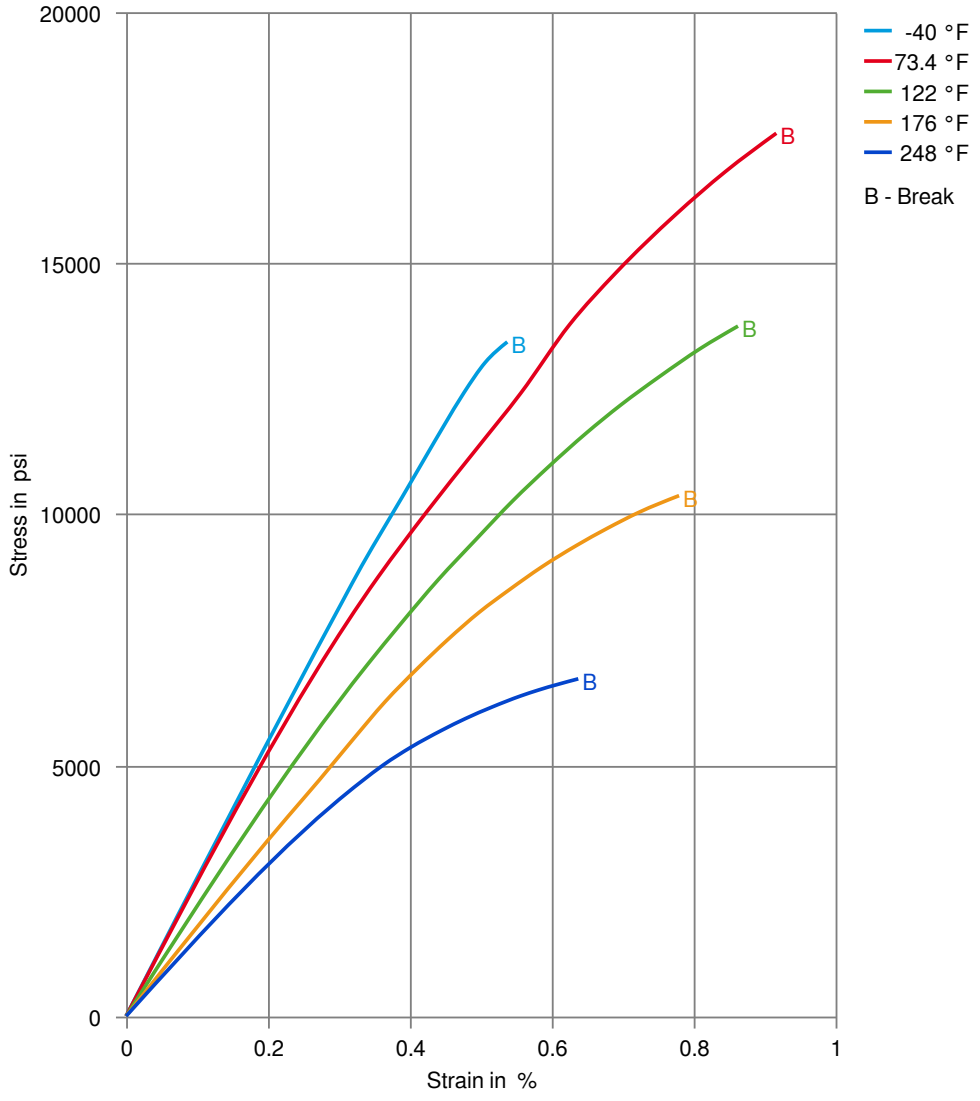
Processing

Melt Temperature Optimum = 355 °C
Melt Temperature Range = 350-360 °C
Mold Temperature Optimum = 100 °C
Mold Temperature Range = 80-120 °C

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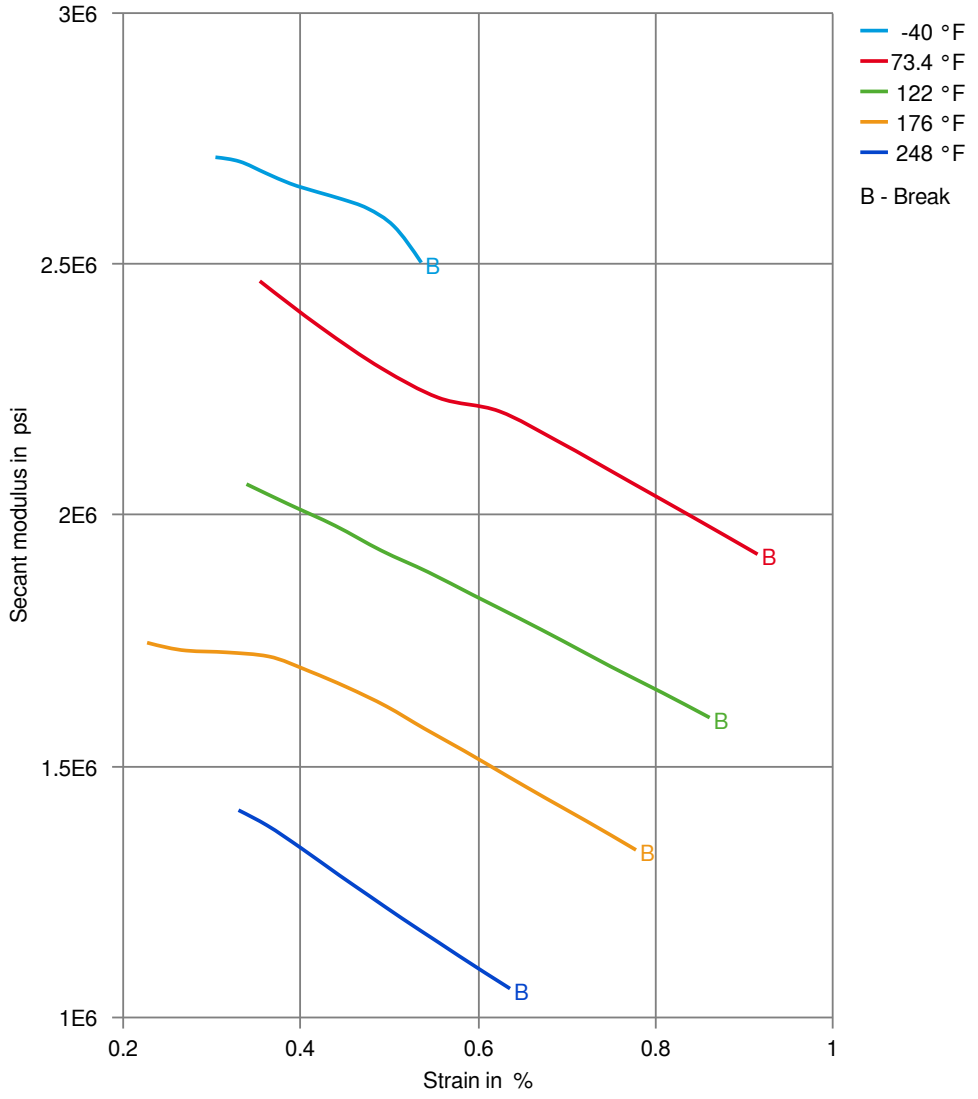
Stress-strain



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Secant modulus-strain



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