ZENITE® 55205

Liquid Crystal Polymer

Zenite® ZE55205 is a black reinforced LCP resin with a high dielectric constant.

Product information

Resin Identification	LCP-GF45		ISO 1043
Part Marking Code	>LCP-GF45<		ISO 11469

Rheological properties

Molding shrinkage, parallel	0.1	%	ISO 294-4, 2577
Molding shrinkage, normal	0.6	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	2.07E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	18100	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.5	%	ISO 527-1/-2
Flexural modulus	1.77E6	psi	ISO 178
Flexural strength	27600	psi	ISO 178
Charpy impact strength, 23°C	17.1	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	14.3	ftlb/in²	ISO 179/1eA
Izod notched impact strength, 23°C	13.8	ftlb/in²	ISO 180/1A
Izod impact strength, 23°C	16.6	ftlb/in²	ISO 180/1U

Thermal properties

Temperature of deflection under load, 1.8 MPa	529	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.05[1]	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.389[1]	E-4/°F	ISO 11359-1/-2

[1]: Temperature range: -45°C to 200°C

Electrical properties

Relative permittivity, 1MHz	4.52		IEC 62631-2-1
Relative permittivity, 10GHz	6.12[OT, 2]		IEC 61189-2-721
Relative permittivity, 15GHz	6.24[OT, 2]		IEC 61189-2-721
Dissipation factor, 1MHz	190	E-4	IEC 62631-2-1
Dissipation factor, 10GHz	38[OT, 2]	E-4	IEC 61189-2-721
Dissipation factor, 15GHz	46[OT, 2]	E-4	IEC 61189-2-721

[OT]: One time tested

[2]: Black color

Physical/Other properties

Density	0.0682	lb/in³	ISO 1183

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Injection

Drying Recommended	yes	
Drying Temperature	302	°F
Drying Time, Dehumidified Dryer	4 - 6	h
Processing Moisture Content	≤0.01	%
Melt Temperature Optimum	644	°F
Min. melt temperature	626	°F
Max. melt temperature	662	°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
Back pressure	435	psi

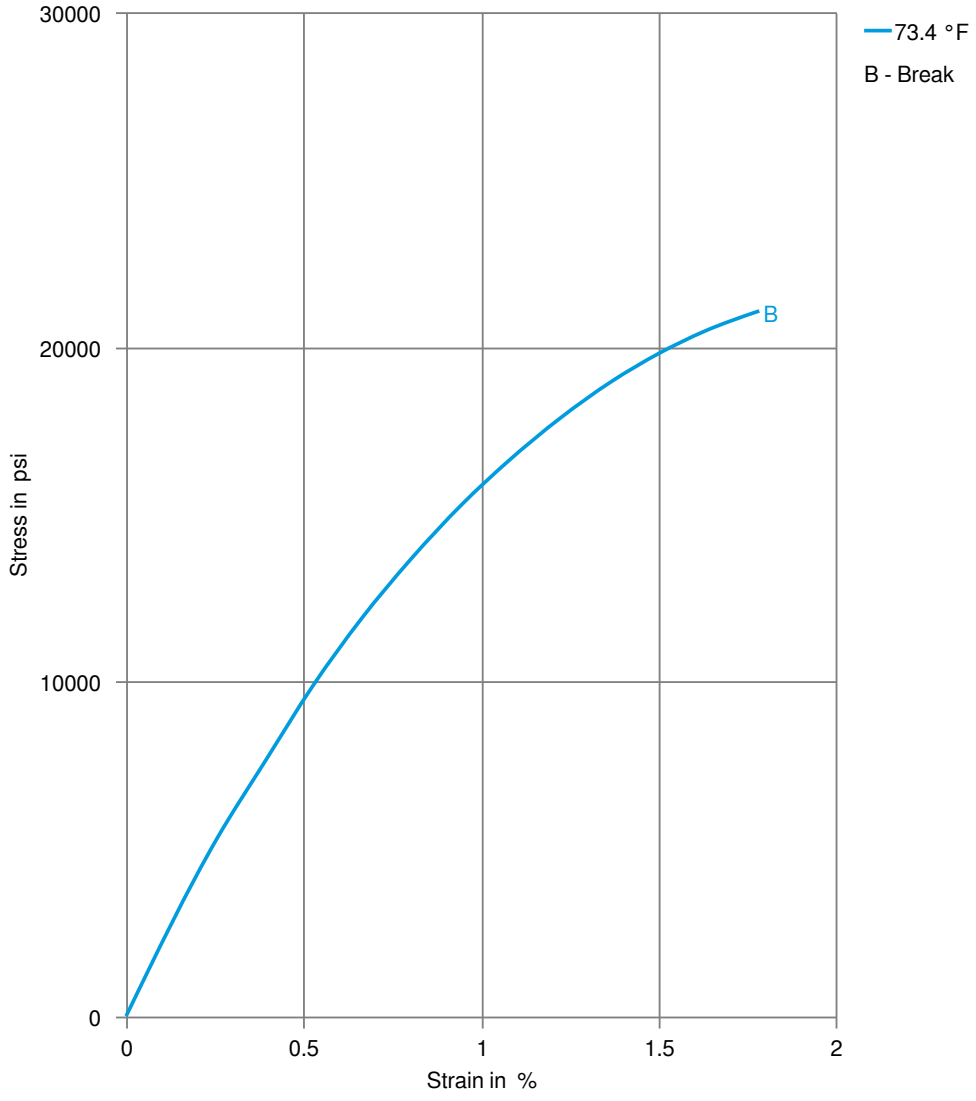
Characteristics

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

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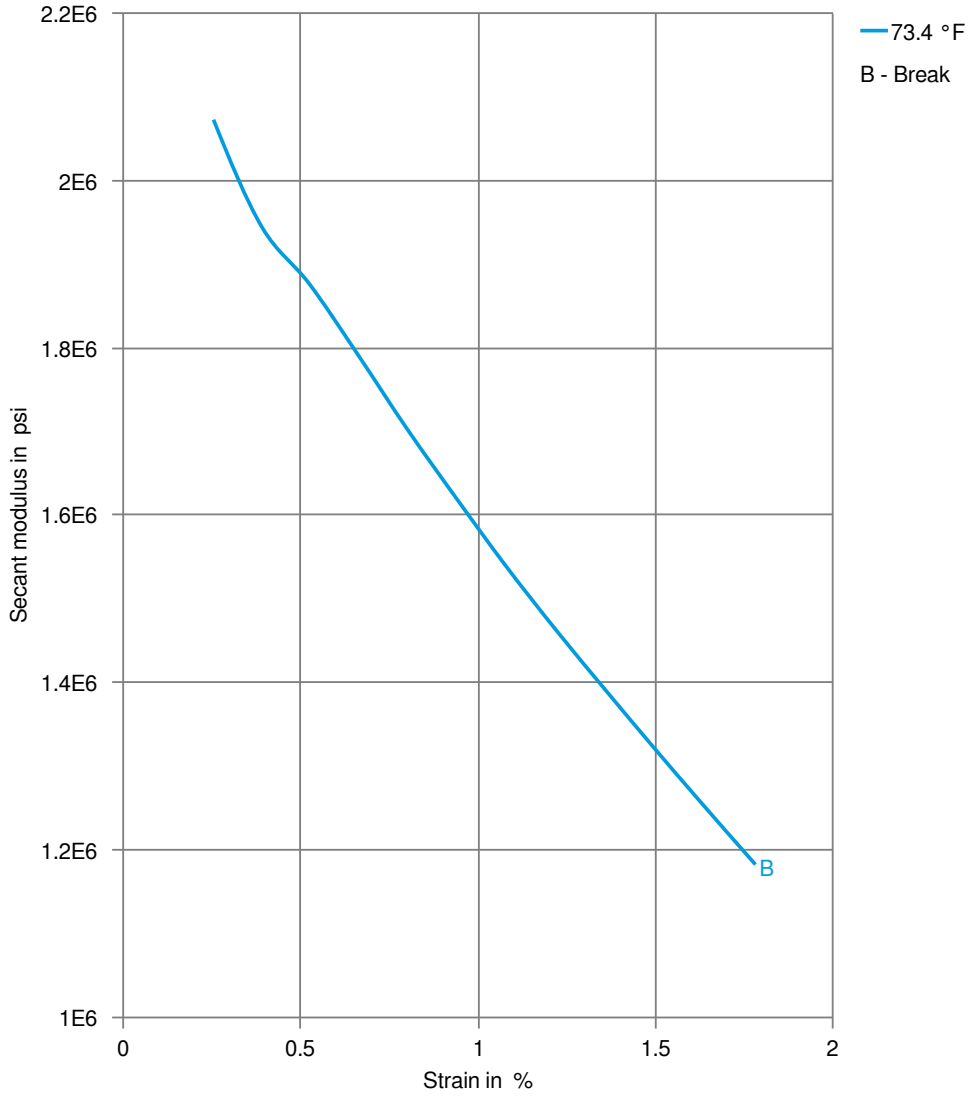
Stress-strain



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Secant modulus-strain



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