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ZENITE® 55201

Liquid Crystal Polymer

Zenite® ZE55201 is a 50% mineral/glass fiber reinforced liquid crystal polymer for injection molding. and It is specifically suitable for applications requiring ultra flatness.

Product information

Resin Identification	LCP-(GF+MD)50	ISO 1043
Part Marking Code	>LCP-(GF+MD)50<	ISO 11469

Rheological properties

Moulding shrinkage, parallel	0.1	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.3	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	15800	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	88	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.4	%	ISO 527-1/-2
Flexural modulus	12500	MPa	ISO 178
Flexural strength	160	MPa	ISO 178
Compressive stress at 1% strain	21.3	MPa	ISO 604
Charpy notched impact strength, 23°C	3.6	kJ/m²	ISO 179/1eA
Poisson's ratio	0.33[C]		

[C]: Calculated

Thermal properties

Melting temperature, 10°C/min	335	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	290	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	300	°C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	15	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	27	E-6/K	ISO 11359-1/-2
Thermal conductivity of melt	0.4	W/(m K)	ISO 22007-2
Specific heat capacity of melt	1500	J/(kg K)	ISO 22007-4

Flammability

Burning Behav. at 1.5mm nom. thickn.	V-0	class	IEC 60695-11-10
Thickness tested	1.5	mm	IEC 60695-11-10
Burning Behav. at thickness h	V-0	class	IEC 60695-11-10
Thickness tested	0.8	mm	IEC 60695-11-10
UL recognition	yes		UL 94
Oxygen index	41	%	ISO 4589-1/-2

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Electrical properties

Relative permittivity, 1MHz	4		IEC 62631-2-1
Dissipation factor, 100Hz	310	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	310	E-4	IEC 62631-2-1
Volume resistivity	>1E13	Ohm.m	IEC 62631-3-1
Surface resistivity	>1E15	Ohm	IEC 62631-3-2
Electric strength	37	kV/mm	IEC 60243-1
Comparative tracking index	175		IEC 60112

Physical/Other properties

Density	1850	kg/m³	ISO 1183
Density of melt	1620	kg/m³	

Injection

Drying Recommended	yes	
Drying Temperature	150	°C
Drying Time, Dehumidified Dryer	4 - 6	h
Processing Moisture Content	≤0.01	%
Melt Temperature Optimum	340	°C
Min. melt temperature	330	°C
Max. melt temperature	350	°C
Screw tangential speed	0.2 - 0.3	m/s
Mold Temperature Optimum	100	°C
Min. mould temperature	80	°C
Max. mould temperature	120	°C
Back pressure	3	MPa
Ejection temperature	287	°C

Characteristics

Processing	Injection Moulding
Special characteristics	Flame retardant, Heat stabilised or stable to heat, High Flow, Low Warpage, Lead-free soldering resistant

Additional information

Injection molding

Preprocessing

Drying Temperature = 140°C
Drying Time, Dehumidified Dryer = 4-6h
Processing Moisture Content = <0.01 %

Processing

Melt Temperature Range = 330-350°C
Melt Temperature Optimum = 335°C
Mold Temperature Optimum = 80°C
Mold Temperature Range = 40-150°C

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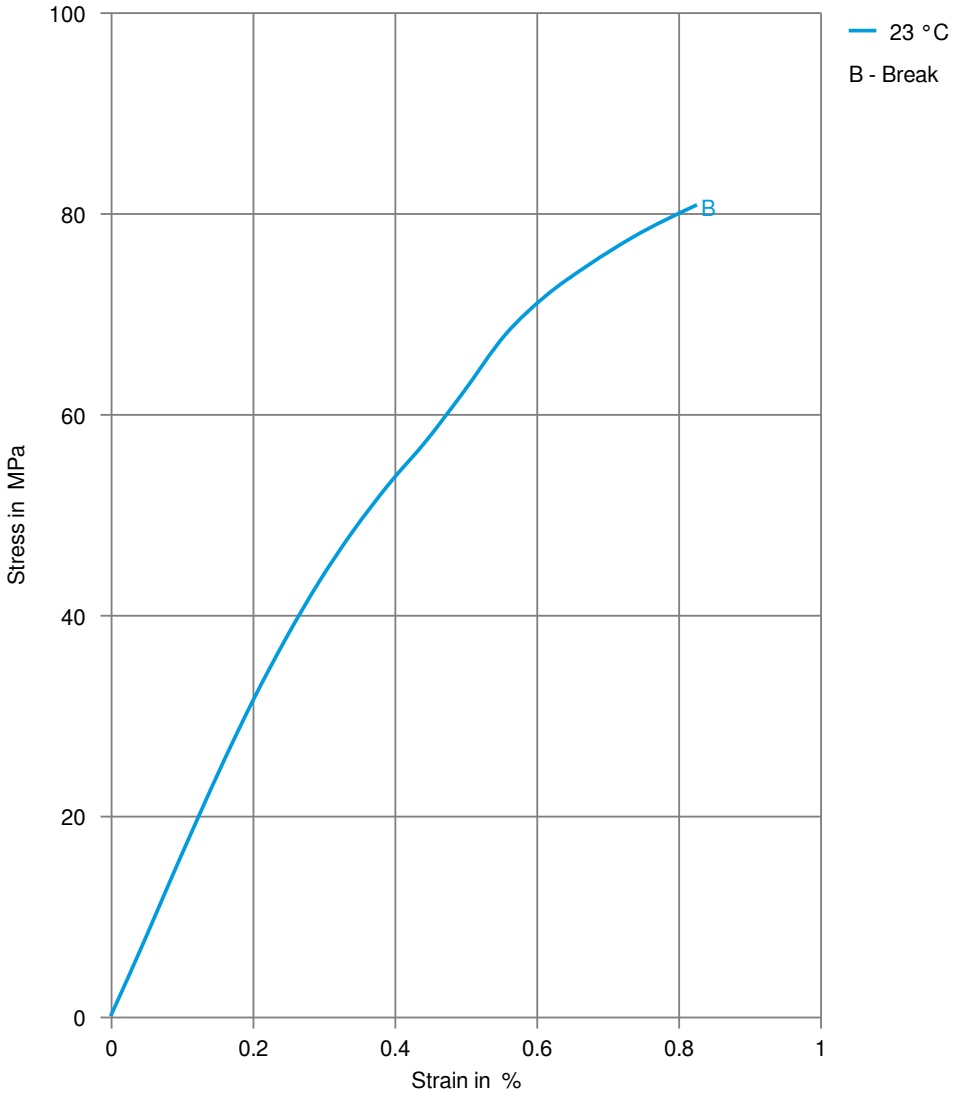
Stress-strain



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