Celanese
The chemistry inside innovation™

ZENITE® SEA30B

Liquid Crystal Polymer

Zenite® SEA30B is a 40% mineral filled grade. This grade offers excellent surface appearance, low warpage, and excellent dimensional stability. Application for this grade is compact camera module, and other thin, small electronic parts

Product information

Resin Identification	LCP-MD40		ISO 1043
Part Marking Code	>LCP-MD40<		ISO 11469

Rheological properties

Moulding shrinkage, parallel	0.3	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.9	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	7000	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	100	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	4.6	%	ISO 527-1/-2
Flexural modulus	7000	MPa	ISO 178
Flexural strength	100	MPa	ISO 178
Charpy notched impact strength, 23°C	7	kJ/m²	ISO 179/1eA
Poisson's ratio	0.35[C]		

[C]: Calculated

Thermal properties

Melting temperature, 10°C/min	330	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	220	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	262	°C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	19[1]	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	93[1]	E-6/K	ISO 11359-1/-2
Thermal conductivity, flow	1.46	W/(m K)	ISO 22007-2
Thermal conductivity, crossflow	0.64	W/(m K)	ISO 22007-2
Thermal conductivity, through plane	0.48	W/(m K)	ISO 22007-2
Effective thermal diffusivity, flow	0.000001	m²/s	ISO 22007-4
Effective thermal diffusivity, crossflow	3.1E-7	m²/s	ISO 22007-4
Effective thermal diffusivity, through plane	2.3E-7	m²/s	ISO 22007-4
Specific heat capacity of melt	1.11	J/(kg K)	ISO 22007-4

[1]: Temperature range: 20°C to 180°C

Electrical properties

Volume resistivity	2.5E16	Ohm.m	IEC 62631-3-1
Surface resistivity	3.8E14	Ohm	IEC 62631-3-2

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Physical/Other properties

Density	1850	kg/m³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	150	°C
Drying Time, Dehumidified Dryer	4 - 6	h
Processing Moisture Content	≤0.01	%
Melt Temperature Optimum	335	°C
Min. melt temperature	335	°C
Max. melt temperature	345	°C
Screw tangential speed	0.2 - 0.3	m/s
Mold Temperature Optimum	120	°C
Min. mould temperature	100	°C
Max. mould temperature	140	°C
Ejection temperature	230	°C

Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Additives	Mineral Filler
Special characteristics	Flame retardant, Heat stabilised or stable to heat, Specialty appearance, High Flow, Low Warpage

Additional information

Processing Notes

Pre-Drying

Please allow time for resin to reach drying temperature. Insure filter element is clean and there is sufficient air flow (>1 ft/sec. space velocity) across surface of pellets. Extended drying at 300°F (150°C) up to 24 hours will not harm resin. Hopper dryers with dual desiccant cartridges (one active while the other is regenerating) are highly recommended.

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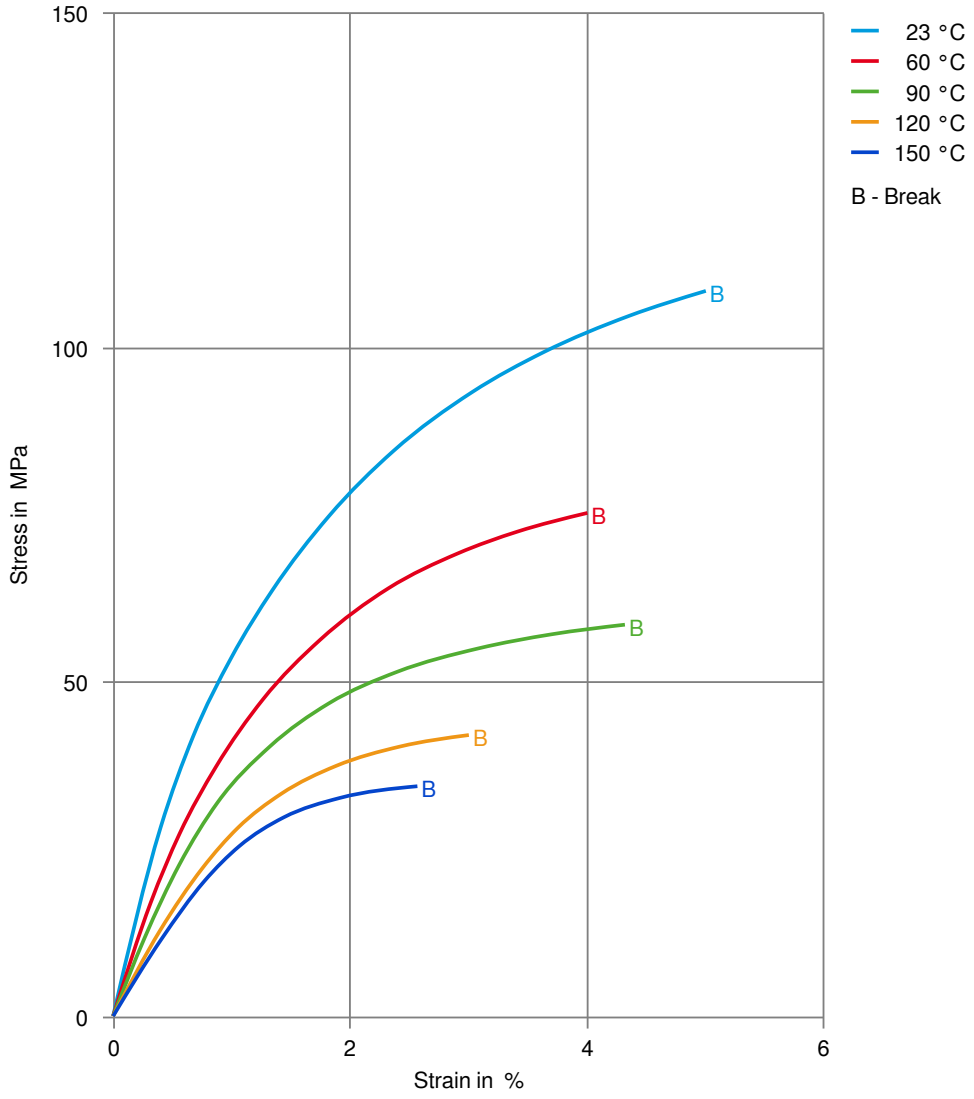
Stress-strain



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Secant modulus-strain