Celanese
The chemistry inside innovation™

ZENITE® 251

Liquid Crystal Polymer

This LCP is designed for low dielectric constant (Dk), excellent flow characteristics & mechanical strength and high temperature resistance. For use in injection molded electronics applications for thin walls.

Product information

Resin Identification	LCP-(GB+GF)28	ISO 1043
Part Marking Code	>LCP-(GB+GF)28<	ISO 11469

Rheological properties

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

Typical mechanical properties

Tensile modulus	7400	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	100	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.9	%	ISO 527-1/-2
Flexural modulus	7000	MPa	ISO 178
Flexural strength	140	MPa	ISO 178
Charpy impact strength, 23°C	6.3	kJ/m²	ISO 179/1eU
Poisson's ratio	0.35[C]		

[C]: Calculated

Thermal properties

Melting temperature, 10°C/min	350	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	290	°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	50	E-6/K	ISO 11359-1/-2

Flammability

Burning Behav. at 1.5mm nom. thickn.	V-0	class	IEC 60695-11-10

Electrical properties

Relative permittivity, 1MHz	2.7		IEC 62631-2-1
Dissipation factor, 1MHz	70	E-4	IEC 62631-2-1
Arc Resistance	127	s	UL 746B
Dielectric Constant, 23°C, 10 GHz	3		ASTM D 2520 B / IPC-TM-650
Dissipation Factor, 23°C, 10 GHz	0.0029	E-4	ASTM D 2520 B / IPC-TM-650

Injection

Drying Recommended	yes	
Drying Temperature	150	°C
Drying Time, Dehumidified Dryer	4 - 6	h
Processing Moisture Content	≤0.01	%
Melt Temperature Optimum	375	°C

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Min. melt temperature	370 °C
Max. melt temperature	380 °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	319 °C

Characteristics

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