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

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

Typical mechanical properties

Tensile modulus	1.07E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	14500	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.9	%	ISO 527-1/-2
Flexural modulus	1.02E6	psi	ISO 178
Flexural strength	20200	psi	ISO 178
Charpy impact strength, 23°C	3	ftlb/in²	ISO 179/1eU

Thermal properties

Melting temperature, 10°C/min	662	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	554	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.08	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.278	E-4/°F	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	29	E-4	ASTM D 2520 B / IPC-TM-650

Physical/Other properties

Density	0.0443	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	707	°F
Min. melt temperature	698	°F
Max. melt temperature	716	°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
Ejection temperature	606	°F

Characteristics

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

Revised: 2025-07-16 Source: Celanese Materials Database

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