

ZENITE® ZE55201 - LCP

Description

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.

Physical properties	Value	Unit	Test Standard
Density	115	lb/ft³	ISO 1183

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	2.29E6	psi	ISO 527-2/1A
Tensile stress at break, 5mm/min	12800	psi	ISO 527-2/1A
Tensile strain at break, 5mm/min	1.4	%	ISO 527-2/1A
Flexural modulus, 23°C	1.81E6	psi	ISO 178
Flexural strength, 23°C	23900	psi	ISO 178
Charpy notched impact strength, 23°C	1.71	ft-lb/in²	ISO 179/1eA
Compressive stress at 1% strain	3090	psi	ISO 604

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	635	°F	ISO 11357-1/-3
DTUL at 1.8 MPa	554	°F	ISO 75-1, -2
DTUL at 0.45 MPa	572	°F	ISO 75-1, -2
Coeff. of linear therm expansion, parallel	0.0833	E-4/°F	ISO 11359-2
Coeff. of linear therm expansion, normal	0.15	E-4/°F	ISO 11359-2
Limiting oxygen index (LOI)	41	%	ISO 4589-1/-2
Flammability @1.6mm nom. thickn.	V-0	class	UL 94
thickness tested (1.6)	0.1	in	UL 94
UL recognition (1.6)	UL	-	UL 94
Flammability at thickness h	V-0	class	UL 94
thickness tested (h)	0.0315	in	UL 94
UL recognition (h)	UL	-	UL 94

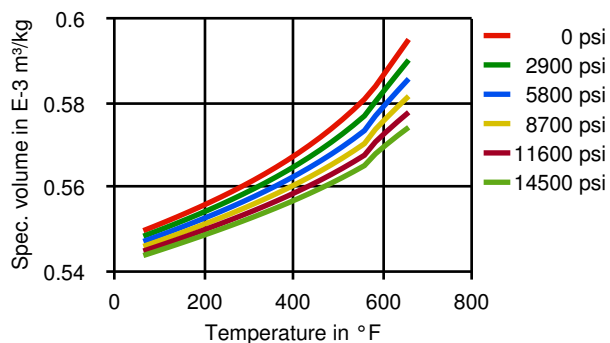
Electrical properties	Value	Unit	Test Standard
Relative permittivity, 1MHz	4	-	IEC 60250
Dissipation factor, 100Hz	310	E-4	IEC 60250
Dissipation factor, 1MHz	310	E-4	IEC 60250
Volume resistivity	>1E13	Ohm*m	IEC 60093
Surface resistivity	>1E15	Ohm	IEC 60093
Electric strength	940	kV/in	IEC 60243-1
Comparative tracking index	175	-	IEC 60112

Rheological calculation properties	Value	Unit	Test Standard
Density of melt	101	lb/ft³	Internal
Thermal conductivity of melt	0.4	W/(m K)	Internal
Spec. heat capacity melt	1500	J/(kg K)	Internal
Ejection temperature	518	°F	Internal

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Diagrams

Moldflow Specific volume-temperature (pvT)



Typical injection moulding processing conditions

	Value	Unit	Test Standard
Pre Drying			
Necessary low maximum residual moisture content	0.01	%	-
Drying time	3	h	-
Drying temperature	≥302	°F	-
Temperature			
	Value	Unit	Test Standard
Hopper temperature	68 - 86	°F	-
Feeding zone temperature	104 - 140	°F	-
Zone1 temperature	608 - 626	°F	-
Zone2 temperature	635 - 653	°F	-
Zone3 temperature	635 - 653	°F	-
Zone4 temperature	635 - 653	°F	-
Nozzle temperature	635 - 653	°F	-
Melt temperature	626 - 662	°F	-
Mold temperature	176 - 248	°F	-
Pressure			
	Value	Unit	Test Standard
Injection pressure	500 - 1500	bar	-
Hold pressure	500 - 1500	bar	-
Back pressure max.	30	bar	-

Other text information

Injection molding

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

Characteristics

Product Categories

Mineral/Glass reinforced