Celanese
The chemistry inside innovation™

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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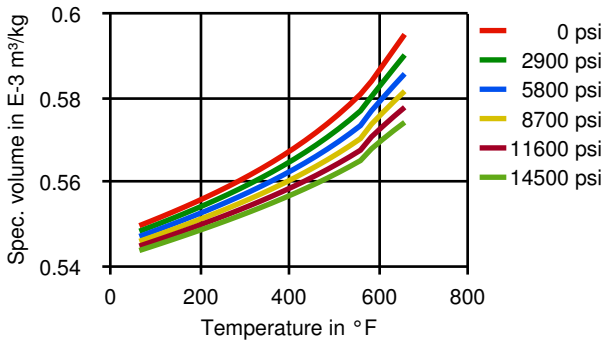
Diagrams

Moldflow Specific volume-temperature (pvT)



Typical injection moulding processing conditions

Pre Drying	Value	Unit	Test Standard
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