ZENITE® ZE55201 | LCP | Mineral / Glass Reinforced

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	**1850**	kg/m³	ISO 1183

Mechanical properties	Value	Unit	Test Standard
Tensile modulus (1mm/min)	**15800**	MPa	ISO 527-2/1A
Tensile stress at break (5mm/min)	**88**	MPa	ISO 527-2/1A
Tensile strain at break (5mm/min)	**1.4**	%	ISO 527-2/1A
Flexural modulus (23°C)	**12500**	MPa	ISO 178
Flexural strength (23°C)	**165**	MPa	ISO 178
Compressive stress @ 1% strain	**21.3**	MPa	ISO 604
Charpy notched impact strength @ 23°C	**3.6**	kJ/m²	ISO 179/1eA

Thermal properties	Value	Unit	Test Standard
Melting temperature (10°C/min)	**335**	°C	ISO 11357-1,-2,-3
DTUL @ 1.8 MPa	**290**	°C	ISO 75-1/-2
DTUL @ 0.45 MPa	**300**	°C	ISO 75-1/-2
Coeff.of linear therm. expansion (parallel)	**0.15**	E-4/°C	ISO 11359-2
Coeff.of linear therm. expansion (normal)	**0.27**	E-4/°C	ISO 11359-2
Limiting oxygen index (LOI)	**41.0**	%	ISO 4589
Flammability @1.6mm nom. thickn.	**V-0**	class	UL94
thickness tested (1.6)	**1.5**	mm	UL94
UL recognition (1.6)	**UL**	-	UL94
Flammability at thickness h	**V-0**	class	UL94
thickness tested (h)	**0.8**	mm	UL94
UL recognition (h)	**UL**	-	UL94

Electrical properties	Value	Unit	Test Standard
Relative permittivity - 1 MHz	**4**	-	IEC 60250
Dissipation factor - 100 Hz	**310**	E-4	IEC 60250
Dissipation factor - 1 MHz	**310**	E-4	IEC 60250
Volume resistivity	**>1E13**	Ohm*m	IEC 60093
Surface resistivity	**>1E15**	Ohm	IEC 60093
Electric strength	**37**	kV/mm	IEC 60243-1
Comparative tracking index CTI	**175**	-	IEC 60112

Rheological Calculation properties	Value	Unit	Test Standard
Density of melt	**1620**	kg/m³	Internal
Thermal conductivity of melt	**0.4**	W/(m K)	Internal
Specific heat capacity of melt	**1500**	J/(kg K)	Internal
Ejection temperature	**270**	°C	Internal

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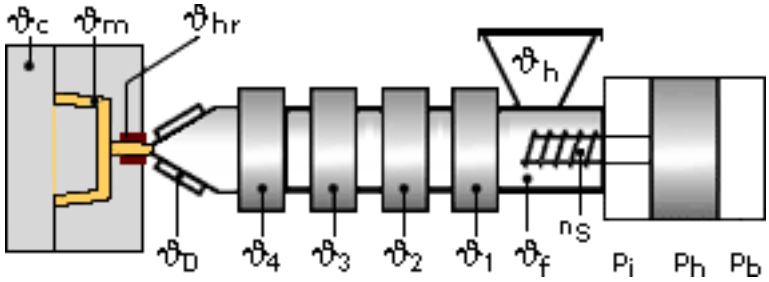
Typical injection moulding processing conditions



Pre Drying:

Necessary low maximum residual moisture content: 0.01%

Drying time: 3 h

Drying temperature: 150 - - °C

Temperature:

	ϑMold	ϑMelt	ϑNozzle	ϑZone4	ϑZone3	ϑZone2	ϑZone1	ϑFeed	ϑHopper
min (°C)	80	330	335	335	335	335	320	40	20
max (°C)	120	350	345	345	345	345	330	60	30

Pressure:

	Inj press	Hold press	Back pressure
min (bar)	500	500	0
max (bar)	1500	1500	30

Injection Molding

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