

ZENITE® 7145L | LCP | Glass Reinforced

Description

Zenite® 7145L is a 45% glass fiber reinforced and lubricated liquid crystal polymer for injection molding. It has excellent impact resistance and high heat deflection temperature.

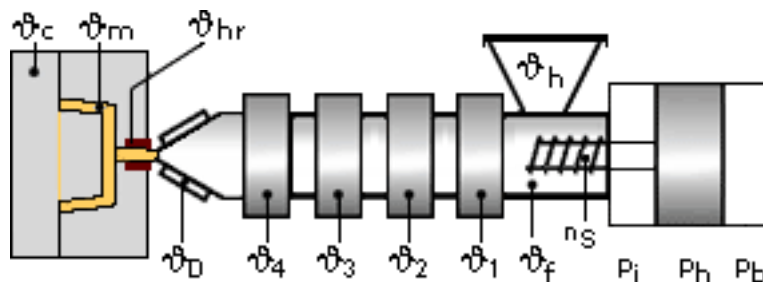
Physical properties	Value	Unit	Test Standard
Density	1740	kg/m ³	ISO 1183
Mold shrinkage - parallel	0.05	%	ISO 294-4
Mold shrinkage - normal	0.5	%	ISO 294-4
Mechanical properties	Value	Unit	Test Standard
Tensile modulus (1mm/min)	18000	MPa	ISO 527-2/1A
Tensile stress at break (5mm/min)	120	MPa	ISO 527-2/1A
Tensile strain at break (5mm/min)	0.9	%	ISO 527-2/1A
Flexural modulus (23°C)	17800	MPa	ISO 178
Flexural strength (23°C)	180	MPa	ISO 178
Charpy impact strength @ 23°C	18.0	kJ/m ²	ISO 179/1eU
Charpy impact strength @ -30°C	13.0	kJ/m ²	ISO 179/1eU
Charpy notched impact strength @ 23°C	10.0	kJ/m ²	ISO 179/1eA
Charpy notched impact strength @ -30°C	10.0	kJ/m ²	ISO 179/1eA
Rockwell hardness	58	M-Scale	ISO 2039-2
Thermal properties	Value	Unit	Test Standard
Melting temperature (10°C/min)	355	°C	ISO 11357-1,-2,-3
DTUL @ 1.8 MPa	295	°C	ISO 75-1/-2
Coeff.of linear therm. expansion (parallel)	0.07	E-4/°C	ISO 11359-2
Coeff.of linear therm. expansion (normal)	0.24	E-4/°C	ISO 11359-2
Limiting oxygen index (LOI)	45.0	%	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)	1.5	mm	UL94
UL recognition (h)	UL	-	UL94
Electrical properties	Value	Unit	Test Standard
Relative permittivity - 100 Hz	4.8	-	IEC 60250
Relative permittivity - 1 MHz	4.4	-	IEC 60250
Dissipation factor - 100 Hz	130	E-4	IEC 60250
Dissipation factor - 1 MHz	240	E-4	IEC 60250
Volume resistivity	>1E13	Ohm*m	IEC 60093
Surface resistivity	>1E15	Ohm	IEC 60093
Electric strength	36	kV/mm	IEC 60243-1
Comparative tracking index CTI	200	-	IEC 60112
Rheological Calculation properties	Value	Unit	Test Standard
Density of melt	1450	kg/m ³	Internal
Thermal conductivity of melt	0.32	W/(m K)	Internal
Specific heat capacity of melt	1500	J/(kg K)	Internal

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Rheological Calculation properties

	Value	Unit	Test Standard
Ejection temperature	275	°C	Internal

Typical injection moulding processing conditions



Pre Drying:

Necessary low maximum residual moisture content: 0.01%

Drying time: 3 h

Drying temperature: 150 - - °C

Temperature:

	T _{Mold}	T _{Melt}	T _{Nozzle}	T _{Zone4}	T _{Zone3}	T _{Zone2}	T _{Zone1}	T _{Feed}	T _{Hopper}
min (°C)	80	360	360	360	360	360	355	40	20
max (°C)	120	370	370	370	370	370	365	60	30

Pressure:

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

Injection Molding

Melt Temperature Optimum = 365°C
Melt Temperature Range = 360-370°C
Mold Temperature Optimum = 80°C
Mold Temperature Range = 40-150°C

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