ZENITE® 5145L | LCP | Glass Reinforced

Description

Zenite® 5145L is a 45% glass fiber reinforced and toughened liquid crystal polymer for injection molding. It has improved toughness.

Physical properties	Value	Unit	Test Standard
Density	**1750**	kg/m³	ISO 1183
Mold shrinkage - parallel	**0.09**	%	ISO 294-4
Mold shrinkage - normal	**0.5**	%	ISO 294-4

Mechanical properties	Value	Unit	Test Standard
Tensile modulus (1mm/min)	**15000**	MPa	ISO 527-2/1A
Tensile stress at break (5mm/min)	**115**	MPa	ISO 527-2/1A
Tensile strain at break (5mm/min)	**3.1**	%	ISO 527-2/1A
Flexural modulus (23°C)	**11000**	MPa	ISO 178
Flexural strength (23°C)	**190**	MPa	ISO 178
Compressive strength	**71**	MPa	ISO 604
Compressive stress @ 1% strain	**21.3**	MPa	ISO 604

Thermal properties	Value	Unit	Test Standard
Melting temperature (10°C/min)	**319**	°C	ISO 11357-1,-2,-3
DTUL @ 1.8 MPa	**290**	°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)	**0.6**	E-4/°C	ISO 11359-2
Limiting oxygen index (LOI)	**33.0**	%	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	**3.9**	-	IEC 60250
Dissipation factor - 1 MHz	**180**	E-4	IEC 60250
Volume resistivity	**1E13**	Ohm*m	IEC 60093
Surface resistivity	**1E15**	Ohm	IEC 60093
Electric strength	**45**	kV/mm	IEC 60243-1
Comparative tracking index CTI	**175**	-	IEC 60112

Rheological Calculation properties	Value	Unit	Test Standard
Density of melt	**1480**	kg/m³	Internal
Thermal conductivity of melt	**0.35**	W/(m K)	Internal
Specific heat capacity of melt	**1500**	J/(kg K)	Internal
Ejection temperature	**265**	°C	Internal

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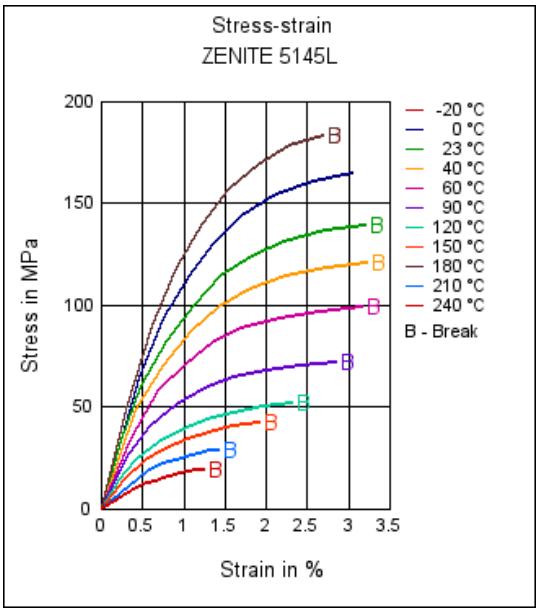
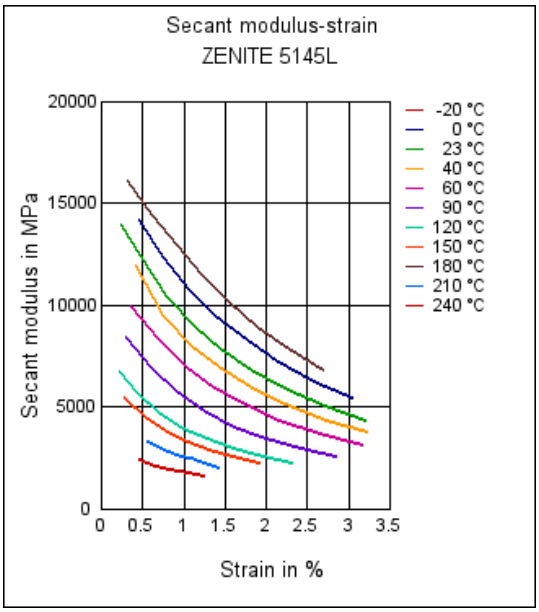
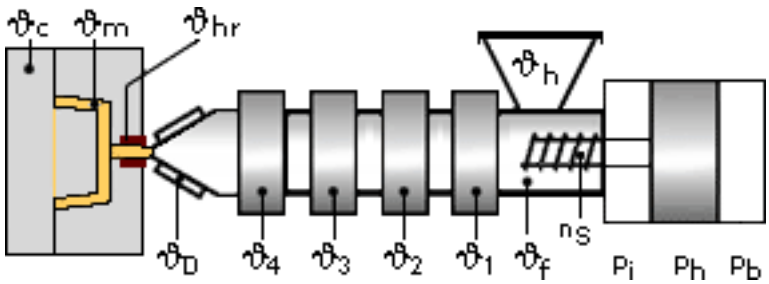
Stress-strain



Secant modulus-strain



Typical injection moulding processing conditions



Pre Drying:

Necessary low maximum residual moisture content: 0.01%

Drying time: 3 h

Drying temperature: 150 - 150 °C

Temperature:

	ϑMold	ϑMelt	ϑNozzle	ϑZone4	ϑZone3	ϑZone2	ϑZone1	ϑFeed	ϑHopper
min (°C)	80	325	335	335	335	335	320	40	20
max (°C)	120	345	345	345	345	345	330	60	30

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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 Optimum = 335°C
Melt Temperature Range = 325-345°C
Mold Temperature Optimum = 80°C
Mold Temperature Range = 40-150°C
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Contact Information

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