

ZENITE® 5145L | LCP | Glass Reinforced

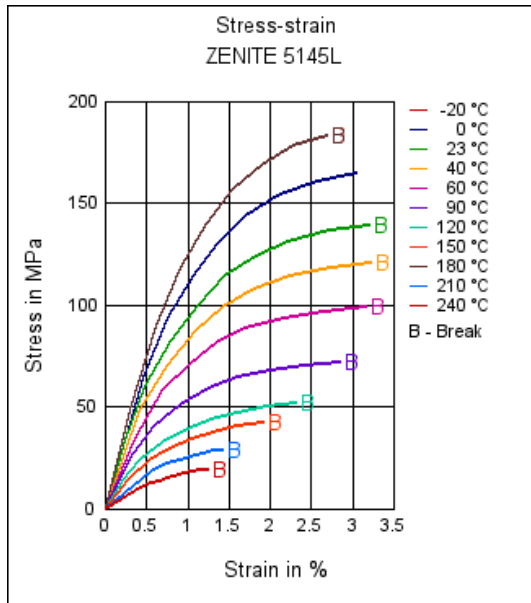
Description

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

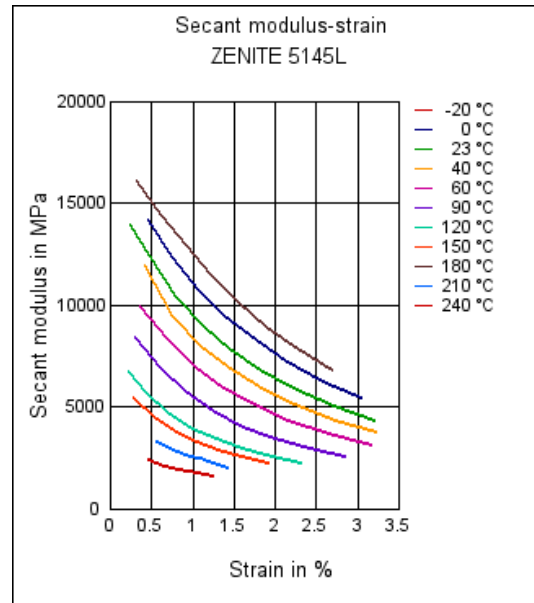
Physical properties	Value	Unit	Test Standard
Density	1750	kg/m ³	ISO 1183
Mold shrinkage - parallel	0.09	%	ISO 294-4
Mold shrinkage - normal	0.5	%	ISO 294-4
Mechanical properties	Value	Unit	Test Standard
Tensile modulus (1mm/min)	15000	MPa	ISO 527-2/1A
Tensile stress at break (5mm/min)	115	MPa	ISO 527-2/1A
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/m ³	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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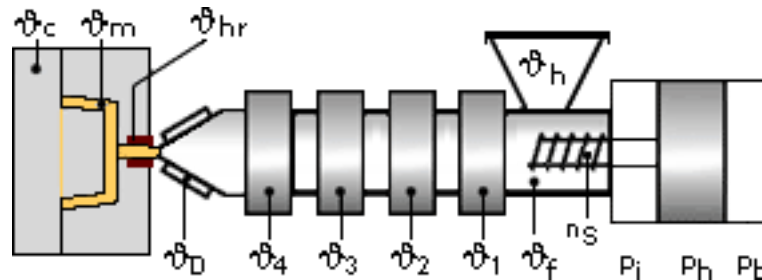
Stress-strain



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:

	ϑ _{Mold}	ϑ _{Melt}	ϑ _{Nozzle}	ϑ _{Zone4}	ϑ _{Zone3}	ϑ _{Zone2}	ϑ _{Zone1}	ϑ _{Feed}	ϑ _{Hopper}
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

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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