

ZENITE® LKX1726 - LCP

Experimental Grade. Please contact your Celanese representative for further information.

Description

Experimental grade with excellent electrical properties at high frequencies

Physical properties	Value	Unit	Test Standard
Density	93.6	lb/ft³	ISO 1183
Molding shrinkage, parallel	0	%	ISO 294-4, 2577
Molding shrinkage, normal	0.7	%	ISO 294-4, 2577

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	1.02E6	psi	ISO 527-2/1A
Tensile stress at break, 5mm/min	22600	psi	ISO 527-2/1A
Tensile strain at break, 5mm/min	6.2	%	ISO 527-2/1A
Flexural modulus, 23°C	1.03E6	psi	ISO 178
Flexural strength, 23°C	18100	psi	ISO 178
Charpy impact strength, 23°C	40.9	ft-lb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	13.3	ft-lb/in²	ISO 179/1eA
Izod impact notched, 23°C	16.2	ft-lb/in²	ISO 180/1A
Izod impact unnotched, 23°C	31.9	ft-lb/in²	ISO 180/1U
Compressive modulus	870000	psi	ISO 604
Compressive stress at 1% strain	5510	psi	ISO 604
Rockwell hardness (M-Scale)	55	M-Scale	ISO 2039-2

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	536	°F	ISO 11357-1/-3
DTUL at 1.8 MPa	329	°F	ISO 75-1, -2
DTUL at 0.45 MPa	441	°F	ISO 75-1, -2
DTUL at 8.0 MPa	192	°F	ISO 75-1, -2
Vicat softening temperature, 50°C/h 50N	280	°F	ISO 306
Coeff. of linear therm expansion, parallel	0.00556	E-4/°F	ISO 11359-2
Coeff. of linear therm expansion, normal	0.256	E-4/°F	ISO 11359-2
Flammability at thickness h	V-0	class	UL 94

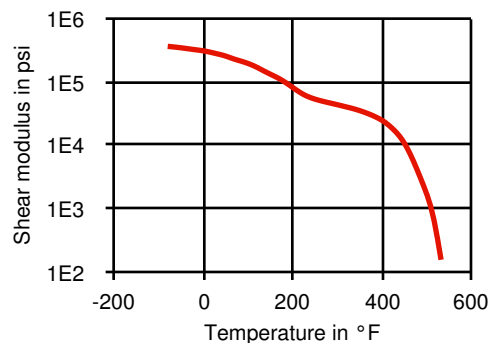
Electrical properties	Value	Unit	Test Standard
Relative permittivity, 100Hz	3.3	-	IEC 60250
Relative permittivity, 1MHz	2.7	-	IEC 60250
Dissipation factor, 100Hz	300	E-4	IEC 60250
Dissipation factor, 1MHz	160	E-4	IEC 60250
Volume resistivity	1E13	Ohm*m	IEC 60093
Surface resistivity	1E15	Ohm	IEC 60093
Electric strength	914	kV/in	IEC 60243-1
Comparative tracking index	225	-	IEC 60112
Arc resistance	130	s	Internal

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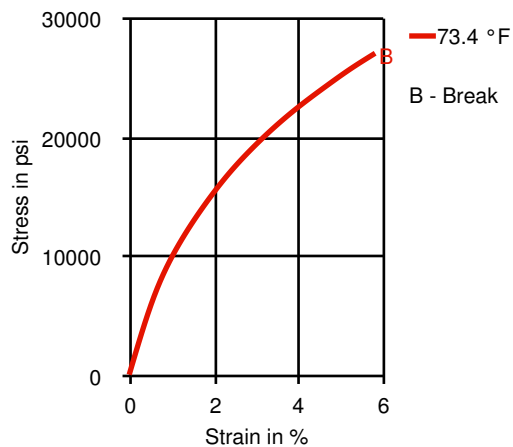
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Diagrams

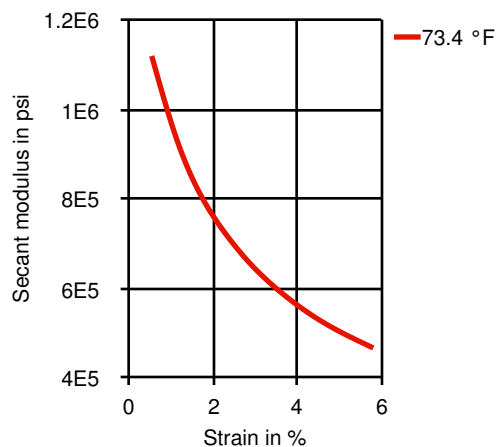
Dynamic Shear modulus-temperature



Stress-strain



Secant modulus-strain



Typical injection moulding processing conditions

Pre Drying	Value	Unit	Test Standard
Necessary low maximum residual moisture content	0.01	%	-
Drying time	4 - 6	h	-
Drying temperature	302	°F	-
Temperature	Value	Unit	Test Standard
Hopper temperature	68 - 86	°F	-
Feeding zone temperature	140 - 176	°F	-
Zone1 temperature	518 - 536	°F	-
Zone2 temperature	527 - 545	°F	-
Zone3 temperature	536 - 554	°F	-
Zone4 temperature	545 - 563	°F	-
Nozzle temperature	554 - 572	°F	-
Melt temperature	545 - 563	°F	-
Mold temperature	176 - 248	°F	-
Hot runner temperature	545 - 563	°F	-
Pressure	Value	Unit	Test Standard
Injection pressure	500 - 1500	bar	-
Hold pressure	500 - 1500	bar	-
Back pressure max.	30	bar	-

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Speed	Value	Unit	Test Standard
Injection speed	very fast	-	-
Screw Speed	Value	Unit	Test Standard
Screw speed diameter, 16mm	200	RPM	-
Screw speed diameter, 25mm	140	RPM	-
Screw speed diameter, 40mm	80	RPM	-

Other text information

Pre-drying

VECTRA should in principle be predried. Because of the necessary low maximum residual moisture content the use of dry air dryers is recommended. The dew point should be $\leq -40^{\circ}\text{C}$. The time between drying and processing should be as short as possible.

Longer pre-drying times/storage

For subsequent storage of the material in the dryer until processed the temperature does not need to be lowered for grades A, B, C, D and V ($\leq 24\text{ h}$).

Injection molding

A three-zone screw evenly divided into feed, compression, and metering zones is preferred. A higher percentage of feed flights may be needed for smaller machines: 1/2 feed, 1/4 compression, 1/4 metering.

Vectra LCPs are shear thinning, their melt viscosity decreases quickly as shear rate increases. For parts that are difficult to fill, the molder can increase the injection velocity to improve melt flow.

Characteristics

Special Characteristics

Flame retardant, Light stabilized

Processing

Injection molding

Product Categories

Specialty

Delivery Form

Pellets