Celanese
The chemistry inside innovation™

ZENITE® ZE88410NXL - LCP

Description

40% glass reinforced, high weld-line strength, low warpage and with added lubricity. Chemical abbreviation according to ISO 1043-1 : LCP

Physical properties	Value	Unit	Test Standard
Density	**104**	lb/ft³	ISO 1183
Molding shrinkage, parallel	**0.3**	%	ISO 294-4, 2577
Molding shrinkage, normal	**0.6**	%	ISO 294-4, 2577

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	**2.31E6**	psi	ISO 527-2/1A
Tensile stress at break, 5mm/min	**18900**	psi	ISO 527-2/1A
Tensile strain at break, 5mm/min	**1**	%	ISO 527-2/1A
Flexural modulus, 23°C	**2.29E6**	psi	ISO 178
Flexural strength, 23°C	**29000**	psi	ISO 178
Izod impact notched, 23°C	**3.81**	ft-lb/in²	ISO 180/1A

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	**622**	°F	ISO 11357-1/-3
DTUL at 1.8 MPa	**505**	°F	ISO 75-1, -2
Vicat softening temperature, 50°C/h 50N	**462**	°F	ISO 306
Coeff. of linear therm expansion, parallel	**0.0667**	E-4/°F	ISO 11359-2
Coeff. of linear therm expansion, normal	**0.456**	E-4/°F	ISO 11359-2
Flammability at thickness h	**V-0**	class	UL 94
thickness tested (h)	**0.0098**	in	UL 94

Electrical properties	Value	Unit	Test Standard
Surface resistivity	**1E17**	Ohm	IEC 60093
Electric strength	**838**	kV/in	IEC 60243-1

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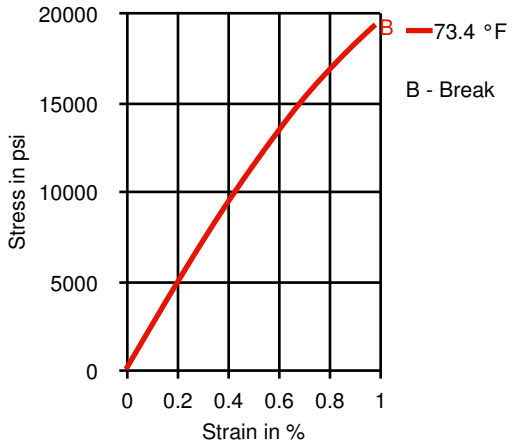
Diagrams

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 - 24**	h	-
Drying temperature	**302**	°F	-
Temperature	**Value**	**Unit**	**Test Standard**
Hopper temperature	**68 - 86**	°F	-
Feeding zone temperature	**140 - 176**	°F	-
Zone1 temperature	**599 - 617**	°F	-
Zone2 temperature	**617 - 635**	°F	-
Zone3 temperature	**626 - 644**	°F	-
Zone4 temperature	**635 - 653**	°F	-
Nozzle temperature	**635 - 653**	°F	-
Melt temperature	**635 - 653**	°F	-
Mold temperature	**212 - 266**	°F	-
Hot runner temperature	**635 - 653**	°F	-
Pressure	**Value**	**Unit**	**Test Standard**
Injection pressure	**500 - 1500**	bar	-
Hold pressure	**500 - 1500**	bar	-
Back pressure max.	**30**	bar	-
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

LCP 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 =< - 40° 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 (<= 24 h).