Celanese
The chemistry inside innovation™

VECTRA® E115I

Liquid Crystal Polymer

15% glass reinforced Chemical abbreviation according to ISO 1043-1 : LCP Inherently flame retardant. UL-Listing V-0 black at 0.75mm thickness per UL 94 flame testing. UL = Underwriters Laboratories (USA)

Product information

Resin Identification	LCP-GF15		ISO 1043
Part Marking Code	>LCP-GF15<		ISO 11469

Typical mechanical properties

Tensile modulus	1.89E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	23200	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	2	%	ISO 527-1/-2
Flexural modulus	1.89E6	psi	ISO 178
Flexural strength	29000	psi	ISO 178
Charpy notched impact strength, 23°C	31.4	ftlb/in²	ISO 179/1eA
Izod notched impact strength, 23°C	19	ftlb/in²	ISO 180/1A
Izod impact strength, 23°C	48	ftlb/in²	ISO 180/1U
Hardness, Rockwell, M-scale	43		ISO 2039-2

Thermal properties

Melting temperature, 10°C/min	635	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	500	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	568	°F	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	396	°F	ISO 306

Flammability

Burning Behav. at thickness h	V-0	class	IEC 60695-11-10
Thickness tested	0.0295	in	IEC 60695-11-10
UL recognition	yes		UL 94

Electrical properties

Relative permittivity, 1000Hz	3.79[OT]		IEC 62631-2-1
Relative permittivity, 1MHz	3.4[OT]		IEC 62631-2-1
Relative permittivity, 1GHz	3.87[OT]		IEC 61189-2-721
Relative permittivity, 2GHz	3.9[OT]		IEC 61189-2-721
Relative permittivity, 10GHz	3.9[OT]		IEC 61189-2-721
Dissipation factor, 1000Hz	0[OT]	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	340[OT]	E-4	IEC 62631-2-1
Dissipation factor, 1GHz	55[OT]	E-4	IEC 61189-2-721
Dissipation factor, 2GHz	60[OT]	E-4	IEC 61189-2-721
Dissipation factor, 10GHz	55[OT]	E-4	IEC 61189-2-721
Volume resistivity	1E14	Ohm.m	IEC 62631-3-1
Surface resistivity	>1E15	Ohm	IEC 62631-3-2
Electric strength	838	kV/in	IEC 60243-1

[OT]: One time tested

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Physical/Other properties

Density	0.0527	lb/in³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	302	°F
Drying Time, Dehumidified Dryer	4 - 6	h
Processing Moisture Content	≤0.01	%
Melt Temperature Optimum	644	°F
Min. melt temperature	635	°F
Max. melt temperature	653	°F
Max. screw tangential speed	0.2 - 0.3	m/s
Mold Temperature Optimum	212	°F
Min. mold temperature	176	°F
Max. mold temperature	248	°F
Back pressure	435	psi
Ejection temperature	518	°F

Characteristics

Processing	Injection Molding
Special characteristics	Flame retardant, Heat stabilized or stable to heat, High Flow, Lead-free soldering resistant

Additional information

Processing Notes

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 =< - 40° C. The time between drying and processing should be as short as possible.

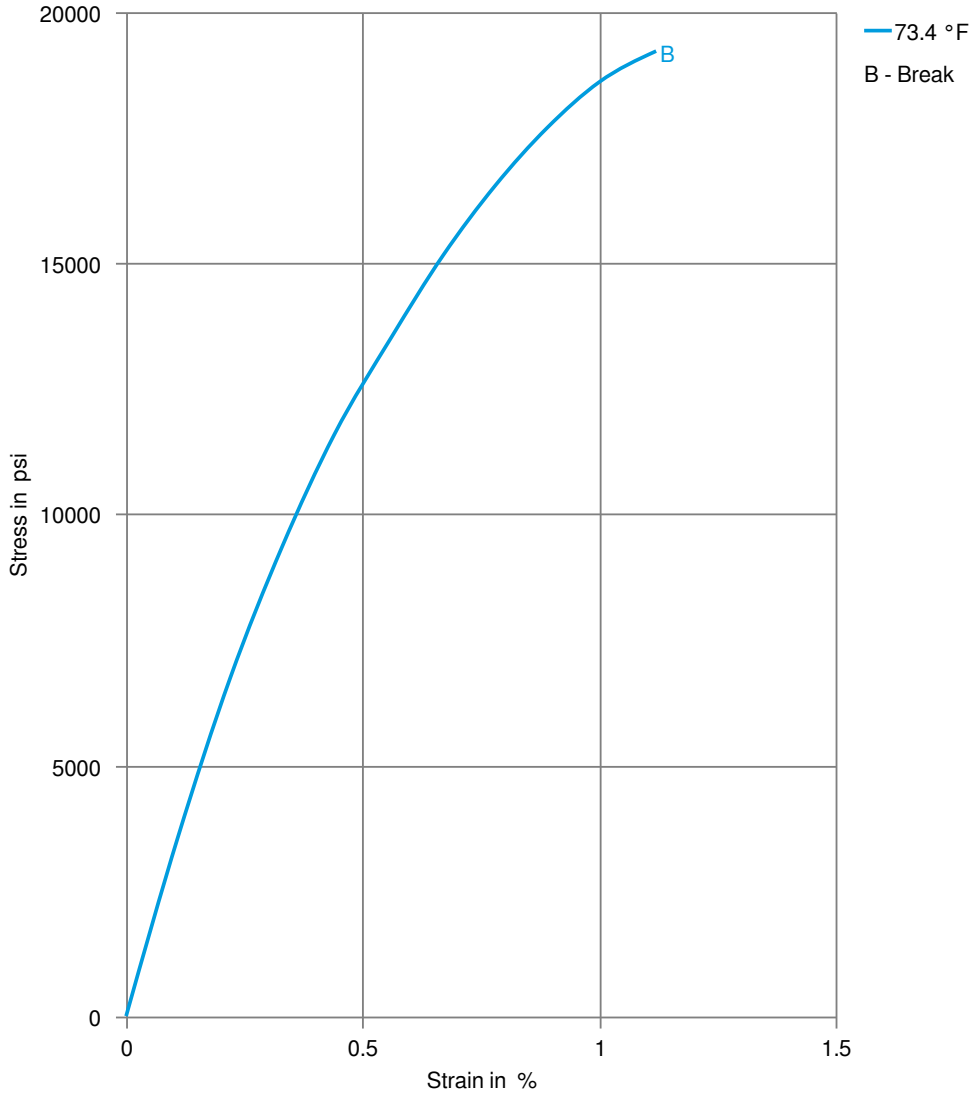
Storage

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).

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Stress-strain

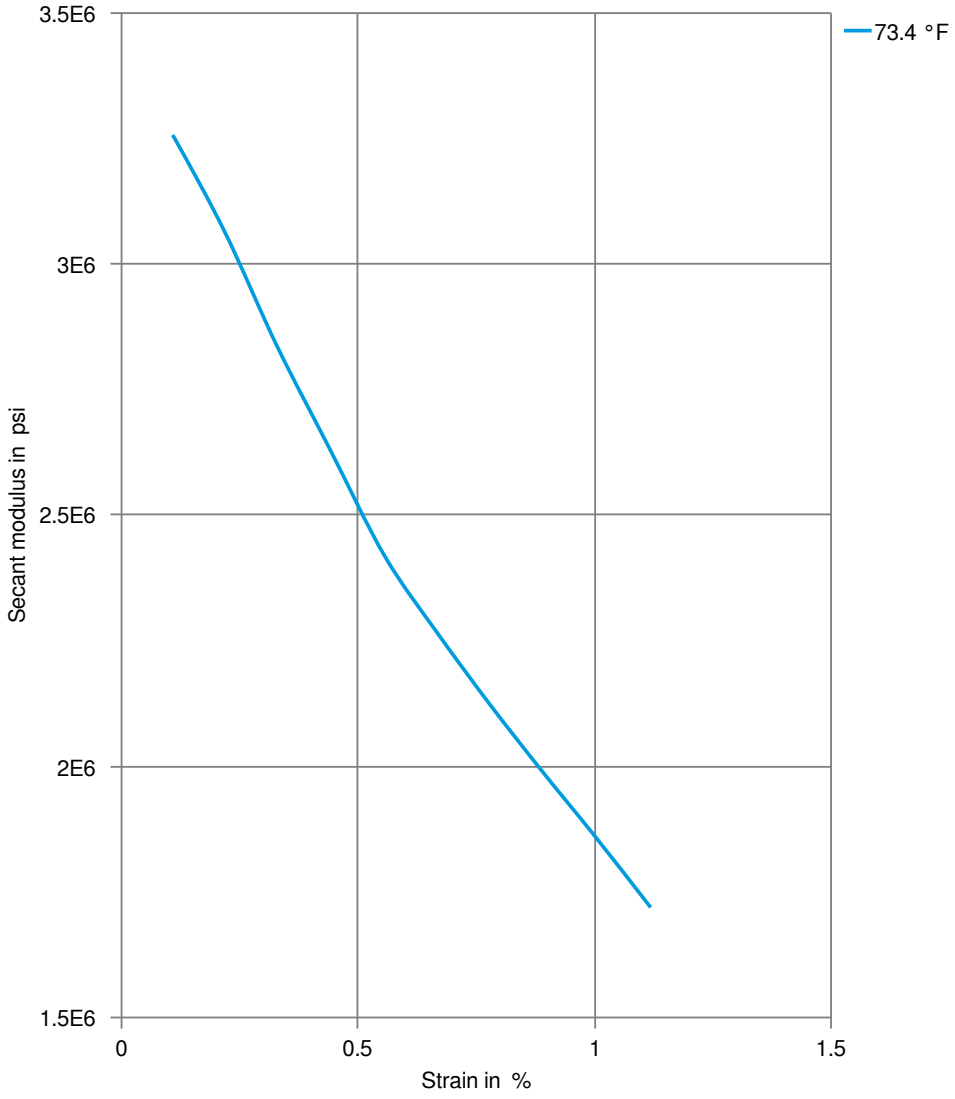


Revised: 2025-10-13 Source: Celanese Materials Database

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Liquid Crystal Polymer

Secant modulus-strain



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