Celanese
The chemistry inside innovation™

VECTRA® B230

Liquid Crystal Polymer

Exceptional strength and stiffness. Suitable for metal replacement applications. Electrically conductive. 30% carbon fiber reinforced.

Chemical abbreviation according to ISO 1043-1 : LCP Inherently flame retardant

UL-Listing V-0 at 0.46mm thickness per UL 94 flame testing. Relative-Temperature-Index (RTI) according to UL 746B: electrical 130°C, mechanical 130°C. UL = Underwriters Laboratories (USA)

Product information

Resin Identification	LCP-CF30		ISO 1043
Part Marking Code	>LCP-CF30<		ISO 11469

Rheological properties

Molding shrinkage, parallel	0	%	ISO 294-4, 2577
Molding shrinkage, normal	0.1	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	4.61E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	29000	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	0.7	%	ISO 527-1/-2
Flexural modulus	3.7E6	psi	ISO 178
Flexural strength	43500	psi	ISO 178
Compressive modulus	4.79E6	psi	ISO 604
Compressive stress at 1% strain	34500	psi	ISO 604
Charpy impact strength, 23°C	7.14	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	2.85	ftlb/in²	ISO 179/1eA
Izod notched impact strength, 23°C	2.85	ftlb/in²	ISO 180/1A
Izod impact strength, 23°C	5.71	ftlb/in²	ISO 180/1U
Hardness, Rockwell, M-scale	99		ISO 2039-2

Thermal properties

Melting temperature, 10°C/min	536	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	455	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	482	°F	ISO 75-1/-2
Temperature of deflection under load, 8 MPa	367	°F	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	333	°F	ISO 306
Coefficient of linear thermal expansion (CLTE), parallel	0.01	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.05	E-4/°F	ISO 11359-1/-2

Flammability

Burning Behav. at thickness h	V-0	class	IEC 60695-11-10

Electrical properties

Relative permittivity, 1MHz	32		IEC 62631-2-1
Volume resistivity	1000	Ohm.m	IEC 62631-3-1
Surface resistivity	100	Ohm	IEC 62631-3-2

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Physical/Other properties

Density	0.0538	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	554	°F
Min. melt temperature	545	°F
Max. melt temperature	572	°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

Characteristics

Processing	Injection Molding
Special characteristics	Increased electrical conductivity, Anti-static, Static dissipative, Flame retardant, Light stabilized or stable to light, High Flow

Additional information

Injection molding

Preprocessing

Vectra resins are well known for their excellent thermal and hydrolytic stability. In order to ensure these properties are optimum, the resin should be dried correctly prior to processing. Vectra B-grades should be dried at 150 C for a minimum of 6 hours in a desiccant dryer.

Processing

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.

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.

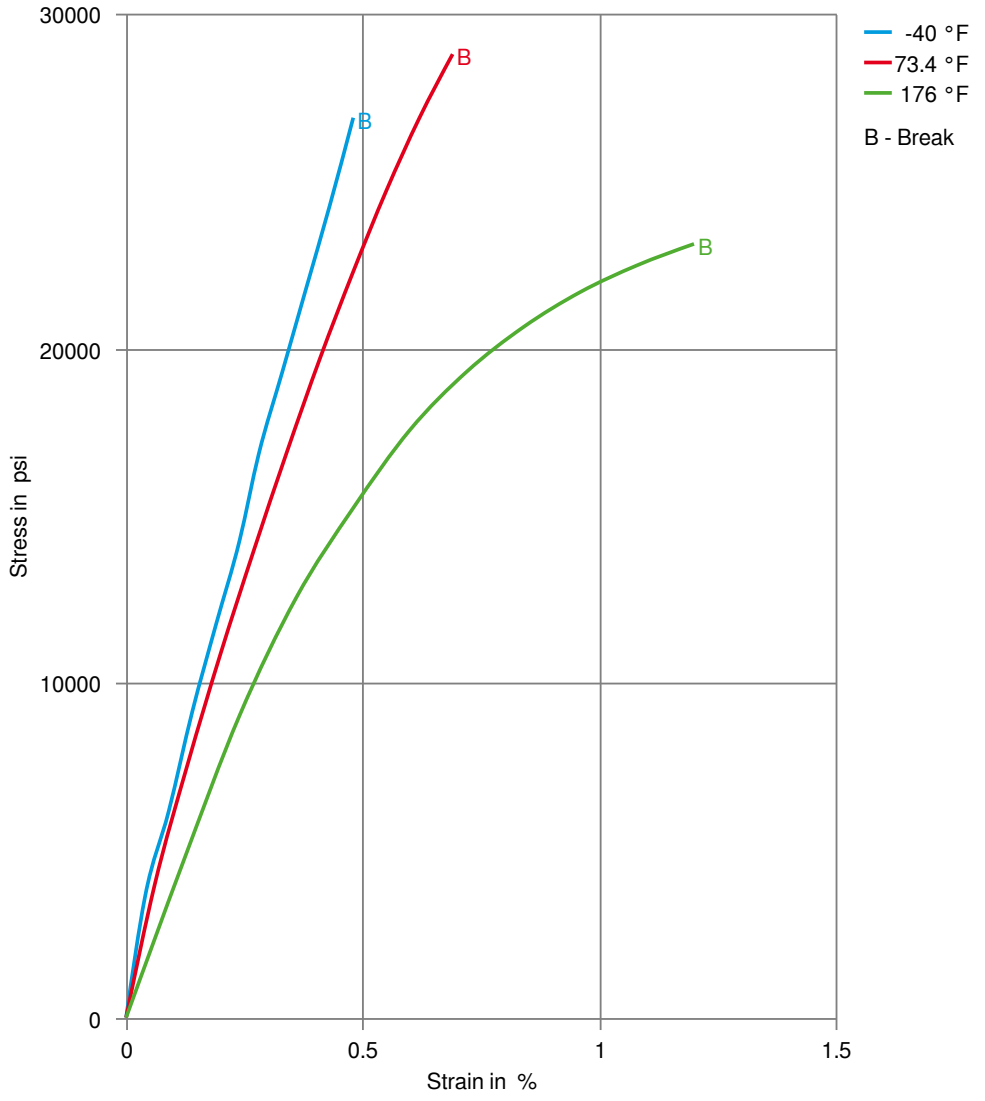
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Storage

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).

Stress-strain

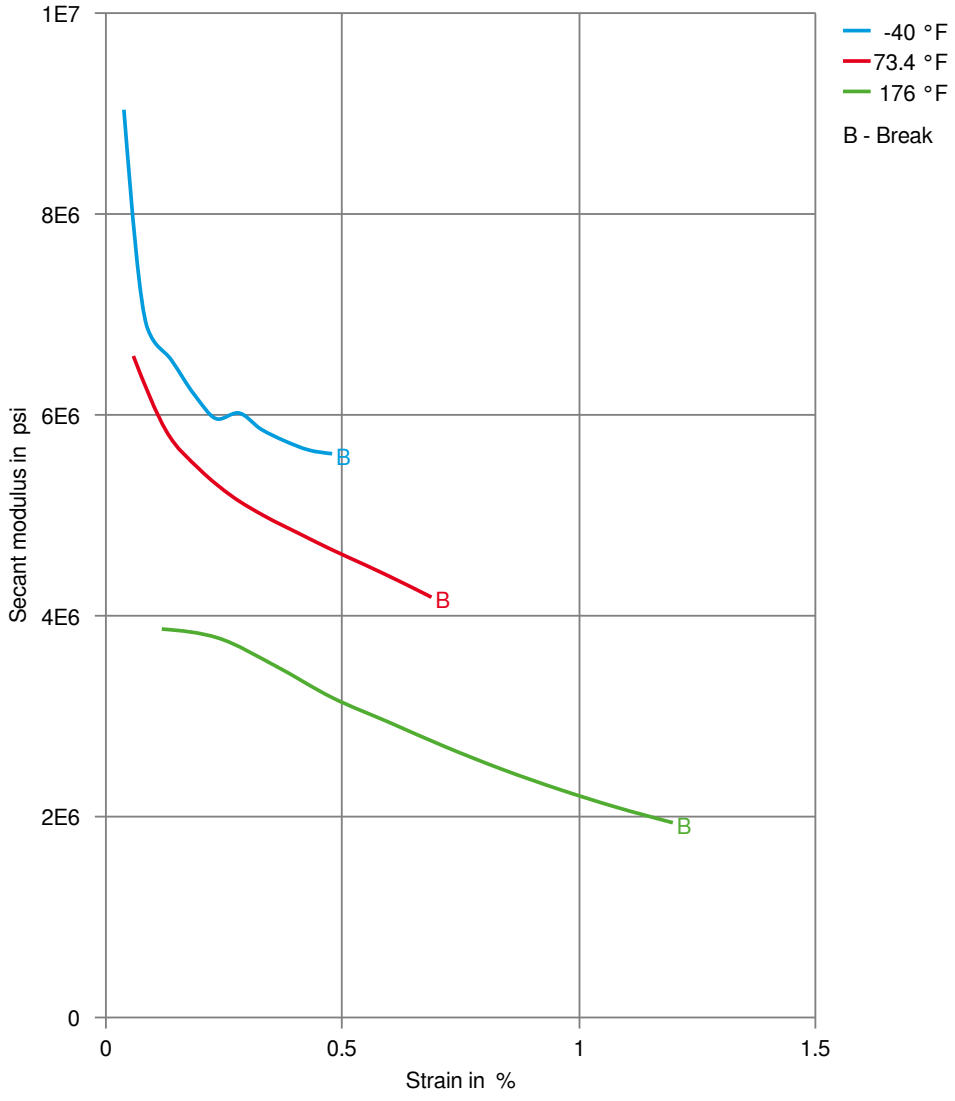


Revised: 2025-03-20 Source: Celanese Materials Database

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Secant modulus-strain



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