VECTRA® A450 (PRELIMINARY)

Liquid Crystal Polymer

Provides many of the characteristics of A130 with added lubricity. Suitable for applications requiring excellent wear characteristics. Chemical abbreviation according to ISO 1043-1:

Product information

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

Rheological properties

Molding shrinkage, parallel	0.1	%	ISO 294-4, 2577
Molding shrinkage range, normal	≥0.8	%	ISO 294-4, 2577

Typical mechanical properties

Tensile stress at break, 5mm/min	21800	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	5	%	ISO 527-1/-2
Flexural modulus	1.45E6	psi	ISO 178
Flexural strength	21800	psi	ISO 178
Charpy impact strength, 23°C	42.8	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	23.3	ftlb/in²	ISO 179/1eA
Hardness, Rockwell, M-scale	50		ISO 2039-2

Thermal properties

Melting temperature, 10°C/min	536	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	374	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	453	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.03	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.444	E-4/°F	ISO 11359-1/-2

Physical/Other properties

Water absorption, 2mm	0.005	%	Sim. to ISO 62
Density	0.0542	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	563	°F
Min. melt temperature	545	°F
Max. melt temperature	590	°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	468	°F

Revised: 2026-10-13 Source: Celanese Materials Database

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Characteristics

Processing	Injection Molding
Special characteristics	Light stabilized or stable to light, Low wear / Low friction, 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 A-grades should be dried at 150 C for a minimum of 4 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.

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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The above data are preliminary and are subject to change as additional data are developed on subsequent lots.
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