



Vectra® E471i

Celanese Corporation - Liquid Crystal Polymer

Sunday, November 3, 2019

General Information

Product Description

Low warp with excellent properties Chemical abbreviation according to ISO 1043-1 : LCP Inherently flame retardant UL-Listing V-0 in natural and black at 0.75mm thickness per UL 94 flame testing. Relative-Temperature-Index (RTI) according to UL 746B: electricals 130°C, mechanicals 130°C. UL = Underwriters Laboratories (Japan)

General

Material Status	• Commercial: Active
Availability	• Africa & Middle East • Europe • Asia Pacific • Latin America • North America
Features	• Flame Retardant • Low Warpage
RoHS Compliance	• Contact Manufacturer
Resin ID (ISO 1043)	• LCP

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.67	g/cm ³	ISO 1183
Molding Shrinkage			ISO 294-4
Across Flow	0.50	%	
Flow	0.10	%	
Water Absorption (Saturation, 73°F)	0.015	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	2.0E-3	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2.00E+6	psi	ISO 527-2/1A
Tensile Stress (Break)	18900	psi	ISO 527-2/1A/5
Tensile Strain (Break)	2.5	%	ISO 527-2/1A/5
Flexural Modulus (73°F)	1.96E+6	psi	ISO 178
Flexural Stress (73°F)	26100	psi	ISO 178
Flexural Strain at Break	2.5	%	ISO 178
Compressive Modulus	1.60E+6	psi	ISO 604
Compressive Stress (1% Strain)	11900	psi	ISO 604
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (73°F)	14	ft-lb/in ²	ISO 179/1eA
Charpy Unnotched Impact Strength (73°F)	26	ft-lb/in ²	ISO 179/1eU
Notched Izod Impact Strength (73°F)	6.7	ft-lb/in ²	ISO 180/1A
Unnotched Izod Impact Strength (73°F)	29	ft-lb/in ²	ISO 180/1U
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	55		ISO 2039-2
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (264 psi, Unannealed)	509	°F	ISO 75-2/A
Heat Deflection Temperature (1160 psi, Unannealed)	428	°F	ISO 75-2/C
Vicat Softening Temperature	392	°F	ISO 306/B50
Melting Temperature ²	635	°F	ISO 11357-3
CLTE - Flow	3.3E-6	in/in/°F	ISO 11359-2
CLTE - Transverse	1.0E-5	in/in/°F	ISO 11359-2

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Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	1.0E+16	ohms·cm	IEC 60093
Electric Strength	1300	V/mil	IEC 60243-1
Relative Permittivity (1 MHz)	3.80		IEC 60250
Dissipation Factor (1 MHz)	0.031		IEC 60250
Comparative Tracking Index	200 (200)	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating	V-0		UL 94

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	302 to 338	°F
Drying Time	4.0 to 6.0	hr
Suggested Max Moisture	0.010	%
Hopper Temperature	68 to 86	°F
Rear Temperature	599 to 617	°F
Middle Temperature	608 to 626	°F
Front Temperature	617 to 635	°F
Nozzle Temperature	635 to 653	°F
Processing (Melt) Temp	635 to 653	°F
Mold Temperature	176 to 248	°F
Injection Rate	Fast	
Back Pressure	< 435	psi

Injection Notes

Feeding zone temperature: 60 to 80°C
 Zone4 temperature: 330 to 340°C
 Hot runner temperature: 335 to 345°C

Notes

¹ Typical properties: these are not to be construed as specifications.

² 10°C/min