



Vectra® E540i

Celanese Corporation - Liquid Crystal Polymer

Sunday, November 3, 2019

General Information

Product Description

Mineral filled grade with low warp, easy flow and smooth surface appearance. Chemical abbreviation according to ISO 1043-1 : LCP Inherently flame retardant FDA compliant. UL-Listing V-0 in natural and black at 1.5mm thickness per UL 94 flame testing. Relative- Temperature-Index (RTI) according to UL 746B: electrical 130°C, mechanical 130°C. UL = Underwriters Laboratories (USA)

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Mineral		
Features	• Flame Retardant • Good Flow	• Good Surface Finish • Low Warpage	
Agency Ratings	• FDA Unspecified Rating		
RoHS Compliance	• Contact Manufacturer		
Resin ID (ISO 1043)	• LCP		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.74	g/cm ³	ISO 1183
Molding Shrinkage			ISO 294-4
Across Flow	0.50	%	
Flow	0.0	%	
Water Absorption (Saturation, 73°F)	8.0E-3	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	5.0E-3	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	1.42E+6	psi	ISO 527-2/1A
Tensile Stress (Break)	15200	psi	ISO 527-2/1A/5
Tensile Strain (Break)	3.2	%	ISO 527-2/1A/5
Flexural Modulus (73°F)	1.45E+6	psi	ISO 178
Flexural Stress (73°F)	18100	psi	ISO 178
Compressive Stress (1% Strain)	7700	psi	ISO 604
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact Strength (73°F)	2.5	ft-lb/in ²	ISO 180/1A
Unnotched Izod Impact Strength (73°F)	17	ft-lb/in ²	ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (264 psi, Unannealed)	446	°F	ISO 75-2/A
Vicat Softening Temperature	383	°F	ISO 306/B50
Melting Temperature ²	635	°F	ISO 11357-3
CLTE - Flow	5.6E-6	in/in/°F	ISO 11359-2
CLTE - Transverse	2.0E-5	in/in/°F	ISO 11359-2
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	1200	V/mil	IEC 60243-1

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Electrical	Nominal Value	Unit	Test Method
Relative Permittivity (1 MHz)	3.60		IEC 60250
Dissipation Factor (1 MHz)	0.031		IEC 60250
Comparative Tracking Index	200	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.06 in)	V-0		UL 94

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	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