Vectra® E150i

Celanese Corporation - Liquid Crystal Polymer

Sunday, November 3, 2019

General Information

Product Description

Easy flowing grade with very good heat resistance, and mechanical properties. May reduce warpage in some parts compared to E130i. 50% glass reinforced. Chemical abbreviation according to ISO 1043-1 : LCP Inherently flame retardant FDA compliant UL-Listing V-0 in natural and black at 0.43mm thickness per UL 94 flame testing. Relative-Temperature-Index (RTI) according to UL 746B: electricals 240°C, mechanicals 240°C at 0.75mm. UL = Underwriters Laboratories (USA)

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass Fiber, 50% Filler by Weight		
Features	• Flame Retardant	• Good Flow	• Good Heat Resistance
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	1.81	g/cm³	ISO 1183
Molding Shrinkage			ISO 294-4
Across Flow	0.50	%	
Flow	0.20	%	
Water Absorption (Equilibrium, 73°F, 50% RH)	6.0E-3	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	2.54E+6	psi	ISO 527-2/1A
Tensile Stress (Break)	18900	psi	ISO 527-2/1A/5
Tensile Strain (Break)	1.0	%	ISO 527-2/1A/5
Flexural Modulus (73°F)	2.70E+6	psi	ISO 178
Flexural Stress (73°F)	29700	psi	ISO 178
Compressive Modulus	2.61E+6	psi	ISO 604
Compressive Stress (1% Strain)	18100	psi	ISO 604
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (73°F)	4.3	ft·lb/in²	ISO 179/1eA
Charpy Unnotched Impact Strength (73°F)	9.0	ft·lb/in²	ISO 179/1eU
Notched Izod Impact Strength (73°F)	5.7	ft·lb/in²	ISO 180/1A
Unnotched Izod Impact Strength (73°F)	7.6	ft·lb/in²	ISO 180/1U
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (M-Scale)	66		ISO 2039-2
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature (264 psi, Unannealed)	500	°F	ISO 75-2/A
Heat Deflection Temperature (1160 psi, Unannealed)	437	°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

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Thermal	Nominal Value	Unit	Test Method
CLTE - Transverse	9.4E-6	in/in/°F	ISO 11359-2
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	1.0E+14	ohms	IEC 60093
Volume Resistivity	1.0E+15	ohms·cm	IEC 60093
Electric Strength	710	V/mil	IEC 60243-1
Relative Permittivity (1 MHz)	4.70		IEC 60250
Dissipation Factor (1 MHz)	0.028		IEC 60250
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating			UL 94
0.017 in	V-0		
0.06 in	V-0		

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	302	°F
Drying Time	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