



Vectra® A515

Celanese Corporation - Liquid Crystal Polymer

Sunday, November 3, 2019

General Information

Product Description

Easier flow and slightly improved toughness over A530. Outstanding hydrolytic stability. 15% mineral filled. Chemical abbreviation according to ISO 1043-1 : LCP Inherently flame retardant FDA compliant UL-Listing V-0 in natural at 0.38mm 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, 15% Filler by Weight		
Features	• Flame Retardant • Good Flow	• Good Toughness • Hydrolytically Stable	
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	1.52	g/cm ³	ISO 1183
Molding Shrinkage			ISO 294-4
Across Flow	0.60	%	
Flow	0.0	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	1.52E+6	psi	ISO 527-2/1A
Tensile Stress (Break)	25400	psi	ISO 527-2/1A/5
Tensile Strain (Break)	4.5	%	ISO 527-2/1A/5
Flexural Modulus (73°F)	1.60E+6	psi	ISO 178
Flexural Stress (73°F)	25400	psi	ISO 178
Compressive Modulus	1.38E+6	psi	ISO 604
Compressive Stress (1% Strain)	8850	psi	ISO 604
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (73°F)	28	ft·lb/in ²	ISO 179/1eA
Charpy Unnotched Impact Strength (73°F)	48	ft·lb/in ²	ISO 179/1eU
Notched Izod Impact Strength (73°F)	29	ft·lb/in ²	ISO 180/1A
Unnotched Izod Impact Strength (73°F)	60	ft·lb/in ²	ISO 180/1U
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	63		ISO 2039-2
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (66 psi, Unannealed)	450	°F	ISO 75-2/B
Heat Deflection Temperature (264 psi, Unannealed)	365	°F	ISO 75-2/A
Heat Deflection Temperature (1160 psi, Unannealed)	217	°F	ISO 75-2/C
Vicat Softening Temperature			
--	300	°F	ISO 306/A50
--	300	°F	ISO 306/B50

Vectra® A515

Celanese Corporation - Liquid Crystal Polymer

Thermal	Nominal Value	Unit	Test Method
Melting Temperature ²	536	°F	ISO 11357-3
CLTE - Flow	0.0	in/in/°F	ISO 11359-2
CLTE - Transverse	1.7E-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+15	ohms·cm	IEC 60093
Electric Strength	1000	V/mil	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	3.80		
1 MHz	3.20		
Dissipation Factor			IEC 60250
100 Hz	0.010		
1 MHz	0.020		
Arc Resistance	145	sec	Internal Method
Comparative Tracking Index	175	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating	V-0		UL 94

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	302	°F
Drying Time	4.0 to 6.0	hr
Suggested Max Moisture	0.010	%
Hopper Temperature	68 to 86	°F
Rear Temperature	518 to 536	°F
Middle Temperature	527 to 545	°F
Front Temperature	536 to 554	°F
Nozzle Temperature	554 to 572	°F
Processing (Melt) Temp	545 to 563	°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: 285 to 295°C
Hot runner temperature: 285 to 295°C

Notes

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

² 10°C/min