



Vectra® A115

Celanese Corporation - Liquid Crystal Polymer

Sunday, November 3, 2019

General Information

Product Description

Provides easier flow than A130. Slightly tougher, but may warp slightly more than A130 in some parts. 15% glass reinforced. Chemical abbreviation according to ISO 1043-1 : LCP Inherently flame retardant FDA compliant UL-Listing V-0 in natural and black at 0.44mm thickness per UL 94 flame testing. Relative-Temperature-Index (RTI) according to UL 746B: electricals 240°C, mechanicals 220°C at 0.85mm. UL = Underwriters Laboratories (USA)

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass Fiber, 15% Filler by Weight		
Features	• Flame Retardant	• Good Flow	• Good Toughness
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	1.50	g/cm ³	ISO 1183
Molding Shrinkage			ISO 294-4
Across Flow	0.40	%	
Flow	0.10	%	
Water Absorption (Saturation, 73°F)	6.0E-3	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	3.0E-3	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	1.74E+6	psi	ISO 527-2/1A
Tensile Stress (Break)	29000	psi	ISO 527-2/1A/5
Tensile Strain (Break)	3.1	%	ISO 527-2/1A/5
Flexural Modulus (73°F)	1.80E+6	psi	ISO 178
Flexural Stress (73°F)	36300	psi	ISO 178
Compressive Modulus	1.45E+6	psi	ISO 604
Compressive Stress (1% Strain)	12300	psi	ISO 604
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (73°F)	20	ft-lb/in ²	ISO 179/1eA
Charpy Unnotched Impact Strength (73°F)	23	ft-lb/in ²	ISO 179/1eU
Notched Izod Impact Strength (73°F)	21	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)	80		ISO 2039-2
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (66 psi, Unannealed)	482	°F	ISO 75-2/B
Heat Deflection Temperature (264 psi, Unannealed)	446	°F	ISO 75-2/A
Heat Deflection Temperature (1160 psi, Unannealed)	315	°F	ISO 75-2/C
Vicat Softening Temperature	324	°F	ISO 306/B50

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Thermal	Nominal Value	Unit	Test Method
Melting Temperature ²	536	°F	ISO 11357-3
CLTE - Flow	5.6E-6	in/in/°F	ISO 11359-2
CLTE - Transverse	1.0E-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+15	ohms·cm	IEC 60093
Electric Strength	860	V/mil	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	3.50		
1 MHz	3.00		
Dissipation Factor			IEC 60250
100 Hz	0.020		
1 MHz	0.018		
Arc Resistance	135	sec	Internal Method
Comparative Tracking Index	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	°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