

VECTRA® A115

Liquid Crystal Polymer
Celanese Corporation

Message:

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 Information			
UL YellowCard	E83005-250993		
Filler / Reinforcement	Glass fiber reinforced material, 15% filler by weight		
Features	Halogen-free		
	Flame retardancy		
Agency Ratings	EU 2002/96/EC (WEEE)		
	FDA not rated		
RoHS Compliance	Contact manufacturer		
Processing Method	Injection molding		
Multi-Point Data	Isothermal Stress vs. Strain (ISO 11403-1)		
Resin ID (ISO 1043)	LCP		
Physical	Nominal Value	Unit	Test Method
Density	1.50	g/cm ³	ISO 1183
Molding Shrinkage			ISO 294-4
Vertical flow direction	0.40	%	ISO 294-4
Flow direction	0.10	%	ISO 294-4
Water Absorption			ISO 62
Saturated, 23°C	6.0E-3	%	ISO 62
Equilibrium, 23°C, 50% RH	3.0E-3	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	80		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	12000	MPa	ISO 527-2/1A/1
Tensile Stress (Break)	200	MPa	ISO 527-2/1A/5
Tensile Strain (Break)	3.1	%	ISO 527-2/1A/5
Flexural Modulus (23°C)	12400	MPa	ISO 178
Flexural Stress (23°C)	250	MPa	ISO 178
Compressive Modulus	10000	MPa	ISO 604

Compressive Stress (1% Strain)	85.0	MPa	ISO 604
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	42	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	48	kJ/m ²	ISO 179/1eU
Notched Izod Impact (23°C)	45	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength (23°C)	61	kJ/m ²	ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	250	°C	ISO 75-2/B
1.8 MPa, not annealed	230	°C	ISO 75-2/A
8.0 MPa, not annealed	157	°C	ISO 75-2/C
Vicat Softening Temperature	162	°C	ISO 306/B50
Melting Temperature ¹	280	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow	1.0E-5	cm/cm/°C	ISO 11359-2
Lateral	1.8E-5	cm/cm/°C	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
Dielectric Strength	34	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	3.50		IEC 60250
1 MHz	3.00		IEC 60250
Dissipation Factor			IEC 60250
100 Hz	0.020		IEC 60250
1 MHz	0.018		IEC 60250
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
Injection	Nominal Value	Unit	
Drying Temperature	150	°C	
Drying Time	4.0 - 6.0	hr	
Suggested Max Moisture	0.010	%	
Hopper Temperature	20.0 - 30.0	°C	
Rear Temperature	270 - 280	°C	
Middle Temperature	275 - 285	°C	
Front Temperature	280 - 290	°C	
Nozzle Temperature	290 - 300	°C	
Processing (Melt) Temp	285 - 295	°C	
Mold Temperature	80.0 - 120	°C	
Injection Pressure	50.0 - 150	MPa	

Injection Rate	Fast	
Holding Pressure	50.0 - 150	MPa
Back Pressure	0.00 - 3.00	MPa
Injection instructions		
Manifold Temperature: 285 to 295°CZone 4 Temperature: 285 to 295°CFeed Temperature: 60 to 80°C		
NOTE		
1.	10°C/min	

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