

VECTRA® A130

Liquid Crystal Polymer
Celanese Corporation

Message:

The Standard for the Industry. Excellent balance of properties, including easy flow, easy processing, thermal stability, chemical resistance, mechanical and electrical properties. Suitable for vapor phase surface mount electrical and electronic devices. 30% glass reinforced

Chemical abbreviation according to ISO 1043-1 : LCP

Inherently flame retardant

FDA compliant

UL-Listing V-0 in natural and black at 0.2mm thickness per UL 94 flame testing, and UL-5VA in natural at 1.5mm.

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	E83005-250994		
Filler / Reinforcement	Glass fiber reinforced material, 30% filler by weight		
Features	Workability, good		
	Good liquidity		
	Good chemical resistance		
	Thermal stability, good		
	Flame retardancy		
Uses	Electrical/Electronic Applications		
RoHS Compliance	Contact manufacturer		
Multi-Point Data	Isothermal Stress vs. Strain (ISO 11403-1)		
	Shear Modulus vs. Temperature (ISO 11403-1)		
Resin ID (ISO 1043)	LCP		
Physical	Nominal Value	Unit	Test Method
Density	1.62	g/cm ³	ISO 1183
Molding Shrinkage			ISO 294-4
Vertical flow direction	0.40	%	ISO 294-4
Flow direction	0.20	%	ISO 294-4
Water Absorption (Equilibrium, 23°C, 50% RH)	0.040	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	85		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	15000	MPa	ISO 527-2/1A/1
Tensile Stress (Break)	190	MPa	ISO 527-2/1A/5
Tensile Strain (Break)	2.1	%	ISO 527-2/1A/5
Tensile Creep Modulus			ISO 899-1
1 hr	12600	MPa	ISO 899-1

1000 hr	10900	MPa	ISO 899-1
Flexural Modulus (23°C)	14500	MPa	ISO 178
Flexural Stress (23°C)	280	MPa	ISO 178
Compressive Modulus	14500	MPa	ISO 604
Compressive Stress (1% Strain)	100	MPa	ISO 604
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	26	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	33	kJ/m ²	ISO 179/1eU
Notched Izod Impact (23°C)	24	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength (23°C)	29	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	235	°C	ISO 75-2/A
8.0 MPa, not annealed	190	°C	ISO 75-2/C
Vicat Softening Temperature	160	°C	ISO 306/B50
Melting Temperature ¹	280	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow	6.0E-6	cm/cm/°C	ISO 11359-2
Lateral	2.3E-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	31	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	4.20		IEC 60250
1 MHz	3.70		IEC 60250
Dissipation Factor			IEC 60250
100 Hz	0.016		IEC 60250
1 MHz	0.018		IEC 60250
Arc Resistance	140	sec	Internal method
Comparative Tracking Index	175	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating	V-0		UL 94
Oxygen Index	45	%	ISO 4589-2
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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