VECTRA® C130

Liquid Crystal Polymer

Celanese Corporation

Message:

Has the same excellent balance of properties as A130 with higher temperature capability and easier flow. Slightly more dimensional stability in vapor phase soldering than A130. Suitable for some infrared SMT applications. 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 0.38mm thickness per UL 94 flame testing, and UL-5VA in natural at 1.5mm. Relative-Temperature-Index (RTI) according to UL 746B: electrical 240°C, mechanical 220°C at 0.75mm.
UL = Underwriters Laboratories (USA)

General Information	
UL YellowCard	E83005-251014
Filler / Reinforcement	Glass fiber reinforced material, 30% filler by weight
Features	Good dimensional stability Good liquidity Halogen-free Flame retardancy
Agency Ratings	EU 2002/96/EC (WEEE) FDA not rated
RoHS Compliance	Contact manufacturer
Forms	Particle
Processing Method	Injection molding
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/cm³	ISO 1183
--	1620	kg/m³	ISO 1183 [1]
Molding Shrinkage			
Vertical flow direction	0.40	%	ISO 294-4
Flow direction	0.20	%	ISO 294-4
Flow	0.20	%	ISO 2577 [2]
Transverse flow	0.40	%	ISO 2577 [3]

Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	80		ISO 2039-2

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	15000	MPa	ISO 527-2/1A/1
Tensile Stress (Break)	160	MPa	ISO 527-2/1A/5
Tensile Strain (Break)	1.9	%	ISO 527-2/1A/5
Tensile Creep Modulus			ISO 899-1
1 hr	13600	MPa	ISO 899-1
1000 hr	11700	MPa	ISO 899-1
Flexural Modulus (23°C)	14000	MPa	ISO 178
Flexural Stress (23°C)	245	MPa	ISO 178
Compressive Modulus	22000	MPa	ISO 604
Compressive Stress (1% Strain)	139	MPa	ISO 604
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			
23°C	25	kJ/m²	ISO 179/1eA
23°C	25.0	kJ/m²	ISO 179/1eA [4]
Charpy Unnotched Impact Strength			
23°C	28	kJ/m²	ISO 179/1eU
23°C	28.0	kJ/m²	ISO 179/1eU [5]
Notched Izod Impact (23°C)	20	kJ/m²	ISO 180/1A
Unnotched Izod Impact Strength (23°C)	26	kJ/m²	ISO 180/1U
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature			
0.45 MPa, not annealed	250	°C	ISO 75-2/B
0.45 MPa	250	°C	ISO 75-2 [6]
1.8 MPa, not annealed	255	°C	ISO 75-2/A
1.8 MPa	255	°C	ISO 75-2 [7]
8.0 MPa, not annealed	211	°C	ISO 75-2/C
8.0 MPa	211	°C	ISO 75-2 [8]
Vicat Softening Temperature			
--	192	°C	ISO 306/B50
50°C/h, B (50N)	192	°C	ISO 306 [9]
Melting Temperature			
-- [10]	325	°C	ISO 11357-3
-- [11]	325	°C	ISO 11357-3 [12]
Linear thermal expansion coefficient			ISO 11359-2
Flow	6.0E-6	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
--	1.0E+13	ohms·m	IEC 60093 [13]

Dielectric Strength	35	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	0.014		IEC 60250
1 MHz	0.018		IEC 60250
Arc Resistance	182	sec	Internal method
Comparative Tracking Index			
--	200	V	IEC 60112
--	200		IEC 60112 [14]

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	290 - 300	°C
Middle Temperature	300 - 310	°C
Front Temperature	310 - 320	°C
Nozzle Temperature	310 - 330	°C
Processing (Melt) Temp	320 - 340	°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: 320 to 340°CZone 4 Temperature: 320 to 330°CFeed Temperature: 60 to 80°C

NOTE	
1.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
2.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
3.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
4.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
5.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
6.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???

7.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
8.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
9.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
10.	10°C/min
11.	10 °C/min
12.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
13.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
14.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???

Recommended distributors for this material

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