VECTRA® A530

Liquid Crystal Polymer

Celanese Corporation

Message:

Best overall surface appearance with properties similar to A130. Less abrasive than glass fiber reinforced grades. Improved toughness over A130. Outstanding hydrolytic stability. Recommended where aesthetics are key. 30% mineral filled.
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 3.0mm. Relative-Temperature-Index (RTI) according to UL 746B: electrical 130°C, mechanical 130°C.
UL = Underwriters Laboratories (USA)

General Information	
UL YellowCard	E83005-251004
Filler / Reinforcement	Mineral filler, 30% filler by weight
Features	Hydrolysis resistance Good toughness Halogen-free Excellent appearance 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			
--	1.65	g/cm³	ISO 1183
--	1650	kg/m³	ISO 1183 [1]
Molding Shrinkage			
Vertical flow direction	0.70	%	ISO 294-4
Flow direction	0.20	%	ISO 294-4
Flow	0.20	%	ISO 2577 [2]
Transverse flow	0.70	%	ISO 2577 [3]

Hardness	Nominal Value	Unit	Test Method

Rockwell Hardness (M-Scale)	67		ISO 2039-2
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	11000	MPa	ISO 527-2/1A/1
Tensile Stress (Break)	160	MPa	ISO 527-2/1A/5
Tensile Strain (Break)	4.6	%	ISO 527-2/1A/5
Flexural Modulus (23°C)	11900	MPa	ISO 178
Flexural Stress (23°C)	180	MPa	ISO 178
Compressive Modulus	9500	MPa	ISO 604
Compressive Stress (1% Strain)	60.0	MPa	ISO 604
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			
23°C	25	kJ/m^2	ISO 179/1eA
23°C	25.0	kJ/m^2	ISO 179/1eA [4]
Charpy Unnotched Impact Strength			
23°C	50	kJ/m^2	ISO 179/1eU
23°C	50.0	kJ/m^2	ISO 179/1eU [5]
Notched Izod Impact (23°C)	27	kJ/m^2	ISO 180/1A
Unnotched Izod Impact Strength (23°C)	40	kJ/m^2	ISO 180/1U
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature			
0.45 MPa, not annealed	203	°C	ISO 75-2/B
0.45 MPa	203	°C	ISO 75-2 [6]
1.8 MPa, not annealed	190	°C	ISO 75-2/A
1.8 MPa	190	°C	ISO 75-2 [7]
8.0 MPa, not annealed	121	°C	ISO 75-2/C
8.0 MPa	121	°C	ISO 75-2 [8]
Vicat Softening Temperature			
--	151	°C	ISO 306/B50
50°C/h, B (50N)	151	°C	ISO 306 [9]
Melting Temperature			
-- [10]	280	°C	ISO 11357-3
-- [11]	280	°C	ISO 11357-3 [12]
Linear thermal expansion coefficient			ISO 11359-2
Flow	1.0E-5	cm/cm/°C	ISO 11359-2
Lateral	3.0E-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+14	ohms·cm	IEC 60093
--	1.0E+12	ohms·m	IEC 60093 [13]
Dielectric Strength	44	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250

100 Hz	3.80		IEC 60250
1 MHz	3.20		IEC 60250
Dissipation Factor			IEC 60250
100 Hz	0.010		IEC 60250
1 MHz	0.016		IEC 60250
Arc Resistance	180	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

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.	??????,?? 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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