VECTRA® A515

Liquid Crystal Polymer

Celanese Corporation

Message:

Easier flow and slightly improved toughness over A530. Outstanding hydrolytic stability. 15% mineral filled.
Chemical abbreviation according to ISO 1043-1 : LCP
Inherently flame retardant
FDA compliant
UL-Listing V-0 in natural at 0.38mm thickness per UL 94 flame testing.
Relative-Temperature-Index (RTI) according to UL 746B: electrical 130°C, mechanical 130°C.
UL = Underwriters Laboratories (USA)

General Information			
UL YellowCard	E83005-251003		
Filler / Reinforcement	Mineral filler, 15% filler by weight		
Features	Good liquidity Hydrolysis resistance 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)		
Resin ID (ISO 1043)	LCP		
Physical	**Nominal Value**	**Unit**	**Test Method**
Density			
--	1.52	g/cm³	ISO 1183
--	1520	kg/m³	ISO 1183 [1]
Molding Shrinkage			
Vertical flow direction	0.60	%	ISO 294-4
Flow direction	0.0	%	ISO 294-4
Flow	0.0	%	ISO 2577 [2]
Transverse flow	0.60	%	ISO 2577 [3]
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (M-Scale)	63		ISO 2039-2
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	10500	MPa	ISO 527-2/1A/1
Tensile Stress (Break)	175	MPa	ISO 527-2/1A/5

Tensile Strain (Break)	4.5	%	ISO 527-2/1A/5
Flexural Modulus (23°C)	11000	MPa	ISO 178
Flexural Stress (23°C)	175	MPa	ISO 178
Compressive Modulus	9500	MPa	ISO 604
Compressive Stress (1% Strain)	61.0	MPa	ISO 604
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			
23°C	59	kJ/m^2	ISO 179/1eA
23°C	59.0	kJ/m^2	ISO 179/1eA [4]
Charpy Unnotched Impact Strength (23°C)	100	kJ/m^2	ISO 179/1eU
Notched Izod Impact (23°C)	60	kJ/m^2	ISO 180/1A
Unnotched Izod Impact Strength (23°C)	130	kJ/m^2	ISO 180/1U
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature			
0.45 MPa, not annealed	232	°C	ISO 75-2/B
0.45 MPa	232	°C	ISO 75-2 [5]
1.8 MPa, not annealed	185	°C	ISO 75-2/A
1.8 MPa	185	°C	ISO 75-2 [6]
8.0 MPa, not annealed	103	°C	ISO 75-2/C
8.0 MPa	103	°C	ISO 75-2 [7]
Vicat Softening Temperature			
--	149	°C	ISO 306/B50
50°C/h, B (50N)	149	°C	ISO 306 [8]
Melting Temperature			
-- [9]	280	°C	ISO 11357-3
-- [10]	280	°C	ISO 11357-3 [11]
CLTE - Transverse	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+15	ohms·cm	IEC 60093
--	1.0E+13	ohms·m	IEC 60093 [12]
Dielectric Strength	40	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	0.020		IEC 60250
Arc Resistance	145	sec	Internal method
Comparative Tracking Index			
--	175	V	IEC 60112

--	175		IEC 60112 [13]
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.	10°C/min
10.	10 °C/min
11.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
12.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
13.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China