

VECTRA® S135

Liquid Crystal Polymer
Celanese Corporation

Message:

35% glass reinforced Vectra grade with very low outgassing, very high heat deflection temperature (335°C) and stiffness. Typical applications are lampsockets, lensholders for beamers, electrical and electronic parts like connectors, relays, switches, coil bobbins and also under the hood applications. Chemical abbreviation according to ISO 1043-1 : LCP
Inherently flame retardant
UL-Listing V-0 in natural at 0.28mm 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	E83005-251041		
Filler / Reinforcement	Glass fiber reinforced material, 35% filler by weight		
Features	The degassing effect is low to no		
	Rigidity, high		
Uses	Electrical/Electronic Applications		
	Switch		
	Connector		
	Parts under the hood of a car		
	Application in Automobile Field		
RoHS Compliance	Contact manufacturer		
Resin ID (ISO 1043)	LCP		
Physical	Nominal Value	Unit	Test Method
Density	1.67	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	4.0E-3	%	ISO 62
Equilibrium, 23°C, 50% RH	7.0E-3	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	15500	MPa	ISO 527-2/1A/1
Tensile Stress (Break)	140	MPa	ISO 527-2/1A/5
Tensile Strain (Break)	1.3	%	ISO 527-2/1A/5
Flexural Modulus (23°C)	14500	MPa	ISO 178
Flexural Stress (23°C)	230	MPa	ISO 178
Flexural Strain at Break	2.0	%	ISO 178
Impact	Nominal Value	Unit	Test Method

Charpy Notched Impact Strength (23°C)	12	kJ/m ²	ISO 179/1eA
Notched Izod Impact (23°C)	12	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength (23°C)	14	kJ/m ²	ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
1.8 MPa, not annealed	340	°C	ISO 75-2/A
8.0 MPa, not annealed	267	°C	ISO 75-2/C
Melting Temperature ¹	350	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow	1.0E-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+17	ohms	IEC 60093
Volume Resistivity	1.0E+17	ohms·cm	IEC 60093
Dielectric Strength	37	kV/mm	IEC 60243-1
Relative Permittivity (1 MHz)	3.50		IEC 60250
Dissipation Factor (1 MHz)	9.0E-3		IEC 60250
Flammability	Nominal Value	Unit	Test Method
Flame Rating	V-0		UL 94
Injection	Nominal Value	Unit	
Drying Temperature	150 - 170	°C	
Drying Time	6.0	hr	
Suggested Max Moisture	0.010	%	
Hopper Temperature	20.0 - 30.0	°C	
Rear Temperature	350 - 360	°C	
Middle Temperature	355 - 365	°C	
Front Temperature	360 - 370	°C	
Nozzle Temperature	370 - 380	°C	
Processing (Melt) Temp	370 - 380	°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: 360 to 370°CZone 4 Temperature: 365 to 375°CFeed Temperature: 60 to 80°C			
NOTE			
1.	10°C/min		

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