

VECTRA® E840i LDS

Liquid Crystal Polymer

Celanese Corporation

Message:

40% Mineral filled Laser Direct Structuring grade.
Chemical abbreviation according to ISO 1043-1 : LCP
Inherently flame retardant
UL-Listing V-0 in black at 1.5mm thickness per UL 94 flame testing.
UL = Underwriters Laboratories (USA)

General Information			
UL YellowCard	E83005-100722303	E83005-101415100	
Filler / Reinforcement	Mineral filler, 40% filler by weight		
Features	Flame retardancy		
RoHS Compliance	Contact manufacturer		
Resin ID (ISO 1043)	LCP		
Physical	Nominal Value	Unit	Test Method
Density	1.81	g/cm ³	ISO 1183
Molding Shrinkage			ISO 294-4
Vertical flow direction	0.50	%	ISO 294-4
Flow direction	0.10	%	ISO 294-4
Water Absorption			ISO 62
Saturated, 23°C	0.011	%	ISO 62
Equilibrium, 23°C, 50% RH	4.0E-3	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	9300	MPa	ISO 527-2/1A/1
Tensile Stress (Break)	102	MPa	ISO 527-2/1A/5
Tensile Strain (Break)	3.4	%	ISO 527-2/1A/5
Flexural Modulus (23°C)	10500	MPa	ISO 178
Flexural Stress (23°C)	109	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	5.0	kJ/m ²	ISO 179/1eA
Notched Izod Impact (23°C)	6.0	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength (23°C)	33	kJ/m ²	ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	227	°C	ISO 75-2/A
Melting Temperature ¹	335	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow	1.2E-5	cm/cm/°C	ISO 11359-2
Lateral	2.7E-5	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method

Surface Resistivity	2.0E+16	ohms	IEC 60093
Volume Resistivity	2.0E+16	ohms·cm	IEC 60093
Dielectric Strength	28	kV/mm	IEC 60243-1
Relative Permittivity (100 Hz)	4.97		IEC 60250
Dissipation Factor (100 Hz)	0.029		IEC 60250
Injection	Nominal Value	Unit	
Drying Temperature	150	°C	
Drying Time	6.0	hr	
Suggested Max Moisture	0.010	%	
Hopper Temperature	20.0 - 30.0	°C	
Rear Temperature	315 - 325	°C	
Middle Temperature	320 - 330	°C	
Front Temperature	325 - 335	°C	
Nozzle Temperature	340 - 350	°C	
Processing (Melt) Temp	340 - 350	°C	
Mold Temperature	80.0 - 120	°C	
Injection Pressure	50.0 - 150	MPa	
Injection Rate	Moderate		
Holding Pressure	50.0 - 150	MPa	
Injection instructions			
Manifold Temperature: 340 to 350°CZone 4 Temperature: 335 to 345°CFeed Temperature: 60 to 80°C			
NOTE			
1.	10°C/min		

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