

VECTRA® A230

Liquid Crystal Polymer
Celanese Corporation

Message:

Exceptional stiffness. Electrically conductive. 30% carbon fiber reinforced.
Chemical abbreviation according to ISO 1043-1 : LCP
Inherently flame retardant
UL-Listing V-0 at 0.43mm 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	E83005-250997		
Filler / Reinforcement	Carbon fiber reinforced material, 30% filler by weight		
Features	Conductivity		
	Rigid, good		
	Flame retardancy		
RoHS Compliance	Contact manufacturer		
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	1.50	g/cm ³	ISO 1183
Molding Shrinkage			ISO 294-4
Vertical flow direction	0.30	%	ISO 294-4
Flow direction	0.10	%	ISO 294-4
Water Absorption (Equilibrium, 23°C, 50% RH)	0.060	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	83		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	23500	MPa	ISO 527-2/1A/1
Tensile Stress (Break)	149	MPa	ISO 527-2/1A/5
Tensile Strain (Break)	1.1	%	ISO 527-2/1A/5
Tensile Creep Modulus			ISO 899-1
1 hr	19600	MPa	ISO 899-1
1000 hr	15800	MPa	ISO 899-1
Flexural Modulus (23°C)	26000	MPa	ISO 178
Flexural Stress (23°C)	228	MPa	ISO 178
Compressive Modulus	23500	MPa	ISO 604

Compressive Stress (1% Strain)	136	MPa	ISO 604
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	7.0	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	13	kJ/m ²	ISO 179/1eU
Notched Izod Impact (23°C)	7.0	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength (23°C)	18	kJ/m ²	ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	250	°C	ISO 75-2/B
1.8 MPa, not annealed	233	°C	ISO 75-2/A
8.0 MPa, not annealed	193	°C	ISO 75-2/C
Vicat Softening Temperature	179	°C	ISO 306/B50
Melting Temperature ¹	280	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow	2.0E-6	cm/cm/°C	ISO 11359-2
Lateral	6.0E-6	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	10	ohms	IEC 60093
Volume Resistivity	1.0E+2	ohms·cm	IEC 60093
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.	10°C/min		

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