VECTRA® B230

Liquid Crystal Polymer

Celanese Corporation

Message:

Exceptional strength and stiffness. Suitable for metal replacement applications. Electrically conductive. 30% carbon fiber reinforced.
Chemical abbreviation according to ISO 1043-1 : LCP
Inherently flame retardant
UL-Listing V-0 at 0.46mm 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	E83005-251011		
Filler / Reinforcement	Carbon fiber reinforced material, 30% filler by weight		
Features	Conductivity Rigid, good Good strength Halogen-free Flame retardancy		
Uses	Metal substitution		
Agency Ratings	EU 2002/96/EC (WEEE)		
RoHS Compliance	Contact manufacturer		
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	1.50	g/cm³	ISO 1183
Molding Shrinkage			ISO 294-4
Vertical flow direction	0.10	%	ISO 294-4
Flow direction	0.0	%	ISO 294-4
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (M-Scale)	99		ISO 2039-2
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	31800	MPa	ISO 527-2/1A/1
Tensile Stress (Break)	200	MPa	ISO 527-2/1A/5
Tensile Strain (Break)	0.70	%	ISO 527-2/1A/5
Flexural Modulus (23°C)	25500	MPa	ISO 178
Flexural Stress (23°C)	300	MPa	ISO 178
Compressive Modulus	33000	MPa	ISO 604
Compressive Stress (1% Strain)	204	MPa	ISO 604
Impact	**Nominal Value**	**Unit**	**Test Method**

Charpy Notched Impact Strength (23°C)	6.0	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	15	kJ/m²	ISO 179/1eU
Notched Izod Impact (23°C)	6.0	kJ/m²	ISO 180/1A
Unnotched Izod Impact Strength (23°C)	12	kJ/m²	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	235	°C	ISO 75-2/A
8.0 MPa, not annealed	186	°C	ISO 75-2/C
Vicat Softening Temperature	167	°C	ISO 306/B50
Melting Temperature [1]	280	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow	1.0E-6	cm/cm/°C	ISO 11359-2
Lateral	9.0E-6	cm/cm/°C	ISO 11359-2
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	1.0E+2	ohms	IEC 60093
Volume Resistivity	1.0E+5	ohms·cm	IEC 60093
Relative Permittivity (1 MHz)	32.0		IEC 60250
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating	V-0		UL 94
Injection	**Nominal Value**	**Unit**	
Drying Temperature	150	°C	
Drying Time	6.0 - 8.0	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 - 300	°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		

Recommended distributors for this material

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