

VECTRA® MT1305

Liquid Crystal Polymer

Celanese Corporation

Message:

Provides easier flow than MT1310. Slightly tougher, but may warp slightly more than MT1310 in some parts. 15% glass reinforced.

Chemical abbreviation according to ISO 1043-1 : LCP

Inherently flame retardant

Celanese has established at the FDA a drug master file (DMF no.8468) and a Device Master File (MAF no.315) for Vectra MT1310. These are to assist our customers with their end use FDA petitions. Vectra MT1310 has been tested and complies with USP Class VI.

UL-Listing V-0 in natural and black at 0.44mm thickness per UL 94 flame testing.

Relative-Temperature-Index (RTI) according to UL 746B: electricals 240°C, mechanicals 220°C at 0.85mm.

UL = Underwriters Laboratories (USA)

General Information			
Filler / Reinforcement	Glass fiber reinforced material, 15% filler by weight		
Features	Good toughness		
	Flame retardancy		
Agency Ratings	DMF 8468		
	MAF 315		
	USP Class VI		
RoHS Compliance	Contact manufacturer		
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	0.40	%	ISO 294-4
Flow direction	0.10	%	ISO 294-4
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	80		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	12000	MPa	ISO 527-2/1A/1
Tensile Stress (Break)	200	MPa	ISO 527-2/1A/5
Tensile Strain (Break)	3.1	%	ISO 527-2/1A/5
Flexural Modulus (23°C)	12400	MPa	ISO 178
Flexural Stress (23°C)	250	MPa	ISO 178
Compressive Modulus	10000	MPa	ISO 604
Compressive Stress (1% Strain)	85.0	MPa	ISO 604
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	42	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	48	kJ/m ²	ISO 179/1eU

Notched Izod Impact (23°C)	45	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength (23°C)	61	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	230	°C	ISO 75-2/A
8.0 MPa, not annealed	157	°C	ISO 75-2/C
Vicat Softening Temperature	162	°C	ISO 306/B50
Melting Temperature ¹	280	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow	1.0E-5	cm/cm/°C	ISO 11359-2
Lateral	1.8E-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
Dielectric Strength	34	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	3.50		IEC 60250
1 MHz	3.00		IEC 60250
Dissipation Factor			IEC 60250
100 Hz	0.020		IEC 60250
1 MHz	0.018		IEC 60250
Arc Resistance	135	sec	Internal method
Comparative Tracking Index	200	V	IEC 60112
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°C Zone 4 Temperature: 285 to 295°C Feed Temperature: 60 to 80°C

NOTE

1. 10°C/min

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