

Generic LCP - Glass Fiber

Liquid Crystal Polymer

Generic

Message:

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General Information			
Filler / Reinforcement	Glass fiber reinforced material		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.46 - 1.76	g/cm ³	ASTM D792
23°C	1.61 - 1.81	g/cm ³	ISO 1183
Molding Shrinkage			
Flow: 23°C	0.013 - 0.31	%	ASTM D955
Transverse flow: 23°C	0.35 - 1.3	%	ASTM D955
23°C	0.040 - 0.62	%	ISO 294-4
Water Absorption			
23°C, 24 hr	0.010 - 0.10	%	ASTM D570
23°C, 24 hr	0.010 - 0.040	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			
23°C	105		ASTM D785
23°C	54 - 86		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	11000 - 19000	MPa	ASTM D638
23°C	11800 - 15100	MPa	ISO 527-2
Tensile Strength			
Yield, 23°C	126 - 157	MPa	ASTM D638
Fracture, 23°C	130 - 200	MPa	ISO 527-2
23°C	103 - 167	MPa	ASTM D638
Tensile Elongation			
Yield, 23°C	1.5 - 2.5	%	ASTM D638
Fracture, 23°C	0.80 - 5.1	%	ASTM D638
Fracture, 23°C	1.5 - 3.3	%	ISO 527-2
Flexural Modulus			
23°C	9720 - 16900	MPa	ASTM D790
23°C	10300 - 20200	MPa	ISO 178
Flexural Strength			

23°C	114 - 188	MPa	ASTM D790
23°C	170 - 255	MPa	ISO 178
Yield, 23°C	120 - 235	MPa	ASTM D790
Compressive Modulus (23°C)	10000 - 14500	MPa	ISO 604
Compressive Stress (23°C)	74.7 - 140	MPa	ISO 604
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	8.0 - 42	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength (23°C)	15 - 48	kJ/m ²	ISO 179
Notched Izod Impact			
23°C	55 - 210	J/m	ASTM D256
23°C	12 - 45	kJ/m ²	ISO 180
Unnotched Izod Impact			
23°C	61 - 560	J/m	ASTM D256
23°C	14 - 62	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	250 - 252	°C	ISO 75-2/B
1.8 MPa, not annealed	209 - 318	°C	ASTM D648
1.8 MPa, not annealed	230 - 340	°C	ISO 75-2/A
8.0 MPa, not annealed	157 - 267	°C	ISO 75-2/C
Vicat Softening Temperature	146 - 202	°C	ISO 306
Melting Temperature	280 - 336	°C	ISO 11357-3
Linear thermal expansion coefficient			
Flow	7.8E-6 - 1.0E-5	cm/cm/°C	ASTM D696
Flow	1.0E-6 - 1.0E-5	cm/cm/°C	ISO 11359-2
Lateral	1.7E-5 - 6.4E-5	cm/cm/°C	ASTM D696
Lateral	1.7E-5 - 6.3E-5	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+6 - 2.5E+15	ohms	IEC 60093
Volume Resistivity			
23°C	1.0E+13 - 1.0E+15	ohms · cm	ASTM D257
23°C	1.0E+5 - 3.3E+16	ohms · cm	IEC 60093
Dielectric Strength			
23°C	13 - 50	kV/mm	ASTM D149
23°C	20 - 46	kV/mm	IEC 60243-1
Dielectric Constant			
23°C	3.10 - 4.70		ASTM D150
23°C	3.80 - 4.31		IEC 60250
23°C	3.62		IEC 60250
Dissipation Factor			
23°C	0.024 - 0.033		ASTM D150
23°C	9.3E-3 - 0.030		IEC 60250

Arc Resistance	123 - 186	sec	ASTM D495
Comparative Tracking Index	125 - 200	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Oxygen Index	45 - 48	%	ISO 4589-2
Injection	Nominal Value	Unit	
Drying Temperature	130 - 150	°C	
Drying Time	3.0 - 8.2	hr	
Suggested Max Regrind	30	%	
Hopper Temperature	25.0 - 120	°C	
Rear Temperature	270 - 341	°C	
Middle Temperature	280 - 360	°C	
Front Temperature	285 - 377	°C	
Nozzle Temperature	290 - 375	°C	
Processing (Melt) Temp	285 - 383	°C	
Mold Temperature	40.0 - 115	°C	
Injection Pressure	95.2 - 120	MPa	
Holding Pressure	29.5 - 100	MPa	
Back Pressure	0.900 - 2.95	MPa	
Screw Speed	75 - 80	rpm	
Injection instructions			

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