

## Overview of materials for Liquid Crystal Polymer (LCP), 20% Glass Fiber Filled

Category : Polymer , Thermoplastic , Liquid Crystal Polymer (LCP) , Liquid Crystal Polymer (LCP), 20% Glass Fiber Filled

### Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Liquid Crystal Polymer (LCP), 20% Glass Fiber Filled". Specific grades with glass content between 15% and 24% are included. Each property range of values reported is minimum and maximum values of appropriate MatWeb entries. The comments report the average value, and number of data points used to calculate the average. The values are not necessarily typical of any specific grade, especially less common values and those that can be most affected by additives or processing methods.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Overview-of-materials-for-Liquid-Crystal-Polymer-LCP-20-Glass-Fiber-Filled.php](http://www.lookpolymers.com/polymer_Overview-of-materials-for-Liquid-Crystal-Polymer-LCP-20-Glass-Fiber-Filled.php)

Physical Properties	Metric	English	Comments
Density	1.46 - 1.85 g/cc	0.0527 - 0.0668 lb/in <sup>3</sup>	Average value: 1.55 g/cc Grade Count:11
Filler Content	15.0 - 20.0 %	15.0 - 20.0 %	Average value: 18.8 % Grade Count:4
Linear Mold Shrinkage	-0.00200 - 0.00400 cm/cm	-0.00200 - 0.00400 in/in	Average value: 0.00159 cm/cm Grade Count:11
Linear Mold Shrinkage, Transverse	0.00200 - 0.00900 cm/cm	0.00200 - 0.00900 in/in	Average value: 0.00557 cm/cm Grade Count:7

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	43.0 - 80.0	43.0 - 80.0	Average value: 66.5 Grade Count:4
Tensile Strength, Ultimate	100 - 200 MPa	14500 - 29000 psi	Average value: 162 MPa Grade Count:12
Elongation at Break	1.20 - 4.50 %	1.20 - 4.50 %	Average value: 2.76 % Grade Count:11
Modulus of Elasticity	10.5 - 16.5 GPa	1520 - 2400 ksi	Average value: 12.8 GPa Grade Count:11
Flexural Yield Strength	133 - 250 MPa	19300 - 36300 psi	Average value: 194 MPa Grade Count:11
Flexural Modulus	10.5 - 14.5 GPa	1520 - 2100 ksi	Average value: 11.9 GPa Grade Count:12
Compressive Yield Strength	61.0 - 85.0 MPa	8850 - 12300 psi	Average value: 78.3 MPa Grade Count:4
Compressive Modulus	9.50 - 11.0 GPa	1380 - 1600 ksi	Average value: 10.1 GPa Grade Count:4
Izod Impact, Notched	1.17 - 1.87 J/cm	2.20 - 3.50 ft-lb/in	Average value: 1.49 J/cm Grade Count:4
Izod Impact, Unnotched	4.81 - 6.94 J/cm	9.00 - 13.0 ft-lb/in	Average value: 5.61 J/cm Grade Count:4

Mechanical Properties (ISO)	Metric	English	Comments
	2.00 - 126 kJ/m <sup>2</sup>	2.077 - 60.0 ft-lb/in <sup>2</sup>	Average value: 54.0 kJ/m <sup>2</sup> Grade Count:5
Charpy Impact Unnotched	2.50 - 10.0 J/cm <sup>2</sup>	11.9 - 47.6 ft-lb/in <sup>2</sup>	Average value: 5.53 J/cm <sup>2</sup> Grade Count:4
Charpy Impact, Notched	0.300 - 5.90 J/cm <sup>2</sup>	1.43 - 28.1 ft-lb/in <sup>2</sup>	Average value: 3.52 J/cm <sup>2</sup> Grade Count:5

Thermal Properties	Metric	English	Comments
CTE, linear	-3.00 - 23.0 μm/m-°C	-1.67 - 12.8 μin/in-°F	Average value: 6.17 μm/m-°C Grade Count:5
CTE, linear, Transverse to Flow	18.0 - 66.0 μm/m-°C	10.0 - 36.7 μin/in-°F	Average value: 39.7 μm/m-°C Grade Count:5
Melting Point	280 - 335 °C	536 - 635 °F	Average value: 303 °C Grade Count:8
Deflection Temperature at 0.46 MPa (66 psi)	232 - 298 °C	450 - 568 °F	Average value: 255 °C Grade Count:5
Deflection Temperature at 1.8 MPa (264 psi)	185 - 304 °C	365 - 580 °F	Average value: 242 °C Grade Count:12
Deflection Temperature at 8.0 MPa	103 - 157 °C	217 - 315 °F	Average value: 134 °C Grade Count:4
Vicat Softening Point	149 - 202 °C	300 - 396 °F	Average value: 171 °C Grade Count:5
Flammability, UL94	V-0	V-0	Grade Count:9

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+12 - 1.00e+16 ohm-cm	1.00e+12 - 1.00e+16 ohm-cm	Average value: 2.33e+15 ohm-cm Grade Count:6
Surface Resistance	1.00e+15 - 1.00e+17 ohm	1.00e+15 - 1.00e+17 ohm	Average value: 1.75e+16 ohm Grade Count:6
Dielectric Constant	2.50 - 4.20	2.50 - 4.20	Average value: 3.41 Grade Count:8
Dielectric Strength	25.6 - 40.0 kV/mm	650 - 1020 kV/in	Average value: 33.3 kV/mm Grade Count:6
Dissipation Factor	0.00600 - 50.0	0.00600 - 50.0	Average value: 5.73 Grade Count:8
Arc Resistance	135 - 145 sec	135 - 145 sec	Average value: 138 sec Grade Count:4
Comparative Tracking Index	150 - 200 V	150 - 200 V	Average value: 185 V Grade Count:5

Processing Properties	Metric	English	Comments
Processing Temperature	80.0 - 345 °C	176 - 653 °F	Average value: 190 °C Grade Count:5
Die Temperature	290 - 350 °C	554 - 662 °F	Average value: 314 °C Grade Count:5
Melt Temperature	20.0 - 399 °C	68.0 - 750 °F	Average value: 276 °C Grade Count:11

Processing Properties	Metric	English	Comments
Mold Temperature	37.9 - 121 °C	100 - 250 °F	Average value: 81.2 °C Grade Count:10
Injection Velocity	150 mm/sec	5.91 in/sec	Average value: 150 mm/sec Grade Count:4
Drying Temperature	149 - 150 °C	300 - 302 °F	Average value: 150 °C Grade Count:9
Moisture Content	0.0100 %	0.0100 %	Average value: 0.0100 % Grade Count:5
Dew Point	-28.9 °C	-20.0 °F	Average value: -28.9 °C Grade Count:3
Injection Pressure	34.5 - 150 MPa	5000 - 21800 psi	Average value: 95.8 MPa Grade Count:9

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