

Overview of materials for Liquid Crystal Polymer (LCP), Mineral Filled

Category : Polymer , Thermoplastic , Liquid Crystal Polymer (LCP) , Liquid Crystal Polymer (LCP), Mineral Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Liquid Crystal Polymer (LCP), Mineral Filled". 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-Mineral-Filled.php

Physical Properties	Metric	English	Comments
Density	1.52 - 1.89 g/cc	0.0549 - 0.0683 lb/in ³	Average value: 1.69 g/cc Grade Count:24
Filler Content	30.0 - 50.0 %	30.0 - 50.0 %	Average value: 38.0 % Grade Count:5
Water Absorption	0.0200 - 0.100 %	0.0200 - 0.100 %	Average value: 0.0425 % Grade Count:8
Moisture Absorption at Equilibrium	0.0200 - 0.0400 %	0.0200 - 0.0400 %	Average value: 0.0233 % Grade Count:6
Linear Mold Shrinkage	0.000 - 0.00300 cm/cm	0.000 - 0.00300 in/in	Average value: 0.00100 cm/cm Grade Count:19
Linear Mold Shrinkage, Transverse	0.00200 - 0.0110 cm/cm	0.00200 - 0.0110 in/in	Average value: 0.00545 cm/cm Grade Count:17

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	43.0 - 79.0	43.0 - 79.0	Average value: 62.0 Grade Count:7
Tensile Strength, Ultimate	76.0 - 175 MPa	11000 - 25400 psi	Average value: 132 MPa Grade Count:24
	48.0 - 200 MPa	6960 - 29000 psi	Average value: 86.6 MPa Grade Count:1
	@Temperature -40.0 - 150 °C	@Temperature -40.0 - 302 °F	
	17.0 - 216 MPa	2470 - 31300 psi	Average value: 86.6 MPa Grade Count:1
	@Temperature -40.0 - 250 °C	@Temperature -40.0 - 482 °F	
	17.0 - 216 MPa	2470 - 31300 psi	Average value: 86.6 MPa Grade Count:1
	@Thickness 1.60 - 3.17 mm	@Thickness 0.0630 - 0.125 in	
Elongation at Break	1.20 - 5.50 %	1.20 - 5.50 %	Average value: 3.44 % Grade Count:22
	2.50 - 3.20 %	2.50 - 3.20 %	

Mechanical Properties	Metric @ Temperature 120 - 150 °C	English @ Temperature 248 - 302 °F	Comments Average value: 2.06 % Grade Count:1
	0.700 - 3.20 % @Temperature -40.0 - 250 °C	0.700 - 3.20 % @Temperature -40.0 - 482 °F	Average value: 2.06 % Grade Count:1
	0.700 - 3.20 % @Thickness 1.60 - 3.17 mm	0.700 - 3.20 % @Thickness 0.0630 - 0.125 in	Average value: 2.06 % Grade Count:1
Modulus of Elasticity	8.50 - 22.0 GPa	1230 - 3190 ksi	Average value: 12.6 GPa Grade Count:21
	4.80 - 11.6 GPa @Temperature -40.0 - 150 °C	696 - 1680 ksi @Temperature -40.0 - 302 °F	Average value: 7.45 GPa Grade Count:1
	2.77 - 16.5 GPa @Temperature -40.0 - 250 °C	402 - 2390 ksi @Temperature -40.0 - 482 °F	Average value: 7.45 GPa Grade Count:1
	2.77 - 16.5 GPa @Thickness 1.60 - 3.17 mm	402 - 2390 ksi @Thickness 0.0630 - 0.125 in	Average value: 7.45 GPa Grade Count:1
Flexural Yield Strength	110 - 220 MPa	16000 - 31900 psi	Average value: 155 MPa Grade Count:21
	42.0 - 260 MPa @Temperature -40.0 - 150 °C	6090 - 37700 psi @Temperature -40.0 - 302 °F	Average value: 109 MPa Grade Count:2
	42.0 - 260 MPa @Thickness 0.800 - 3.17 mm	6090 - 37700 psi @Thickness 0.0315 - 0.125 in	Average value: 109 MPa Grade Count:2
Flexural Modulus	6.60 - 20.0 GPa	957 - 2900 ksi	Average value: 11.5 GPa Grade Count:24
	3.30 - 16.7 GPa @Temperature -40.0 - 150 °C	479 - 2420 ksi @Temperature -40.0 - 302 °F	Average value: 7.38 GPa Grade Count:2
	3.30 - 16.7 GPa @Thickness 0.800 - 3.17 mm	479 - 2420 ksi @Thickness 0.0315 - 0.125 in	Average value: 7.38 GPa Grade Count:2
Compressive Yield Strength	51.7 - 131 MPa	7500 - 19000 psi	Average value: 81.6 MPa Grade Count:8
Compressive Modulus	9.50 - 21.5 GPa	1380 - 3120 ksi	Average value: 14.1 GPa Grade Count:7

Mechanical Properties	Metric 1.60 J/cm	English 00 ft-lb/in	Comments Average value: 1.12 J/cm Grade Count:4
Izod Impact, Notched (ISO)	5.00 - 60.0 kJ/m ²	2.38 - 28.6 ft-lb/in ²	Average value: 26.9 kJ/m ² Grade Count:12
Charpy Impact Unnotched	5.00 - 8.40 J/cm ²	23.8 - 40.0 ft-lb/in ²	Average value: 6.76 J/cm ² Grade Count:5
	4.00 - 4.00 J/cm ² @Temperature -30.0 - - 30.0 °C	19.0 - 19.0 ft-lb/in ² @Temperature -22.0 - - 22.0 °F	Average value: 4.00 J/cm ² Grade Count:2
Charpy Impact, Notched	0.360 - 4.00 J/cm ²	1.71 - 19.0 ft-lb/in ²	Average value: 1.37 J/cm ² Grade Count:17
	0.700 - 0.800 J/cm ² @Temperature -30.0 - - 30.0 °C	3.33 - 3.81 ft-lb/in ² @Temperature -22.0 - - 22.0 °F	Average value: 0.750 J/cm ² Grade Count:2
Tensile Impact Strength	40.0 - 80.0 kJ/m ²	19.0 - 38.1 ft-lb/in ²	Average value: 56.7 kJ/m ² Grade Count:3
Coefficient of Friction	0.120 - 0.210	0.120 - 0.210	Average value: 0.172 Grade Count:4

Thermal Properties	Metric	English	Comments
CTE, linear	-10.0 - 15.0 µm/m-°C	-5.56 - 8.33 µin/in-°F	Average value: 5.52 µm/m-°C Grade Count:15
	-4.00 - 20.0 µm/m-°C @Temperature 55.0 - 260 °C	-2.22 - 11.1 µin/in-°F @Temperature 131 - 500 °F	Average value: 8.00 µm/m-°C Grade Count:3
	-4.00 - 20.0 µm/m-°C @Thickness 2.00 - 4.00 mm	-2.22 - 11.1 µin/in-°F @Thickness 0.0787 - 0.157 in	Average value: 8.00 µm/m-°C Grade Count:3
CTE, linear, Transverse to Flow	22.0 - 69.0 µm/m-°C	12.2 - 38.3 µin/in-°F	Average value: 43.8 µm/m-°C Grade Count:15
	34.0 - 62.0 µm/m-°C @Temperature 55.0 - 260 °C	18.9 - 34.4 µin/in-°F @Temperature 131 - 500 °F	Average value: 47.7 µm/m-°C Grade Count:3
	34.0 - 62.0 µm/m-°C @Thickness 2.00 - 4.00 mm	18.9 - 34.4 µin/in-°F @Thickness 0.0787 - 0.157 in	Average value: 47.7 µm/m-°C Grade Count:3
Melting Point	280 - 335 °C	536 - 635 °F	Average value: 314 °C Grade Count:20

Electrical Properties	Metric	English	Comments
	1.00e+12 - 1.00e+16	1.00e+12 - 1.00e+16	Average value: 2.63e+15 ohm-cm

Electrical Resistivity Electrical Properties	ohm-cm Metric	ohm-cm English	Grade Count:14 Comments
Surface Resistance	1.00e+15 - 1.00e+17 ohm	1.00e+15 - 1.00e+17 ohm	Average value: 1.73e+16 ohm Grade Count:14
Dielectric Constant	2.90 - 6.70	2.90 - 6.70	Average value: 3.77 Grade Count:15
	4.00 - 4.20	4.00 - 4.20	Average value: 4.06 Grade Count:2
	@Temperature 120 - 250 °C	@Temperature 248 - 482 °F	
	4.00 - 4.20	4.00 - 4.20	Average value: 4.06 Grade Count:2
	@Frequency 1.00e+9 - 1.00e+10 Hz	@Frequency 1.00e+9 - 1.00e+10 Hz	
Dielectric Strength	26.0 - 49.0 kV/mm	660 - 1240 kV/in	Average value: 37.2 kV/mm Grade Count:8
Dissipation Factor	0.00100 - 0.0340	0.00100 - 0.0340	Average value: 0.0130 Grade Count:15
	0.00500 - 0.0290	0.00500 - 0.0290	Average value: 0.0149 Grade Count:2
	@Temperature 120 - 250 °C	@Temperature 248 - 482 °F	
	0.00500 - 0.0290	0.00500 - 0.0290	Average value: 0.0149 Grade Count:2
	@Frequency 1.00e+9 - 1.00e+10 Hz	@Frequency 1.00e+9 - 1.00e+10 Hz	
Arc Resistance	145 - 183 sec	145 - 183 sec	Average value: 175 sec Grade Count:7
Comparative Tracking Index	175 - 250 V	175 - 250 V	Average value: 204 V Grade Count:15

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China