

Overview of materials for Polycarbonate, Stainless Steel Fiber

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, Stainless Steel Fiber

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polycarbonate, Stainless Steel Fiber". 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-Polycarbonate-Stainless-Steel-Fiber.php

Physical Properties	Metric	English	Comments
Density	1.16 - 1.73 g/cc	0.0419 - 0.0625 lb/in ³	Average value: 1.38 g/cc Grade Count:70
Filler Content	5.00 - 20.0 %	5.00 - 20.0 %	Average value: 10.2 % Grade Count:29
Water Absorption	0.100 - 0.300 %	0.100 - 0.300 %	Average value: 0.134 % Grade Count:34
Additive Loading	5.00 - 10.0 %	5.00 - 10.0 %	Average value: 8.14 % Grade Count:7
Linear Mold Shrinkage	0.00100 - 0.00750 cm/cm	0.00100 - 0.00750 in/in	Average value: 0.00434 cm/cm Grade Count:69
Linear Mold Shrinkage, Transverse	0.00400 - 0.00800 cm/cm	0.00400 - 0.00800 in/in	Average value: 0.00695 cm/cm Grade Count:5

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	124	124	Average value: 124 Grade Count:3
Tensile Strength, Ultimate	29.0 - 138 MPa	4210 - 20000 psi	Average value: 72.7 MPa Grade Count:55
Tensile Strength, Yield	29.0 - 90.3 MPa	4210 - 13100 psi	Average value: 64.1 MPa Grade Count:18
Elongation at Break	1.00 - 15.0 %	1.00 - 15.0 %	Average value: 5.41 % Grade Count:69
Elongation at Yield	1.80 - 4.80 %	1.80 - 4.80 %	Average value: 3.63 % Grade Count:3
Modulus of Elasticity	2.21 - 10.3 GPa	321 - 1490 ksi	Average value: 4.47 GPa Grade Count:50
Flexural Yield Strength	55.2 - 200 MPa	8010 - 29000 psi	Average value: 112 MPa Grade Count:68
Flexural Modulus	2.41 - 10.3 GPa	350 - 1490 ksi	Average value: 3.87 GPa Grade Count:65
Izod Impact, Notched	0.267 - 2.14 J/cm	0.500 - 4.01 ft-lb/in	Average value: 0.801 J/cm Grade Count:67

Mechanical Properties	Metric	English	Comments
Izod Impact, Notched (ISO)	4.90 - 11.0 kJ/m ²	2.33 - 5.23 ft-lb/in ²	Average value: 8.03 kJ/m ² Grade Count:3
Izod Impact, Unnotched (ISO)	14.3 - 131 kJ/m ²	6.80 - 62.3 ft-lb/in ²	Average value: 76.8 kJ/m ² Grade Count:3

Thermal Properties	Metric	English	Comments
CTE, linear	32.4 - 68.0 μm/m-°C	18.0 - 37.8 μin/in-°F	Average value: 53.8 μm/m-°C Grade Count:11
Deflection Temperature at 0.46 MPa (66 psi)	91.1 - 146 °C	196 - 295 °F	Average value: 137 °C Grade Count:16
Deflection Temperature at 1.8 MPa (264 psi)	51.7 - 143 °C	125 - 290 °F	Average value: 132 °C Grade Count:45
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:51

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.100 - 1.00e+12 ohm-cm	0.100 - 1.00e+12 ohm-cm	Average value: 1.58e+10 ohm-cm Grade Count:64
Surface Resistance	0.100 - 1.00e+12 ohm	0.100 - 1.00e+12 ohm	Average value: 1.30e+10 ohm Grade Count:69
Static Decay	0.100 - 2.00 sec	0.100 - 2.00 sec	Average value: 1.48 sec Grade Count:51
Shielding Effectiveness	40.0 - 55.0 dB	40.0 - 55.0 dB	Average value: 50.4 dB Grade Count:13

Processing Properties	Metric	English	Comments
Processing Temperature	266 - 293 °C	510 - 560 °F	Average value: 279 °C Grade Count:17
Melt Temperature	135 - 338 °C	275 - 640 °F	Average value: 286 °C Grade Count:36
Mold Temperature	35.0 - 121 °C	95.0 - 250 °F	Average value: 95.7 °C Grade Count:53
Drying Temperature	79.0 - 149 °C	174 - 300 °F	Average value: 119 °C Grade Count:35
Moisture Content	0.0200 - 0.0500 %	0.0200 - 0.0500 %	Average value: 0.0211 % Grade Count:28
Dew Point	-28.9 °C	-20.0 °F	Average value: -28.9 °C Grade Count:24
Injection Pressure	4.96 - 103 MPa	720 - 15000 psi	Average value: 82.6 MPa Grade Count:42

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