

## Overview of materials for Polycarbonate, PTFE Filled

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, PTFE Filled

### Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polycarbonate, PTFE 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-Polycarbonate-PTFE-Filled.php](http://www.lookpolymers.com/polymer_Overview-of-materials-for-Polycarbonate-PTFE-Filled.php)

Physical Properties	Metric	English	Comments
Density	1.08 - 1.55 g/cc	0.0390 - 0.0560 lb/in <sup>3</sup>	Average value: 1.28 g/cc Grade Count:77
Water Absorption	0.0200 - 0.200 %	0.0200 - 0.200 %	Average value: 0.137 % Grade Count:34
Additive Loading	5.00 - 15.0 %	5.00 - 15.0 %	Average value: 8.33 % Grade Count:3
Linear Mold Shrinkage	0.00100 - 0.0160 cm/cm	0.00100 - 0.0160 in/in	Average value: 0.00673 cm/cm Grade Count:70
Linear Mold Shrinkage, Transverse	0.00400 - 0.0150 cm/cm	0.00400 - 0.0150 in/in	Average value: 0.00756 cm/cm Grade Count:16
Melt Flow	4.50 - 55.0 g/10 min	4.50 - 55.0 g/10 min	Average value: 17.8 g/10 min Grade Count:22

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	75.0 - 118	75.0 - 118	Average value: 109 Grade Count:13
Tensile Strength, Ultimate	20.0 - 136 MPa	2900 - 19700 psi	Average value: 54.5 MPa Grade Count:71
Tensile Strength, Yield	40.7 - 121 MPa	5900 - 17500 psi	Average value: 62.8 MPa Grade Count:27
Elongation at Break	1.50 - 100 %	1.50 - 100 %	Average value: 21.4 % Grade Count:52
Elongation at Yield	1.00 - 91.0 %	1.00 - 91.0 %	Average value: 7.45 % Grade Count:28
Modulus of Elasticity	1.93 - 9.31 GPa	280 - 1350 ksi	Average value: 2.54 GPa Grade Count:42
Flexural Yield Strength	68.6 - 214 MPa	9960 - 31000 psi	Average value: 87.7 MPa Grade Count:72
Flexural Modulus	1.60 - 13.7 GPa	232 - 1990 ksi	Average value: 2.68 GPa Grade Count:72
Compressive Yield Strength	62.1 - 68.9 MPa	9000 - 10000 psi	Average value: 62.9 MPa Grade Count:8

Mechanical Properties	Metric	English	Comments
Izod Impact, Notched	0.427 - 8.01 J/cm	0.160 - 15.0 ft-lb/in	Average value: 1.98 J/cm Grade Count:61
Izod Impact, Unnotched	3.90 J/cm - NB	7.31 ft-lb/in - NB	Average value: 14.7 J/cm Grade Count:35
Izod Impact, Notched (ISO)	5.70 - 28.5 kJ/m <sup>2</sup>	2.71 - 13.6 ft-lb/in <sup>2</sup>	Average value: 15.5 kJ/m <sup>2</sup> Grade Count:5
Izod Impact, Unnotched (ISO)	26.7 - 137 kJ/m <sup>2</sup>	12.7 - 65.2 ft-lb/in <sup>2</sup>	Average value: 87.1 kJ/m <sup>2</sup> Grade Count:5
Charpy Impact Unnotched	5.00 - 12.0 J/cm <sup>2</sup>	23.8 - 57.1 ft-lb/in <sup>2</sup>	Average value: 8.23 J/cm <sup>2</sup> Grade Count:15
	5.20 - 8.00 J/cm <sup>2</sup> @Temperature -40.0 - - 20.0 °C	24.7 - 38.1 ft-lb/in <sup>2</sup> @Temperature -40.0 - - 4.00 °F	Average value: 6.57 J/cm <sup>2</sup> Grade Count:5
Charpy Impact, Notched	0.700 - 2.50 J/cm <sup>2</sup>	3.33 - 11.9 ft-lb/in <sup>2</sup>	Average value: 1.62 J/cm <sup>2</sup> Grade Count:5
	0.500 - 1.50 J/cm <sup>2</sup> @Temperature -30.0 - - 30.0 °C	2.38 - 7.14 ft-lb/in <sup>2</sup> @Temperature -22.0 - - 22.0 °F	Average value: 1.00 J/cm <sup>2</sup> Grade Count:2
Gardner Impact	36.2 J	26.7 ft-lb	Average value: 36.2 J Grade Count:7
Falling Dart Impact	7.36 - 47.5 J	5.43 - 35.0 ft-lb	Average value: 30.3 J Grade Count:8
Coefficient of Friction	0.0800 - 0.250	0.0800 - 0.250	Average value: 0.151 Grade Count:15
Coefficient of Friction, Static	0.0600 - 0.260	0.0600 - 0.260	Average value: 0.133 Grade Count:15
K (wear) Factor	3.50 - 100 x 10 <sup>-8</sup> mm <sup>3</sup> /N-M	1.74 - 49.6 x 10 <sup>-10</sup> in <sup>3</sup> - min/ft-lb-hr	Average value: 53.8 x 10 <sup>-8</sup> mm <sup>3</sup> /N-M Grade Count:6

Thermal Properties	Metric	English	Comments
CTE, linear	23.0 - 74.0 µm/m-°C	12.8 - 41.1 µin/in-°F	Average value: 59.6 µm/m-°C Grade Count:24
CTE, linear, Transverse to Flow	34.0 - 76.0 µm/m-°C	18.9 - 42.2 µin/in-°F	Average value: 51.7 µm/m-°C Grade Count:3
Thermal Conductivity	0.187 - 0.200 W/m-K	1.30 - 1.39 BTU-in/hr- ft <sup>2</sup> -°F	Average value: 0.199 W/m-K Grade Count:9
Maximum Service Temperature, Air	130 - 150 °C	266 - 302 °F	Average value: 140 °C Grade Count:12
Deflection Temperature at 0.46 MPa (66 psi)	85.0 - 182 °C	185 - 360 °F	Average value: 138 °C Grade Count:24
Deflection Temperature at 1.8 MPa (264 psi)	75.0 - 143 °C	167 - 290 °F	Average value: 130 °C Grade Count:59
Vicat Softening Point	90.0 - 160 °C	194 - 320 °F	Average value: 151 °C Grade Count:19

Flammability UL 94 Thermal Properties	HB - V-0 Metric	HB - V-0 English	Grade Count:45 Comments
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Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+14 - 1.00e+16 ohm-cm	1.00e+14 - 1.00e+16 ohm-cm	Average value: 5.88e+15 ohm-cm Grade Count:19
Surface Resistance	100 - 1.00e+16 ohm	100 - 1.00e+16 ohm	Average value: 2.52e+15 ohm Grade Count:4
Insulation Resistance	1.00e+12 ohm	1.00e+12 ohm	Average value: 1.00e+12 ohm Grade Count:12

Processing Properties	Metric	English	Comments
Processing Temperature	249 - 295 °C	480 - 563 °F	Average value: 289 °C Grade Count:16
Nozzle Temperature	271 - 310 °C	520 - 590 °F	Average value: 298 °C Grade Count:16
Melt Temperature	220 - 343 °C	428 - 650 °F	Average value: 301 °C Grade Count:60
Mold Temperature	40.0 - 121 °C	104 - 250 °F	Average value: 95.3 °C Grade Count:64
Drying Temperature	70.0 - 130 °C	158 - 266 °F	Average value: 120 °C Grade Count:60
Moisture Content	0.0200 %	0.0200 %	Average value: 0.0200 % Grade Count:35
Dew Point	-28.9 °C	-20.0 °F	Average value: -28.9 °C Grade Count:15
Injection Pressure	68.9 - 103 MPa	10000 - 15000 psi	Average value: 86.2 MPa Grade Count:19
Vent Depth	0.00250 - 0.00760 cm	0.000984 - 0.00299 in	Average value: 0.00505 cm Grade Count:4

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