

## Overview of materials for Polycarbonate, 40% Glass Filled

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, 40% Glass Filled

### Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polycarbonate, 40% Glass Filled". Specific grades with glass content between 35% and 44% 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-Polycarbonate-40-Glass-Filled.php](http://www.lookpolymers.com/polymer_Overview-of-materials-for-Polycarbonate-40-Glass-Filled.php)

Physical Properties	Metric	English	Comments
Density	1.44 - 1.54 g/cc	0.0520 - 0.0556 lb/in <sup>3</sup>	Average value: 1.51 g/cc Grade Count:39
Filler Content	40.0 %	40.0 %	Average value: 40.0 % Grade Count:14
Water Absorption	0.0600 - 0.230 %	0.0600 - 0.230 %	Average value: 0.124 % Grade Count:20
Linear Mold Shrinkage	0.000 - 0.0120 cm/cm	0.000 - 0.0120 in/in	Average value: 0.00205 cm/cm Grade Count:38
Linear Mold Shrinkage, Transverse	0.00100 - 0.00300 cm/cm	0.00100 - 0.00300 in/in	Average value: 0.00250 cm/cm Grade Count:4
Melt Flow	2.00 - 33.0 g/10 min	2.00 - 33.0 g/10 min	Average value: 9.43 g/10 min Grade Count:18

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	91.0 - 100	91.0 - 100	Average value: 93.8 Grade Count:9
Hardness, Rockwell R	114 - 122	114 - 122	Average value: 119 Grade Count:9
Tensile Strength, Ultimate	103 - 166 MPa	15000 - 24000 psi	Average value: 143 MPa Grade Count:30
Tensile Strength, Yield	110 - 167 MPa	16000 - 24200 psi	Average value: 145 MPa Grade Count:16
Elongation at Break	1.50 - 6.00 %	1.50 - 6.00 %	Average value: 2.92 % Grade Count:29
Elongation at Yield	3.00 - 4.00 %	3.00 - 4.00 %	Average value: 3.50 % Grade Count:6
Modulus of Elasticity	5.50 - 12.4 GPa	798 - 1800 ksi	Average value: 10.4 GPa Grade Count:21
Flexural Yield Strength	138 - 216 MPa	20000 - 31300 psi	Average value: 190 MPa Grade Count:34
	7.00 - 11.7 GPa	1020 - 1700 ksi	Average value: 9.72 GPa Grade

Flexural Modulus Mechanical Properties	Metric	English	Count:39 Comments
Compressive Yield Strength	145 - 152 MPa	21000 - 22000 psi	Average value: 148 MPa Grade Count:4
Izod Impact, Notched	0.534 - 1.87 J/cm	1.00 - 3.50 ft-lb/in	Average value: 1.27 J/cm Grade Count:38
Izod Impact, Unnotched	2.67 - 12.8 J/cm	5.00 - 24.0 ft-lb/in	Average value: 8.44 J/cm Grade Count:13

Thermal Properties	Metric	English	Comments
CTE, linear	16.2 - 20.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	9.00 - 11.1 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Average value: 18.3 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ Grade Count:7
Thermal Conductivity	0.220 - 0.346 W/m-K	1.53 - 2.40 BTU-in/hr-ft <sup>2</sup> -°F	Average value: 0.300 W/m-K Grade Count:5
Deflection Temperature at 0.46 MPa (66 psi)	98.9 - 155 °C	210 - 311 °F	Average value: 148 °C Grade Count:26
Deflection Temperature at 1.8 MPa (264 psi)	91.1 - 149 °C	196 - 300 °F	Average value: 143 °C Grade Count:33
Vicat Softening Point	98.9 - 166 °C	210 - 331 °F	Average value: 154 °C Grade Count:8
Flammability, UL94	HB - 5VA	HB - 5VA	Grade Count:26

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+9 - 1.00e+17 ohm-cm	1.00e+9 - 1.00e+17 ohm-cm	Average value: 1.98e+16 ohm-cm Grade Count:15
Surface Resistance	1.00e+10 - 1.00e+15 ohm	1.00e+10 - 1.00e+15 ohm	Average value: 5.25e+14 ohm Grade Count:4
Dielectric Constant	3.30 - 3.60	3.30 - 3.60	Average value: 3.45 Grade Count:6
Dielectric Strength	16.1 - 45.0 kV/mm	410 - 1140 kV/in	Average value: 24.1 kV/mm Grade Count:9
Dissipation Factor	0.000900 - 0.00900	0.000900 - 0.00900	Average value: 0.00501 Grade Count:5
Arc Resistance	120 sec	120 sec	Average value: 120 sec Grade Count:5

Processing Properties	Metric	English	Comments
Processing Temperature	204 - 299 °C	400 - 570 °F	Average value: 269 °C Grade Count:8
Nozzle Temperature	271 - 338 °C	520 - 640 °F	Average value: 306 °C Grade Count:3
Melt Temperature	260 - 343 °C	500 - 650 °F	Average value: 306 °C Grade Count:9
Mold Temperature	48.9 - 121 °C	120 - 250 °F	Average value: 91.0 °C Grade Count:16

<b>Drying Temperature Processing Properties</b>	<b>82.2 - 124 °C Metric</b>	<b>180 - 255 °F English</b>	<b>Average value: 114 °C Grade Count:7 Comments</b>
Moisture Content	0.0200 %	0.0200 %	Average value: 0.0200 % Grade Count:4
Dew Point	-28.9 °C	-20.0 °F	Average value: -28.9 °C Grade Count:3
Injection Pressure	11.0 - 138 MPa	1600 - 20000 psi	Average value: 79.9 MPa Grade Count:11

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