

Overview of materials for Polycarbonate, 20% Glass Filled

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, 20% Glass Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polycarbonate, 20% Glass 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-Polycarbonate-20-Glass-Filled.php

| Physical Properties | Metric | English | Comments |
|------------------------------------|---|---|--|
| Density | 1.05 - 1.46 g/cc | 0.0379 - 0.0527 lb/in ³ | Average value: 1.34 g/cc Grade Count:126 |
| | 1.10 - 1.14 g/cc @Temperature 300 - 300 °C | 0.0397 - 0.0412 lb/in ³ @Temperature 572 - 572 °F | Average value: 1.11 g/cc Grade Count:3 |
| Filler Content | 15.0 - 20.0 % | 15.0 - 20.0 % | Average value: 18.8 % Grade Count:28 |
| Water Absorption | 0.0200 - 0.350 % | 0.0200 - 0.350 % | Average value: 0.170 % Grade Count:62 |
| Moisture Absorption at Equilibrium | 0.100 - 0.290 % | 0.100 - 0.290 % | Average value: 0.155 % Grade Count:11 |
| Water Absorption at Saturation | 0.100 - 0.350 % | 0.100 - 0.350 % | Average value: 0.254 % Grade Count:9 |
| Viscosity Test | 45.0 - 56.0 cm ³ /g | 45.0 - 56.0 cm ³ /g | Average value: 50.3 cm ³ /g Grade Count:8 |
| Maximum Moisture Content | 0.0200 | 0.0200 | Average value: 0.0200 Grade Count:5 |
| Linear Mold Shrinkage | 0.00100 - 0.0300 cm/cm | 0.00100 - 0.0300 in/in | Average value: 0.00332 cm/cm Grade Count:111 |
| Linear Mold Shrinkage, Transverse | 0.00250 - 0.00600 cm/cm | 0.00250 - 0.00600 in/in | Average value: 0.00456 cm/cm Grade Count:21 |
| Melt Flow | 3.00 - 26.0 g/10 min | 3.00 - 26.0 g/10 min | Average value: 9.60 g/10 min Grade Count:56 |
| Ash | 15.0 - 20.0 % | 15.0 - 20.0 % | Average value: 18.3 % Grade Count:3 |

| Mechanical Properties | Metric | English | Comments |
|-----------------------|-------------|-------------|------------------------------------|
| Hardness, Rockwell M | 81.0 - 93.0 | 81.0 - 93.0 | Average value: 89.8 Grade Count:22 |
| Hardness, Rockwell R | 110 - 124 | 110 - 124 | Average value: 120 Grade Count:27 |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|-------------------------------|-------------------------------|---|
| | 38.0 - 85.0 MPa | 5510 - 12300 psi | Average value: 93.7 MPa Grade Count:30 |
| | @Temperature 60.0 - 120 °C | @Temperature 140 - 248 °F | Average value: 58.4 MPa Grade Count:3 |
| Tensile Strength, Yield | 47.1 - 120 MPa | 6830 - 17400 psi | Average value: 94.9 MPa Grade Count:48 |
| Elongation at Break | 1.80 - 25.0 % | 1.80 - 25.0 % | Average value: 4.55 % Grade Count:105 |
| | 1.50 - 2.20 % | 1.50 - 2.20 % | Average value: 1.72 % Grade Count:2 |
| | @Temperature 60.0 - 120 °C | @Temperature 140 - 248 °F | |
| Elongation at Yield | 2.00 - 5.00 % | 2.00 - 5.00 % | Average value: 4.19 % Grade Count:10 |
| Modulus of Elasticity | 2.10 - 8.27 GPa | 305 - 1200 ksi | Average value: 5.57 GPa Grade Count:57 |
| | 3.80 - 6.00 GPa | 551 - 870 ksi | Average value: 4.83 GPa Grade Count:2 |
| | @Temperature 60.0 - 120 °C | @Temperature 140 - 248 °F | |
| Flexural Yield Strength | 36.0 - 200 MPa | 5220 - 29000 psi | Average value: 139 MPa Grade Count:102 |
| Flexural Modulus | 2.00 - 8.00 GPa | 290 - 1160 ksi | Average value: 5.22 GPa Grade Count:112 |
| | 3.20 - 3.30 GPa | 464 - 479 ksi | Average value: 3.27 GPa Grade Count:1 |
| | @Temperature 60.0 - 120 °C | @Temperature 140 - 248 °F | |
| Compressive Yield Strength | 96.5 - 124 MPa | 14000 - 18000 psi | Average value: 114 MPa Grade Count:8 |
| Izod Impact, Notched | 0.392 - 2.16 J/cm | 0.735 - 4.04 ft-lb/in | Average value: 1.07 J/cm Grade Count:99 |
| | 0.500 - 0.550 J/cm | 0.937 - 1.03 ft-lb/in | Average value: 0.642 J/cm Grade Count:1 |
| | @Temperature -40.0 - -20.0 °C | @Temperature -40.0 - -4.00 °F | |
| | 0.600 - 0.800 J/cm | 1.12 - 1.50 ft-lb/in | Average value: 0.642 J/cm Grade Count:1 |
| | @Temperature -40.0 - 0.000 °C | @Temperature -40.0 - 32.0 °F | |
| | 0.600 - 0.800 J/cm | 1.12 - 1.50 ft-lb/in | Average value: 0.642 J/cm Grade Count:1 |
| | @Thickness 3.20 - 3.20 mm | @Thickness 0.126 - 0.126 in | |
| Izod Impact, Unnotched | 1.57 - 10.1 J/cm | 2.94 - 19.0 ft-lb/in | Average value: 7.43 J/cm Grade Count:29 |

| Mechanical Properties | Metric | English | Comments |
|-----------------------------------|--|--|--|
| Charpy Impact, Notched (ISO) | 10.6 kJ/m ² | 7.79 ft-lb/in ² | Average value: 10.6 kJ/m ² Grade Count:12 |
| | 8.00 - 11.0 kJ/m ² @Temperature -30.0 - -30.0 °C | 3.81 - 5.23 ft-lb/in ² @Temperature -22.0 - -22.0 °F | Average value: 9.67 kJ/m ² Grade Count:3 |
| Charpy Impact Unnotched | 3.50 J/cm ² - NB | 16.7 ft-lb/in ² - NB | Average value: 4.50 J/cm ² Grade Count:8 |
| | 3.00 - 5.00 J/cm ² @Temperature -40.0 - -20.0 °C | 14.3 - 23.8 ft-lb/in ² @Temperature -40.0 - -4.00 °F | Average value: 4.33 J/cm ² Grade Count:2 |
| Charpy Impact, Notched | 0.700 - 1.20 J/cm ² | 3.33 - 5.71 ft-lb/in ² | Average value: 0.900 J/cm ² Grade Count:7 |
| | 0.550 - 0.600 J/cm ² @Temperature -20.0 - -20.0 °C | 2.62 - 2.86 ft-lb/in ² @Temperature -4.00 - -4.00 °F | Average value: 0.590 J/cm ² Grade Count:5 |
| Puncture Energy | 10.0 - 10.0 J @Temperature -30.0 - -30.0 °C | 7.38 - 7.38 ft-lb @Temperature -22.0 - -22.0 °F | Average value: 10.0 J Grade Count:1 |
| Tensile Creep Modulus, 1 hour | 2200 - 10100 MPa | 319000 - 1.46e+6 psi | Average value: 5970 MPa Grade Count:3 |
| Tensile Creep Modulus, 1000 hours | 1900 - 9600 MPa | 276000 - 1.39e+6 psi | Average value: 5430 MPa Grade Count:3 |

| Thermal Properties | Metric | English | Comments |
|---|---------------------|---|--|
| CTE, linear | 12.0 - 50.0 µm/m-°C | 6.67 - 27.8 µin/in-°F | Average value: 28.7 µm/m-°C Grade Count:33 |
| CTE, linear, Transverse to Flow | 49.0 - 65.0 µm/m-°C | 27.2 - 36.1 µin/in-°F | Average value: 58.0 µm/m-°C Grade Count:4 |
| Specific Heat Capacity | 1.13 - 1.55 J/g-°C | 0.270 - 0.370 BTU/lb-°F | Average value: 1.43 J/g-°C Grade Count:4 |
| Thermal Conductivity | 0.198 - 0.288 W/m-K | 1.37 - 2.00 BTU-in/hr-ft ² -°F | Average value: 0.230 W/m-K Grade Count:13 |
| Maximum Service Temperature, Air | 80.0 - 145 °C | 176 - 293 °F | Average value: 127 °C Grade Count:14 |
| Deflection Temperature at 0.46 MPa (66 psi) | 131 - 152 °C | 268 - 306 °F | Average value: 145 °C Grade Count:74 |
| Deflection Temperature at 1.8 MPa (264 psi) | 122 - 254 °C | 252 - 490 °F | Average value: 143 °C Grade Count:109 |

| Electrical Properties | Metric | English | Comments |
|-----------------------|-------------------------|-------------------------|--------------------------------|
| | 1e+05 - 1.00e+17 ohm-cm | 1e+05 - 1.00e+17 ohm-cm | Average value: 1.68e+16 ohm-cm |

| Electrical Properties | cm Metric | cm English | Grade Count:58 Comments |
|----------------------------|---------------------------|---------------------------|---|
| Surface Resistance | 1.00e+9 - 1.00e+16 ohm | 1.00e+9 - 1.00e+16 ohm | Average value: 8.68e+14 ohm Grade Count:29 |
| Dielectric Constant | 3.05 - 3.30 | 3.05 - 3.30 | Average value: 3.20 Grade Count:32 |
| Dielectric Strength | 16.9 - 49.0 kV/mm | 430 - 1240 kV/in | Average value: 26.3 kV/mm Grade Count:46 |
| Dissipation Factor | 0.000800 - 0.00970 | 0.000800 - 0.00970 | Average value: 0.00518 Grade Count:28 |
| Arc Resistance | 30.0 - 179 sec | 30.0 - 179 sec | Average value: 116 sec Grade Count:18 |
| Comparative Tracking Index | 150 - 249 V | 150 - 249 V | Average value: 191 V Grade Count:20 |

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