

Overview of materials for Polycarbonate/Polybutylene Terephthalate (PBT) Blend, Glass Filled

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate/Polybutylene Terephthalate (PBT) Blend, Glass Filled , Polyester, TP , Polybutylene Terephthalate (PBT)

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polycarbonate/Polybutylene Terephthalate (PBT) Blend, Glass 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-PolycarbonatePolybutylene-Terephthalate-PBT-Blend-Glass-Filled.php

Physical Properties	Metric	English	Comments
Density	1.17 - 1.64 g/cc	0.0423 - 0.0592 lb/in ³	Average value: 1.41 g/cc Grade Count:48
Water Absorption	0.0600 - 0.400 %	0.0600 - 0.400 %	Average value: 0.155 % Grade Count:14
Moisture Absorption at Equilibrium	0.0800 - 0.160 %	0.0800 - 0.160 %	Average value: 0.120 % Grade Count:15
Water Absorption at Saturation	0.100 - 0.500 %	0.100 - 0.500 %	Average value: 0.349 % Grade Count:10
Maximum Moisture Content	0.0200	0.0200	Average value: 0.0200 Grade Count:3
Linear Mold Shrinkage	0.000500 - 0.0100 cm/cm	0.000500 - 0.0100 in/in	Average value: 0.00488 cm/cm Grade Count:39
Linear Mold Shrinkage, Transverse	0.00400 - 0.00900 cm/cm	0.00400 - 0.00900 in/in	Average value: 0.00605 cm/cm Grade Count:16
Melt Flow	3.20 - 56.0 g/10 min	3.20 - 56.0 g/10 min	Average value: 25.3 g/10 min Grade Count:24

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	95.0 - 119	95.0 - 119	Average value: 115 Grade Count:15
Hardness, H358/30	95.0 - 115 MPa	13800 - 16700 psi	Average value: 104 MPa Grade Count:4
Tensile Strength, Ultimate	45.0 - 138 MPa	6530 - 20000 psi	Average value: 93.7 MPa Grade Count:35
Tensile Strength, Yield	48.0 - 114 MPa	6960 - 16500 psi	Average value: 88.2 MPa Grade Count:22
Elongation at Break	1.00 - 200 %	1.00 - 200 %	Average value: 11.2 % Grade Count:40
Elongation at Yield	1.00 - 3.60 %	1.00 - 3.60 %	Average value: 2.29 % Grade Count:9

Mechanical Properties	Metric 3.8 GPa	English 100 ksi	Comments Average value: 7.28 GPa Grade Count:22
Flexural Yield Strength	85.0 - 207 MPa	12300 - 30000 psi	Average value: 151 MPa Grade Count:37
Flexural Modulus	1.72 - 13.1 GPa	250 - 1900 ksi	Average value: 5.78 GPa Grade Count:42
Izod Impact, Notched	0.427 - 10.8 J/cm	0.800 - 20.2 ft-lb/in	Average value: 1.68 J/cm Grade Count:32
	0.600 - 1.12 J/cm @Temperature -30.0 - - 30.0 °C	1.12 - 2.10 ft-lb/in @Temperature -22.0 - - 22.0 °F	Average value: 0.864 J/cm Grade Count:9
	1.01 - 1.07 J/cm @Temperature -20.0 - - 20.0 °C	1.89 - 2.00 ft-lb/in @Temperature -4.00 - - 4.00 °F	Average value: 0.864 J/cm Grade Count:2
	1.01 - 1.07 J/cm @Thickness 3.18 - 3.18 mm	1.89 - 2.00 ft-lb/in @Thickness 0.125 - 0.125 in	Average value: 0.864 J/cm Grade Count:2
Izod Impact, Unnotched	5.93 - 9.50 J/cm	11.1 - 17.8 ft-lb/in	Average value: 6.63 J/cm Grade Count:13
Izod Impact, Notched (ISO)	3.00 - 10.0 kJ/m ²	1.43 - 4.76 ft-lb/in ²	Average value: 6.86 kJ/m ² Grade Count:14
	3.00 - 11.0 kJ/m ² @Temperature -30.0 - 0.000 °C	1.43 - 5.23 ft-lb/in ² @Temperature -22.0 - 32.0 °F	Average value: 5.71 kJ/m ² Grade Count:13
Izod Impact, Unnotched (ISO)	25.0 - 55.0 kJ/m ²	11.9 - 26.2 ft-lb/in ²	Average value: 40.2 kJ/m ² Grade Count:6
	27.0 - 80.0 kJ/m ² @Temperature -30.0 - - 30.0 °C	12.8 - 38.1 ft-lb/in ² @Temperature -22.0 - - 22.0 °F	Average value: 46.8 kJ/m ² Grade Count:5
Charpy Impact Unnotched	2.70 - 5.50 J/cm ²	12.8 - 26.2 ft-lb/in ²	Average value: 4.17 J/cm ² Grade Count:10
	2.20 - 5.50 J/cm ² @Temperature -30.0 - - 30.0 °C	10.5 - 26.2 ft-lb/in ² @Temperature -22.0 - - 22.0 °F	Average value: 3.64 J/cm ² Grade Count:5
Charpy Impact, Notched	0.400 - 2.10 J/cm ²	1.90 - 9.99 ft-lb/in ²	Average value: 1.28 J/cm ² Grade Count:12
	0.300 - 1.00 J/cm ² @Temperature -30.0 - - 30.0 °C	1.43 - 4.76 ft-lb/in ² @Temperature -22.0 - - 22.0 °F	Average value: 0.675 J/cm ² Grade Count:4
Dart Drop, Total Energy	5.00 - 17.0 J	3.69 - 12.5 ft-lb	Average value: 8.27 J Grade Count:10

Mechanical Properties	Metric ^{7.00 J}	English ^{16 ft-lb}	Comments
	@Temperature -30.0 - -20.0 °C	@Temperature -22.0 - -4.00 °F	Average value: 3.75 J Grade Count:3

Thermal Properties	Metric	English	Comments
CTE, linear	21.0 - 450 µm/m-°C	11.7 - 250 µin/in-°F	Average value: 57.6 µm/m-°C Grade Count:24
	16.2 - 21.6 µm/m-°C	9.00 - 12.0 µin/in-°F	Average value: 18.6 µm/m-°C Grade Count:6
	@Temperature 60.0 - 138 °C	@Temperature 140 - 280 °F	
CTE, linear, Transverse to Flow	30.0 - 110 µm/m-°C	16.7 - 61.1 µin/in-°F	Average value: 78.9 µm/m-°C Grade Count:15
Thermal Conductivity	0.180 - 0.190 W/m-K	1.25 - 1.32 BTU-in/hr-ft ² -°F	Average value: 0.187 W/m-K Grade Count:3
Melting Point	220 - 225 °C	428 - 437 °F	Average value: 224 °C Grade Count:10
Deflection Temperature at 0.46 MPa (66 psi)	108 - 215 °C	226 - 419 °F	Average value: 170 °C Grade Count:31
Deflection Temperature at 1.8 MPa (264 psi)	62.8 - 195 °C	145 - 383 °F	Average value: 138 °C Grade Count:47
Vicat Softening Point	121 - 212 °C	250 - 414 °F	Average value: 154 °C Grade Count:16
UL RTI, Electrical	75.0 - 140 °C	167 - 284 °F	Average value: 117 °C Grade Count:9
UL RTI, Mechanical with Impact	75.0 - 130 °C	167 - 266 °F	Average value: 107 °C Grade Count:9

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+14 - 5.90e+16 ohm-cm	1.00e+14 - 5.90e+16 ohm-cm	Average value: 2.23e+16 ohm-cm Grade Count:13
Surface Resistance	1.00e+15 ohm	1.00e+15 ohm	Average value: 1.00e+15 ohm Grade Count:6
Dielectric Constant	2.90 - 4.00	2.90 - 4.00	Average value: 3.53 Grade Count:15
Dielectric Strength	14.0 - 34.0 kV/mm	356 - 864 kV/in	Average value: 23.3 kV/mm Grade Count:14
Dissipation Factor	0.00100 - 0.0200	0.00100 - 0.0200	Average value: 0.00988 Grade Count:12
Arc Resistance	60.0 - 180 sec	60.0 - 180 sec	Average value: 105 sec Grade Count:8
Comparative Tracking Index	100 - 400 V	100 - 400 V	Average value: 184 V Grade Count:11
Hot Wire Ignition, HWI	60.0 - 120 sec	60.0 - 120 sec	Average value: 90.0 sec Grade Count:6

High Amp Arc Ignition, HAI Electrical Properties	15.0 - 30.0 arcs Metric	15.0 - 30.0 arcs English	Average value: 22.5 arcs Grade Count:6
High Voltage Arc-Tracking Rate, HVTR	10.0 - 150 mm/min	0.394 - 5.91 in/min	Average value: 67.6 mm/min Grade Count:6

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