

Overview of materials for Polybutylene Terephthalate (PBT), 40% Glass Fiber Filled

Category : Polymer , Thermoplastic , Polyester, TP , Polybutylene Terephthalate (PBT) , Polybutylene Terephthalate (PBT), 40% Glass Fiber Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polybutylene Terephthalate (PBT), 40% Glass Fiber 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-Polybutylene-Terephthalate-PBT-40-Glass-Fiber-Filled.php

Physical Properties	Metric	English	Comments
Density	1.47 - 1.76 g/cc	0.0531 - 0.0636 lb/in ³	Average value: 1.62 g/cc Grade Count:36
Filler Content	35.0 - 43.0 %	35.0 - 43.0 %	Average value: 39.0 % Grade Count:12
Water Absorption	0.0400 - 0.250 %	0.0400 - 0.250 %	Average value: 0.0873 % Grade Count:11
Moisture Absorption at Equilibrium	0.0300 - 0.150 %	0.0300 - 0.150 %	Average value: 0.110 % Grade Count:7
Linear Mold Shrinkage	0.00100 - 0.0130 cm/cm	0.00100 - 0.0130 in/in	Average value: 0.00343 cm/cm Grade Count:26
Linear Mold Shrinkage, Transverse	0.00300 - 0.00900 cm/cm	0.00300 - 0.00900 in/in	Average value: 0.00673 cm/cm Grade Count:8
Melt Flow	5.00 - 35.0 g/10 min	5.00 - 35.0 g/10 min	Average value: 10.3 g/10 min Grade Count:8

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	93.0 - 95.0	93.0 - 95.0	Average value: 93.5 Grade Count:4
Hardness, Rockwell R	115 - 120	115 - 120	Average value: 119 Grade Count:6
Tensile Strength, Ultimate	105 - 220 MPa	15200 - 31900 psi	Average value: 144 MPa Grade Count:29
Tensile Strength, Yield	80.0 - 152 MPa	11600 - 22000 psi	Average value: 124 MPa Grade Count:9
Elongation at Break	0.850 - 7.00 %	0.850 - 7.00 %	Average value: 2.55 % Grade Count:33
Modulus of Elasticity	8.27 - 32.0 GPa	1200 - 4640 ksi	Average value: 13.0 GPa Grade Count:25
Flexural Yield Strength	125 - 375 MPa	18100 - 54400 psi	Average value: 211 MPa Grade Count:32

Mechanical Properties	Metric	English	Comments
	27.5 GPa	3990 ksi	Average value: 10.6 GPa Grade Count:34
Izod Impact, Notched	0.500 - 6.99 J/cm	0.937 - 13.1 ft-lb/in	Average value: 1.28 J/cm Grade Count:25
Izod Impact, Unnotched	6.41 - 10.1 J/cm	12.0 - 19.0 ft-lb/in	Average value: 7.53 J/cm Grade Count:10
Izod Impact, Notched (ISO)	8.00 - 16.0 kJ/m ²	3.81 - 7.61 ft-lb/in ²	Average value: 10.7 kJ/m ² Grade Count:7
	9.00 - 9.00 kJ/m ² @Temperature -30.0 - - 30.0 °C	4.28 - 4.28 ft-lb/in ² @Temperature -22.0 - - 22.0 °F	Average value: 9.00 kJ/m ² Grade Count:1
Charpy Impact Unnotched	4.70 - 7.00 J/cm ²	22.4 - 33.3 ft-lb/in ²	Average value: 5.88 J/cm ² Grade Count:5
	4.50 - 6.50 J/cm ² @Temperature -30.0 - - 20.0 °C	21.4 - 30.9 ft-lb/in ² @Temperature -22.0 - - 4.00 °F	Average value: 5.70 J/cm ² Grade Count:5
Charpy Impact, Notched	0.790 - 3.50 J/cm ²	3.76 - 16.7 ft-lb/in ²	Average value: 1.67 J/cm ² Grade Count:12
	0.950 - 1.30 J/cm ² @Temperature -30.0 - - 20.0 °C	4.52 - 6.19 ft-lb/in ² @Temperature -22.0 - - 4.00 °F	Average value: 1.06 J/cm ² Grade Count:5

Thermal Properties	Metric	English	Comments
CTE, linear	15.0 - 40.0 µm/m-°C	8.33 - 22.2 µin/in-°F	Average value: 21.9 µm/m-°C Grade Count:9
CTE, linear, Transverse to Flow	70.0 - 101 µm/m-°C	38.9 - 56.1 µin/in-°F	Average value: 89.8 µm/m-°C Grade Count:4
Melting Point	200 - 225 °C	392 - 437 °F	Average value: 223 °C Grade Count:12
Deflection Temperature at 0.46 MPa (66 psi)	210 - 226 °C	410 - 439 °F	Average value: 219 °C Grade Count:22
Deflection Temperature at 1.8 MPa (264 psi)	190 - 225 °C	374 - 437 °F	Average value: 210 °C Grade Count:33
Glass Transition Temp, Tg	22.0 - 60.0 °C	71.6 - 140 °F	Average value: 43.0 °C Grade Count:4
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:26

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+13 - 3.00e+16 ohm-cm	1.00e+13 - 3.00e+16 ohm-cm	Average value: 8.06e+15 ohm-cm Grade Count:15
Surface Resistance	1.00e+13 - 2.00e+16 ohm	1.00e+13 - 2.00e+16 ohm	Average value: 2.62e+15 ohm Grade Count:10

Electrical Properties	Metric	English	Comments
Dielectric Strength	18.9 - 50.0 kV/mm	480 - 1270 kV/in	Average value: 25.2 kV/mm Grade Count:13
Dissipation Factor	0.00100 - 0.0150	0.00100 - 0.0150	Average value: 0.00686 Grade Count:5
Arc Resistance	90.0 - 127 sec	90.0 - 127 sec	Average value: 116 sec Grade Count:4
Comparative Tracking Index	350 - 599 V	350 - 599 V	Average value: 464 V Grade Count:6

Processing Properties	Metric	English	Comments
Processing Temperature	20.0 - 270 °C	68.0 - 518 °F	Average value: 185 °C Grade Count:13
Nozzle Temperature	240 - 270 °C	464 - 518 °F	Average value: 255 °C Grade Count:3
Die Temperature	240 - 285 °C	464 - 545 °F	Average value: 261 °C Grade Count:5
Melt Temperature	20.0 - 285 °C	68.0 - 545 °F	Average value: 236 °C Grade Count:18
Mold Temperature	40.0 - 121 °C	104 - 250 °F	Average value: 85.7 °C Grade Count:20
Drying Temperature	116 - 140 °C	240 - 284 °F	Average value: 124 °C Grade Count:17
Moisture Content	0.0200 - 0.0800 %	0.0200 - 0.0800 %	Average value: 0.0325 % Grade Count:12
Dew Point	-28.9 °C	-20.0 °F	Average value: -28.9 °C Grade Count:4
Injection Pressure	39.2 - 124 MPa	5690 - 18000 psi	Average value: 84.5 MPa Grade Count:15

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