

Overview of materials for Polybutylene Terephthalate (PBT), 20% Glass Fiber Filled

Category : Polymer , Thermoplastic , Polyester, TP , Polybutylene Terephthalate (PBT) , Polybutylene Terephthalate (PBT), 20% Glass Fiber Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polybutylene Terephthalate (PBT), 20% Glass Fiber 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-Polybutylene-Terephthalate-PBT-20-Glass-Fiber-Filled.php

Physical Properties	Metric	English	Comments
Density	1.22 - 1.80 g/cc	0.0441 - 0.0650 lb/in ³	Average value: 1.47 g/cc Grade Count:259
	1.14 - 1.32 g/cc @Temperature 240 - 250 °C	0.0412 - 0.0477 lb/in ³ @Temperature 464 - 482 °F	Average value: 1.25 g/cc Grade Count:7
Filler Content	15.0 - 20.0 %	15.0 - 20.0 %	Average value: 16.8 % Grade Count:40
Water Absorption	0.0100 - 0.500 %	0.0100 - 0.500 %	Average value: 0.236 % Grade Count:88
Moisture Absorption at Equilibrium	0.0300 - 0.200 %	0.0300 - 0.200 %	Average value: 0.144 % Grade Count:112
Water Absorption at Saturation	0.310 - 0.450 %	0.310 - 0.450 %	Average value: 0.394 % Grade Count:7
Viscosity	102722 - 460190 cP @Temperature 240 - 260 °C	102722 - 460190 cP @Temperature 464 - 500 °F	Average value: 234000 cP Grade Count:3
	102722 - 460190 cP @Shear Rate 500 - 5000 1/s	102722 - 460190 cP @Shear Rate 500 - 5000 1/s	Average value: 234000 cP Grade Count:3
Viscosity Test	69.0 - 116 cm ³ /g	69.0 - 116 cm ³ /g	Average value: 97.9 cm ³ /g Grade Count:23
Maximum Moisture Content	0.0200	0.0200	Average value: 0.0200 Grade Count:7
Linear Mold Shrinkage	0.00100 - 0.0200 cm/cm	0.00100 - 0.0200 in/in	Average value: 0.00624 cm/cm Grade Count:194
Linear Mold Shrinkage, Transverse	0.00100 - 0.0180 cm/cm	0.00100 - 0.0180 in/in	Average value: 0.0103 cm/cm Grade Count:80
Melt Flow	2.00 - 131 g/10 min	2.00 - 131 g/10 min	Average value: 25.4 g/10 min Grade

Physical Properties	Metric	English	Count:91 Comments
Spiral Flow	36.0 - 45.0 cm	14.2 - 17.7 in	Average value: 41.0 cm Grade Count:4
Ash	15.0 - 24.0 %	15.0 - 24.0 %	Average value: 17.4 % Grade Count:8

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	83.0 - 109	83.0 - 109	Average value: 91.2 Grade Count:26
Hardness, Rockwell R	90.0 - 120	90.0 - 120	Average value: 117 Grade Count:27
Ball Indentation Hardness	153 - 190 MPa	22200 - 27600 psi	Average value: 179 MPa Grade Count:5
Tensile Strength, Ultimate	20.0 - 140 MPa	2900 - 20300 psi	Average value: 99.8 MPa Grade Count:210
	40.0 - 165 MPa @Temperature -40.0 - 150 °C	5800 - 23900 psi @Temperature -40.0 - 302 °F	Average value: 70.3 MPa Grade Count:9
	6.14 - 175 MPa @Temperature -40.0 - 160 °C	891 - 25400 psi @Temperature -40.0 - 320 °F	Average value: 70.3 MPa Grade Count:2
	6.14 - 175 MPa @Strain 0.250 - 5.00 %	891 - 25400 psi @Strain 0.250 - 5.00 %	Average value: 70.3 MPa Grade Count:2
Tensile Strength, Yield	62.1 - 125 MPa	9000 - 18100 psi	Average value: 99.3 MPa Grade Count:63
Elongation at Break	1.00 - 120 %	1.00 - 120 %	Average value: 4.41 % Grade Count:220
	1.90 - 6.30 % @Temperature -40.0 - 150 °C	1.90 - 6.30 % @Temperature -40.0 - 302 °F	Average value: 4.33 % Grade Count:6
Elongation at Yield	2.54 - 3.50 %	2.54 - 3.50 %	Average value: 3.11 % Grade Count:5
Modulus of Elasticity	2.60 - 14.0 GPa	377 - 2030 ksi	Average value: 6.52 GPa Grade Count:156
	1.463 - 7.35 GPa @Temperature -40.0 - 150 °C	212.2 - 1070 ksi @Temperature -40.0 - 302 °F	Average value: 4.15 GPa Grade Count:9
Flexural Yield Strength	80.0 - 190 MPa	11600 - 27600 psi	Average value: 153 MPa Grade Count:176
	80.0 - 80.0 MPa @Temperature 90.0 - 90.0 °C	11600 - 11600 psi @Temperature 194 - 194 °F	Average value: 80.0 MPa Grade Count:1

Mechanical Properties	Metric	English	Comments
	3.50 - 5.00 GPa @Temperature 60.0 - 120 °C	508 - 725 ksi @Temperature 140 - 248 °F	Average value: 5.62 GPa Grade Count:119 Average value: 4.03 GPa Grade Count:2
Shear Modulus	1.42 - 1.70 GPa	206 - 247 ksi	Average value: 1.54 GPa Grade Count:4
	>= 0.250 GPa @Temperature -100 - 200 °C	>= 36.3 ksi @Temperature -148 - 392 °F	Average value: 1.01 GPa Grade Count:4
Secant Modulus	1.62 - 10.2 GPa @Temperature -40.0 - 100 °C	235 - 1480 ksi @Temperature -40.0 - 212 °F	Average value: 5.73 GPa Grade Count:1
	1.62 - 10.2 GPa @Strain 0.250 - 3.50 %	235 - 1480 ksi @Strain 0.250 - 3.50 %	Average value: 5.73 GPa Grade Count:1
Izod Impact, Notched	0.267 - 1.60 J/cm	0.500 - 3.00 ft-lb/in	Average value: 0.625 J/cm Grade Count:107
	0.430 - 0.600 J/cm @Temperature -40.0 - 20.0 °C	0.806 - 1.12 ft-lb/in @Temperature -40.0 - 4.00 °F	Average value: 0.554 J/cm Grade Count:3
Izod Impact, Unnotched	0.588 - 8.17 J/cm	1.10 - 15.3 ft-lb/in	Average value: 5.62 J/cm Grade Count:16
Izod Impact, Notched (ISO)	3.50 - 60.0 kJ/m ²	1.67 - 28.6 ft-lb/in ²	Average value: 8.52 kJ/m ² Grade Count:75
	5.00 - 10.0 kJ/m ² @Temperature -40.0 - 30.0 °C	2.38 - 4.76 ft-lb/in ² @Temperature -40.0 - 86.0 °F	Average value: 6.99 kJ/m ² Grade Count:21
Izod Impact, Unnotched (ISO)	12.2 - 65.0 kJ/m ²	5.81 - 30.9 ft-lb/in ²	Average value: 47.5 kJ/m ² Grade Count:35
	10.5 - 60.0 kJ/m ² @Temperature -40.0 - 30.0 °C	5.00 - 28.6 ft-lb/in ² @Temperature -40.0 - 86.0 °F	Average value: 39.6 kJ/m ² Grade Count:12
Charpy Impact Unnotched	0.450 - 10.0 J/cm ²	2.14 - 47.6 ft-lb/in ²	Average value: 4.31 J/cm ² Grade Count:101
	1.39 - 6.50 J/cm ² @Temperature -40.0 - 30.0 °C	6.62 - 30.9 ft-lb/in ² @Temperature -40.0 - 86.0 °F	Average value: 3.68 J/cm ² Grade Count:66
Charpy Impact, Notched	0.170 - 2.00 J/cm ²	0.809 - 9.52 ft-lb/in ²	Average value: 0.756 J/cm ² Grade Count:123

Mechanical Properties	0.280 - 1.00 J/cm ² Metric	1.33 - 4.76 ft-lb/in ² English	Average value: 0.693 J/cm ² Grade Count:3
	@Temperature -40.0 - 30.0 °C	@Temperature -40.0 - 86.0 °F	
Dart Drop, Total Energy	5.00 J	3.69 ft-lb	Average value: 5.00 J Grade Count:3
Puncture Energy	1.80 - 10.6 J	1.33 - 7.82 ft-lb	Average value: 4.07 J Grade Count:4
	1.80 - 1.80 J	1.33 - 1.33 ft-lb	Average value: 1.80 J Grade Count:1
	@Temperature -30.0 - - 30.0 °C	@Temperature -22.0 - - 22.0 °F	
Tensile Creep Modulus, 1 hour	3500 - 7300 MPa	508000 - 1.06e+6 psi	Average value: 6020 MPa Grade Count:12
Tensile Creep Modulus, 1000 hours	2400 - 6900 MPa	348000 - 1.00e+6 psi	Average value: 4890 MPa Grade Count:13

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