

Overview of materials for Polybutylene Terephthalate (PBT), Glass Fiber Filled, Flame Retardant

Category : Polymer , Thermoplastic , Polyester, TP , Polybutylene Terephthalate (PBT) , Polybutylene Terephthalate (PBT), Glass Fiber Filled, Flame Retardant

Material Notes:

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

Physical Properties	Metric	English	Comments
Density	1.27 - 1.75 g/cc	0.0459 - 0.0632 lb/in ³	Average value: 1.57 g/cc Grade Count:131
Filler Content	5.00 - 30.0 %	5.00 - 30.0 %	Average value: 20.9 % Grade Count:19
Water Absorption	0.000 - 0.600 %	0.000 - 0.600 %	Average value: 0.144 % Grade Count:67
Moisture Absorption at Equilibrium	0.0500 - 0.500 %	0.0500 - 0.500 %	Average value: 0.204 % Grade Count:38
Water Absorption at Saturation	0.150 - 0.500 %	0.150 - 0.500 %	Average value: 0.375 % Grade Count:6
Viscosity	9000 - 3.50e+6 cP	9000 - 3.50e+6 cP	Average value: 1.09e+6 cP Grade Count:1
	@Temperature 230 - 270 °C	@Temperature 446 - 518 °F	
Viscosity Test	9000 - 3.50e+6 cP	9000 - 3.50e+6 cP	Average value: 1.09e+6 cP Grade Count:1
	@Shear Rate 1.00 - 100000 1/s	@Shear Rate 1.00 - 100000 1/s	
Viscosity Test	62.0 - 112 cm ³ /g	62.0 - 112 cm ³ /g	Average value: 94.3 cm ³ /g Grade Count:4
Linear Mold Shrinkage	0.00100 - 0.0200 cm/cm	0.00100 - 0.0200 in/in	Average value: 0.00652 cm/cm Grade Count:92
Linear Mold Shrinkage, Transverse	0.00100 - 0.0180 cm/cm	0.00100 - 0.0180 in/in	Average value: 0.0107 cm/cm Grade Count:14
Melt Flow	1.00 - 75.0 g/10 min	1.00 - 75.0 g/10 min	Average value: 18.2 g/10 min Grade Count:44
Ash	0.0350 - 30.0 %	0.0350 - 30.0 %	Average value: 4.32 % Grade Count:7

Mechanical Properties	Metric	English	Comments
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Mechanical Properties	90.0 - 94.0 Metric	90.0 - 94.0 English	Average value: 92.3 Grade Count:6 Comments
Hardness, Rockwell R	90.0 - 120	90.0 - 120	Average value: 116 Grade Count:27
Tensile Strength, Ultimate	59.3 - 152 MPa	8600 - 22000 psi	Average value: 107 MPa Grade Count:102
Tensile Strength, Yield	68.9 - 150 MPa	10000 - 21800 psi	Average value: 106 MPa Grade Count:37
Elongation at Break	1.00 - 50.0 %	1.00 - 50.0 %	Average value: 4.03 % Grade Count:105
Elongation at Yield	1.50 - 3.00 %	1.50 - 3.00 %	Average value: 2.50 % Grade Count:5
Modulus of Elasticity	0.765 - 12.4 GPa	111 - 1800 ksi	Average value: 8.36 GPa Grade Count:47
Flexural Yield Strength	70.3 - 230 MPa	10200 - 33400 psi	Average value: 158 MPa Grade Count:95
Flexural Modulus	1.86 - 11.3 GPa	270 - 1640 ksi	Average value: 6.66 GPa Grade Count:99
Izod Impact, Notched	0.267 - 4.27 J/cm	0.500 - 8.00 ft-lb/in	Average value: 0.725 J/cm Grade Count:71
Izod Impact, Unnotched	0.490 - 9.61 J/cm	0.919 - 18.0 ft-lb/in	Average value: 5.05 J/cm Grade Count:13
Izod Impact, Notched (ISO)	4.00 - 10.0 kJ/m ²	1.90 - 4.76 ft-lb/in ²	Average value: 8.01 kJ/m ² Grade Count:11
	<= 10.0 kJ/m ² @Temperature -40.0 - - 30.0 °C	<= 4.76 ft-lb/in ² @Temperature -40.0 - - 22.0 °F	Average value: 10.0 kJ/m ² Grade Count:3
Izod Impact, Unnotched (ISO)	23.0 - 55.0 kJ/m ²	10.9 - 26.2 ft-lb/in ²	Average value: 42.3 kJ/m ² Grade Count:6
	33.0 - 50.0 kJ/m ² @Temperature -30.0 - - 30.0 °C	15.7 - 23.8 ft-lb/in ² @Temperature -22.0 - - 22.0 °F	Average value: 44.3 kJ/m ² Grade Count:3
Charpy Impact Unnotched	2.30 - 8.00 J/cm ²	10.9 - 38.1 ft-lb/in ²	Average value: 4.42 J/cm ² Grade Count:44
	2.30 - 7.50 J/cm ² @Temperature -30.0 - - 20.0 °C	10.9 - 35.7 ft-lb/in ² @Temperature -22.0 - - 4.00 °F	Average value: 4.35 J/cm ² Grade Count:21
Charpy Impact, Notched	0.230 - 2.00 J/cm ²	1.09 - 9.52 ft-lb/in ²	Average value: 0.820 J/cm ² Grade Count:50
	0.180 J/cm ² - NB @Temperature -30.0 - - 20.0 °C	0.857 ft-lb/in ² - NB @Temperature -22.0 - - 4.00 °F	Average value: 0.640 J/cm ² Grade Count:28
Tensile Impact Strength			Average value: 37.7 kJ/m ² Grade

Mechanical Properties	Metric	English	Count:3 Comments
Tensile Creep Modulus, 1 hour	5000 - 7500 MPa	725000 - 1.09e+6 psi	Average value: 6430 MPa Grade Count:3
Tensile Creep Modulus, 1000 hours	3000 - 7000 MPa	435000 - 1.02e+6 psi	Average value: 5030 MPa Grade Count:3

Thermal Properties	Metric	English	Comments
CTE, linear	20.0 - 67.0 $\mu\text{m}/\text{m}^{\circ}\text{C}$	11.1 - 37.2 $\mu\text{in}/\text{in}^{\circ}\text{F}$	Average value: 39.6 $\mu\text{m}/\text{m}^{\circ}\text{C}$ Grade Count:52
CTE, linear, Transverse to Flow	50.0 - 100 $\mu\text{m}/\text{m}^{\circ}\text{C}$	27.8 - 55.6 $\mu\text{in}/\text{in}^{\circ}\text{F}$	Average value: 79.3 $\mu\text{m}/\text{m}^{\circ}\text{C}$ Grade Count:15
Thermal Conductivity	0.173 - 0.202 W/m-K	1.20 - 1.40 BTU-in/hr-ft ² -°F	Average value: 0.180 W/m-K Grade Count:4
Melting Point	200 - 250 °C	392 - 482 °F	Average value: 224 °C Grade Count:48
Deflection Temperature at 0.46 MPa (66 psi)	138 - 225 °C	280 - 437 °F	Average value: 214 °C Grade Count:101
Deflection Temperature at 1.8 MPa (264 psi)	98.0 - 221 °C	208 - 430 °F	Average value: 195 °C Grade Count:106
Vicat Softening Point	165 - 220 °C	329 - 428 °F	Average value: 206 °C Grade Count:23
UL RTI, Electrical	75.0 - 140 °C	167 - 284 °F	Average value: 114 °C Grade Count:8
UL RTI, Mechanical with Impact	75.0 - 140 °C	167 - 284 °F	Average value: 113 °C Grade Count:8
UL RTI, Mechanical without Impact	75.0 - 130 °C	167 - 266 °F	Average value: 107 °C Grade Count:8
Flammability, UL94	HB - 5VA	HB - 5VA	Grade Count:119
Oxygen Index	28.0 - 43.7 %	28.0 - 43.7 %	Average value: 35.0 % Grade Count:4

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1000 - 1.00e+18 ohm-cm	1000 - 1.00e+18 ohm-cm	Average value: 2.51e+16 ohm-cm Grade Count:75
Surface Resistance	1000 - 1.00e+17 ohm	1000 - 1.00e+17 ohm	Average value: 5.23e+15 ohm Grade Count:27
Dielectric Constant	3.00 - 4.10	3.00 - 4.10	Average value: 3.51 Grade Count:54
Dielectric Strength	18.0 - 35.0 kV/mm	457 - 889 kV/in	Average value: 25.0 kV/mm Grade Count:54
Dissipation Factor	0.00100 - 0.0220	0.00100 - 0.0220	Average value: 0.0110 Grade Count:39
Arc Resistance	40.0 - 120 sec	40.0 - 120 sec	Average value: 99.1 sec Grade Count:15
Comparative Tracking Index	150 - 600 V	150 - 600 V	Average value: 282 V Grade Count:40

Electrical Properties	Metric	English	Comments
Hot Wire Ignition, HWI	7.00 - 120 sec	7.00 - 120 sec	Average value: 70.9 sec Grade Count:6
High Amp Arc Ignition, HAI	30.0 - 120 arcs	30.0 - 120 arcs	Average value: 113 arcs Grade Count:5

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