

## Overview of materials for Polybutylene Terephthalate (PBT), Glass + Mineral Filled

Category : Polymer , Thermoplastic , Polyester, TP , Polybutylene Terephthalate (PBT) , Polybutylene Terephthalate (PBT), Glass + Mineral Filled

### Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polybutylene Terephthalate (PBT), Glass + Mineral 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-Polybutylene-Terephthalate-PBT-Glass-Mineral-Filled.php](http://www.lookpolymers.com/polymer_Overview-of-materials-for-Polybutylene-Terephthalate-PBT-Glass-Mineral-Filled.php)

Physical Properties	Metric	English	Comments
Density	1.31 - 2.96 g/cc	0.0473 - 0.107 lb/in <sup>3</sup>	Average value: 1.64 g/cc Grade Count:52
Filler Content	10.0 - 30.0 %	10.0 - 30.0 %	Average value: 21.0 % Grade Count:5
Water Absorption	0.0200 - 0.400 %	0.0200 - 0.400 %	Average value: 0.0893 % Grade Count:22
Moisture Absorption at Equilibrium	0.0300 - 0.200 %	0.0300 - 0.200 %	Average value: 0.156 % Grade Count:12
Viscosity Test	55.0 - 90.0 cm <sup>3</sup> /g	55.0 - 90.0 cm <sup>3</sup> /g	Average value: 71.7 cm <sup>3</sup> /g Grade Count:3
Linear Mold Shrinkage	0.000 - 0.0160 cm/cm	0.000 - 0.0160 in/in	Average value: 0.00477 cm/cm Grade Count:49
Linear Mold Shrinkage, Transverse	0.000 - 0.0130 cm/cm	0.000 - 0.0130 in/in	Average value: 0.00702 cm/cm Grade Count:14
Melt Flow	2.00 - 30.0 g/10 min	2.00 - 30.0 g/10 min	Average value: 16.9 g/10 min Grade Count:8

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	43.0 - 91.0	43.0 - 91.0	Average value: 73.7 Grade Count:10
Hardness, Rockwell R	109 - 121	109 - 121	Average value: 117 Grade Count:18
Tensile Strength, Ultimate	46.9 - 147 MPa	6800 - 21300 psi	Average value: 97.1 MPa Grade Count:44
	30.0 - 65.0 MPa @Temperature 60.0 - 150 °C	4350 - 9430 psi @Temperature 140 - 302 °F	Average value: 46.3 MPa Grade Count:1
Tensile Strength, Yield	58.6 - 125 MPa	8500 - 18100 psi	Average value: 88.7 MPa Grade Count:10
Elongation at Break	1.00 - 10.0 %	1.00 - 10.0 %	Average value: 2.78 % Grade Count:44

Mechanical Properties	Metric	English	Comments
	2.00 - 5.00 % @Temperature 60.0 - 150 °C	2.00 - 5.00 % @Temperature 140 - 302 °F	Average value: 2.55 % Grade Count:1
Elongation at Yield	2.00 - 5.00 %	2.00 - 5.00 %	Average value: 3.00 % Grade Count:3
Modulus of Elasticity	5.24 - 13.5 GPa	760 - 1960 ksi	Average value: 9.39 GPa Grade Count:25
	2.70 - 7.80 GPa @Temperature 60.0 - 150 °C	392 - 1130 ksi @Temperature 140 - 302 °F	Average value: 4.75 GPa Grade Count:1
Flexural Yield Strength	74.5 - 220 MPa	10800 - 31900 psi	Average value: 151 MPa Grade Count:46
Flexural Modulus	2.76 - 14.7 GPa	400 - 2130 ksi	Average value: 8.77 GPa Grade Count:49
Compressive Yield Strength	53.8 - 124 MPa	7800 - 18000 psi	Average value: 77.7 MPa Grade Count:3
Izod Impact, Notched	0.270 - 1.07 J/cm	0.506 - 2.00 ft-lb/in	Average value: 0.616 J/cm Grade Count:41
	0.85424 - 0.85424 J/cm @Temperature -30.0 - -30.0 °C	1.6003 - 1.6003 ft-lb/in @Temperature -22.0 - -22.0 °F	Average value: 0.854 J/cm Grade Count:1
Izod Impact, Unnotched	1.60 - 5.34 J/cm	3.00 - 10.0 ft-lb/in	Average value: 4.19 J/cm Grade Count:15
Izod Impact, Notched (ISO)	3.10 - 31.0 kJ/m <sup>2</sup>	1.48 - 14.8 ft-lb/in <sup>2</sup>	Average value: 8.98 kJ/m <sup>2</sup> Grade Count:19
	4.00 - 8.00 kJ/m <sup>2</sup> @Temperature -30.0 - 30.0 °C	1.90 - 3.81 ft-lb/in <sup>2</sup> @Temperature -22.0 - 86.0 °F	Average value: 5.63 kJ/m <sup>2</sup> Grade Count:4
Izod Impact, Unnotched (ISO)	32.0 - 70.0 kJ/m <sup>2</sup>	15.2 - 33.3 ft-lb/in <sup>2</sup>	Average value: 47.3 kJ/m <sup>2</sup> Grade Count:3
	32.0 - 32.0 kJ/m <sup>2</sup> @Temperature -30.0 - -30.0 °C	15.2 - 15.2 ft-lb/in <sup>2</sup> @Temperature -22.0 - -22.0 °F	Average value: 32.0 kJ/m <sup>2</sup> Grade Count:1
Charpy Impact Unnotched	1.30 - 4.00 J/cm <sup>2</sup>	6.19 - 19.0 ft-lb/in <sup>2</sup>	Average value: 2.85 J/cm <sup>2</sup> Grade Count:13
	2.10 - 4.00 J/cm <sup>2</sup> @Temperature -30.0 - 30.0 °C	9.99 - 19.0 ft-lb/in <sup>2</sup> @Temperature -22.0 - 86.0 °F	Average value: 2.90 J/cm <sup>2</sup> Grade Count:10
Charpy Impact, Notched	0.400 - 1.21 J/cm <sup>2</sup>	1.90 - 5.76 ft-lb/in <sup>2</sup>	Average value: 0.612 J/cm <sup>2</sup> Grade Count:19

Mechanical Properties	Metric	English	Comments
	0.300 - 0.720 J/cm <sup>2</sup>	1.43 - 3.43 ft-lb/in <sup>2</sup>	Average value: 0.570 J/cm <sup>2</sup> Grade
	@Temperature -30.0 - 30.0 °C	@Temperature -22.0 - 86.0 °F	Count:11

Thermal Properties	Metric	English	Comments
CTE, linear	4.00 - 55.8 µm/m-°C	2.22 - 31.0 µin/in-°F	Average value: 26.3 µm/m-°C Grade Count:21
	25.2 - 25.2 µm/m-°C	14.0 - 14.0 µin/in-°F	Average value: 25.2 µm/m-°C Grade Count:2
	@Temperature 60.0 - 138 °C	@Temperature 140 - 280 °F	
CTE, linear, Transverse to Flow	46.0 - 97.0 µm/m-°C	25.6 - 53.9 µin/in-°F	Average value: 75.9 µm/m-°C Grade Count:12
Melting Point	210 - 268 °C	410 - 514 °F	Average value: 225 °C Grade Count:22
Maximum Service Temperature, Air	75.0 - 200 °C	167 - 392 °F	Average value: 132 °C Grade Count:3
Deflection Temperature at 0.46 MPa (66 psi)	184 - 223 °C	363 - 433 °F	Average value: 214 °C Grade Count:39
Deflection Temperature at 1.8 MPa (264 psi)	65.6 - 220 °C	150 - 428 °F	Average value: 191 °C Grade Count:49
Vicat Softening Point	150 - 220 °C	302 - 428 °F	Average value: 194 °C Grade Count:7
Glass Transition Temp, Tg	54.0 - 60.0 °C	129 - 140 °F	Average value: 56.0 °C Grade Count:6
UL RTI, Electrical	75.0 - 140 °C	167 - 284 °F	Average value: 113 °C Grade Count:3
UL RTI, Mechanical with Impact	75.0 - 140 °C	167 - 284 °F	Average value: 108 °C Grade Count:3
UL RTI, Mechanical without Impact	75.0 - 140 °C	167 - 284 °F	Average value: 113 °C Grade Count:3
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:35
Oxygen Index	22.0 - 35.0 %	22.0 - 35.0 %	Average value: 29.0 % Grade Count:3

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+14 - 1.00e+17 ohm-cm	1.00e+14 - 1.00e+17 ohm-cm	Average value: 1.69e+16 ohm-cm Grade Count:30
Surface Resistance	1.00e+13 - 1.00e+17 ohm	1.00e+13 - 1.00e+17 ohm	Average value: 2.92e+16 ohm Grade Count:11
Dielectric Constant	3.00 - 5.10	3.00 - 5.10	Average value: 3.76 Grade Count:19
Dielectric Strength	17.0 - 100 kV/mm	432 - 2540 kV/in	Average value: 24.9 kV/mm Grade Count:28
Dissipation Factor	0.00100 - 0.0400	0.00100 - 0.0400	Average value: 0.0145 Grade Count:18

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	125 - 600 V	125 - 600 V	Average value: 119 sec Grade Count: 14

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