

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

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

Material Notes:

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

Physical Properties	Metric	English	Comments
Density	1.29 - 1.81 g/cc	0.0466 - 0.0654 lb/in ³	Average value: 1.50 g/cc Grade Count:34
Water Absorption	0.000 - 0.500 %	0.000 - 0.500 %	Average value: 0.243 % Grade Count:16
Moisture Absorption at Equilibrium	0.150 - 0.500 %	0.150 - 0.500 %	Average value: 0.256 % Grade Count:8
Linear Mold Shrinkage	0.00100 - 0.0200 cm/cm	0.00100 - 0.0200 in/in	Average value: 0.0117 cm/cm Grade Count:27
Linear Mold Shrinkage, Transverse	0.00100 - 0.0190 cm/cm	0.00100 - 0.0190 in/in	Average value: 0.0127 cm/cm Grade Count:11
Melt Flow	9.59 - 58.0 g/10 min	9.59 - 58.0 g/10 min	Average value: 25.7 g/10 min Grade Count:18

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	109 - 122	109 - 122	Average value: 115 Grade Count:8
Tensile Strength, Ultimate	45.0 - 105 MPa	6530 - 15200 psi	Average value: 57.6 MPa Grade Count:21
	35.0 - 55.0 MPa @Temperature 60.0 - 120 °C	5080 - 7980 psi @Temperature 140 - 248 °F	Average value: 43.3 MPa Grade Count:1
Tensile Strength, Yield	30.0 - 103 MPa	4350 - 15000 psi	Average value: 56.9 MPa Grade Count:15
Elongation at Break	2.00 - 80.0 %	2.00 - 80.0 %	Average value: 8.81 % Grade Count:31
Elongation at Yield	3.00 - 7.00 %	3.00 - 7.00 %	Average value: 4.33 % Grade Count:3
Modulus of Elasticity	2.20 - 7.20 GPa	319 - 1040 ksi	Average value: 4.32 GPa Grade Count:20
Flexural Yield Strength	55.0 - 186 MPa	7980 - 27000 psi	Average value: 101 MPa Grade Count:26

Mechanical Properties	Metric	English	Comments
	2.50 - 5.00 GPa	363 - 725 ksi	Average value: 4.72 GPa Grade Count:1
	@Temperature 60.0 - 120 °C	@Temperature 140 - 248 °F	Average value: 3.67 GPa Grade Count:1
Izod Impact, Notched	0.210 - 1.90 J/cm	0.393 - 3.56 ft-lb/in	Average value: 0.606 J/cm Grade Count:16
	0.400 - 0.5339 J/cm	0.749 - 1.000 ft-lb/in	Average value: 0.445 J/cm Grade Count:2
	@Temperature -40.0 - -20.0 °C	@Temperature -40.0 - -4.00 °F	Average value: 0.445 J/cm Grade Count:2
Izod Impact, Unnotched	2.83 - 11.7 J/cm	5.30 - 22.0 ft-lb/in	Average value: 5.27 J/cm Grade Count:4
Izod Impact, Notched (ISO)	5.00 - 15.0 kJ/m ²	2.38 - 7.14 ft-lb/in ²	Average value: 10.0 kJ/m ² Grade Count:3
	5.00 - 10.0 kJ/m ²	2.38 - 4.76 ft-lb/in ²	Average value: 7.50 kJ/m ² Grade Count:2
	@Temperature -30.0 - -30.0 °C	@Temperature -22.0 - -22.0 °F	Average value: 7.50 kJ/m ² Grade Count:2
Izod Impact, Unnotched (ISO)	25.0 - 40.0 kJ/m ²	11.9 - 19.0 ft-lb/in ²	Average value: 32.5 kJ/m ² Grade Count:2
	@Temperature -30.0 - -30.0 °C	@Temperature -22.0 - -22.0 °F	Average value: 32.5 kJ/m ² Grade Count:2
Charpy Impact Unnotched	1.50 - 1000 J/cm ²	7.14 - 4760 ft-lb/in ²	Average value: 5.06 J/cm ² Grade Count:10
	2.50 - 12.0 J/cm ²	11.9 - 57.1 ft-lb/in ²	Average value: 4.81 J/cm ² Grade Count:4
	@Temperature -40.0 - -20.0 °C	@Temperature -40.0 - -4.00 °F	Average value: 4.81 J/cm ² Grade Count:4
Charpy Impact, Notched	0.290 - 1.00 J/cm ²	1.38 - 4.76 ft-lb/in ²	Average value: 0.471 J/cm ² Grade Count:15
	0.200 - 1.00 J/cm ²	0.952 - 4.76 ft-lb/in ²	Average value: 0.480 J/cm ² Grade Count:5
	@Temperature -30.0 - -20.0 °C	@Temperature -22.0 - -4.00 °F	Average value: 0.480 J/cm ² Grade Count:5
Tensile Creep Modulus, 1000 hours	1200 - 2000 MPa	174000 - 290000 psi	Average value: 1500 MPa Grade Count:3

Thermal Properties	Metric	English	Comments
CTE, linear	5.00 - 115 µm/m-°C	2.78 - 63.9 µin/in-°F	Average value: 50.8 µm/m-°C Grade Count:13
	61.0 - 61.0 µm/m-°C	33.9 - 33.9 µin/in-°F	Average value: 61.0 µm/m-°C Grade Count:1
	@Temperature 60.0 - 138 °C	@Temperature 140 - 280 °F	Average value: 61.0 µm/m-°C Grade Count:1
CTE, linear, Transverse to Flow	50.0 - 115 µm/m-°C	27.8 - 63.9 µin/in-°F	Average value: 85.6 µm/m-°C Grade Count:8

Thermal Properties	Metric	English	Comments
	88.0 - 88.0 µm/m-°C	48.9 - 48.9 µin/in-°F	Average value: 88.0 µm/m-°C Grade Count:1
	@Temperature 60.0 - 138 °C	@Temperature 140 - 280 °F	
Melting Point	210 - 225 °C	410 - 437 °F	Average value: 223 °C Grade Count:15
Maximum Service Temperature, Air	100 - 345 °C	212 - 653 °F	Average value: 234 °C Grade Count:11
Deflection Temperature at 0.46 MPa (66 psi)	110 - 215 °C	230 - 419 °F	Average value: 176 °C Grade Count:30
Deflection Temperature at 1.8 MPa (264 psi)	48.9 - 206 °C	120 - 402 °F	Average value: 104 °C Grade Count:29
Vicat Softening Point	170 - 205 °C	338 - 401 °F	Average value: 186 °C Grade Count:6
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:31
Glow Wire Test	650 - 960 °C	1200 - 1760 °F	Average value: 753 °C Grade Count:3

Electrical Properties	Metric	English	Comments
Electrical Resistivity	5.00e+14 - 4.00e+16 ohm-cm	5.00e+14 - 4.00e+16 ohm-cm	Average value: 7.72e+15 ohm-cm Grade Count:14
Surface Resistance	1.00e+13 - 7.30e+17 ohm	1.00e+13 - 7.30e+17 ohm	Average value: 8.24e+16 ohm Grade Count:9
Dielectric Constant	3.00 - 4.10	3.00 - 4.10	Average value: 3.64 Grade Count:11
Dielectric Strength	14.0 - 100 kV/mm	356 - 2540 kV/in	Average value: 35.8 kV/mm Grade Count:10
Dissipation Factor	0.00120 - 0.0320	0.00120 - 0.0320	Average value: 0.0132 Grade Count:7
Comparative Tracking Index	150 - 425 V	150 - 425 V	Average value: 251 V Grade Count:15

Processing Properties	Metric	English	Comments
Processing Temperature	65.0 - 280 °C	149 - 536 °F	Average value: 221 °C Grade Count:3
Melt Temperature	20.0 - 277 °C	68.0 - 531 °F	Average value: 246 °C Grade Count:16
Mold Temperature	40.0 - 110 °C	104 - 230 °F	Average value: 74.3 °C Grade Count:13
Drying Temperature	116 - 140 °C	240 - 284 °F	Average value: 124 °C Grade Count:8
Moisture Content	0.000 - 0.200 %	0.000 - 0.200 %	Average value: 0.0625 % Grade Count:4

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