

## Overview of materials for Polybutylene Terephthalate (PBT), Unreinforced, Molded

Category : Polymer , Thermoplastic , Polyester, TP , Polybutylene Terephthalate (PBT) , Polybutylene Terephthalate (PBT), Unreinforced, Molded

### Material Notes:

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

Physical Properties	Metric	English	Comments
Density	0.900 - 1.92 g/cc	0.0325 - 0.0694 lb/in <sup>3</sup>	Average value: 1.31 g/cc Grade Count:184
Water Absorption	0.000 - 0.600 %	0.000 - 0.600 %	Average value: 0.296 % Grade Count:77
Moisture Absorption at Equilibrium	0.0100 - 1.09 %	0.0100 - 1.09 %	Average value: 0.185 % Grade Count:69
Water Absorption at Saturation	0.100 - 0.500 %	0.100 - 0.500 %	Average value: 0.418 % Grade Count:17
Viscosity	1.60 - 400000 cP	1.60 - 400000 cP	Average value: 80000 cP Grade Count:5
	8000 - 800000 cP	8000 - 800000 cP	Average value: 187000 cP Grade Count:2
	@Temperature 230 - 270 °C	@Temperature 446 - 518 °F	
Viscosity Test	8000 - 800000 cP	8000 - 800000 cP	Average value: 187000 cP Grade Count:2
	@Shear Rate 1.00 - 100000 1/s	@Shear Rate 1.00 - 100000 1/s	
Viscosity Test	105 - 180 cm <sup>3</sup> /g	105 - 180 cm <sup>3</sup> /g	Average value: 133 cm <sup>3</sup> /g Grade Count:15
Linear Mold Shrinkage	0.00160 - 0.0600 cm/cm	0.00160 - 0.0600 in/in	Average value: 0.0150 cm/cm Grade Count:136
Linear Mold Shrinkage, Transverse	0.00160 - 0.0240 cm/cm	0.00160 - 0.0240 in/in	Average value: 0.0145 cm/cm Grade Count:60
Melt Flow	3.00 - 236 g/10 min	3.00 - 236 g/10 min	Average value: 35.8 g/10 min Grade Count:92

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	72.0 - 90.0	72.0 - 90.0	Average value: 83.4 Grade Count:22

Hardness, Rockwell R Mechanical Properties	112 - 120 Metric	112 - 120 English	Average value: 117 Grade Count:21 Comments
Hardness, Shore D	40.0 - 87.0	40.0 - 87.0	Average value: 73.8 Grade Count:22
Ball Indentation Hardness	50.0 - 160 MPa	7250 - 23200 psi	Average value: 138 MPa Grade Count:13
Tensile Strength, Ultimate	8.00 - 165 MPa	1160 - 23900 psi	Average value: 50.5 MPa Grade Count:86
	5.00 - 90.0 MPa @Temperature -40.0 - 160 °C	725 - 13100 psi @Temperature -40.0 - 320 °F	Average value: 38.8 MPa Grade Count:1
	5.00 - 90.0 MPa @Strain 2.00 - 10.0 %	725 - 13100 psi @Strain 2.00 - 10.0 %	Average value: 38.8 MPa Grade Count:1
Tensile Strength, Yield	27.0 - 118 MPa	3920 - 17100 psi	Average value: 52.8 MPa Grade Count:111
	22.0 - 105 MPa @Temperature -40.0 - 100 °C	3190 - 15200 psi @Temperature -40.0 - 212 °F	Average value: 63.5 MPa Grade Count:1
Elongation at Break	1.00 - 300 %	1.00 - 300 %	Average value: 69.4 % Grade Count:162
	>= 100 % @Temperature 60.0 - 120 °C	>= 100 % @Temperature 140 - 248 °F	Average value: 100 % Grade Count:2
Elongation at Yield	2.90 - 75.0 %	2.90 - 75.0 %	Average value: 9.51 % Grade Count:76
Modulus of Elasticity	0.500 - 21.9 GPa	72.5 - 3180 ksi	Average value: 2.63 GPa Grade Count:95
	0.180 - 0.900 GPa @Temperature 60.0 - 120 °C	26.1 - 131 ksi @Temperature 140 - 248 °F	Average value: 0.505 GPa Grade Count:2
Flexural Yield Strength	48.0 - 255 MPa	6960 - 37000 psi	Average value: 84.2 MPa Grade Count:104
	25.0 - 25.0 MPa @Temperature 90.0 - 90.0 °C	3630 - 3630 psi @Temperature 194 - 194 °F	Average value: 25.0 MPa Grade Count:1
Flexural Modulus	1.42 - 17.9 GPa	206 - 2600 ksi	Average value: 2.49 GPa Grade Count:112
	0.500 - 0.500 GPa @Temperature 90.0 - 90.0 °C	72.5 - 72.5 ksi @Temperature 194 - 194 °F	Average value: 0.500 GPa Grade Count:1
Izod Impact, Notched	0.265 - 8.02 J/cm	0.496 - 15.0 ft-lb/in	Average value: 1.38 J/cm Grade Count:85

Mechanical Properties	Metric	English	Comments
	1.88 - 6.94 J/cm	3.32 - 13.0 ft-lb/in	Average value: 3.51 J/cm Grade Count:2
	@Temperature -40.0 - -20.0 °C	@Temperature -40.0 - -4.00 °F	
	1.30 - 5.70 J/cm	2.44 - 10.7 ft-lb/in	Average value: 3.51 J/cm Grade Count:5
	@Temperature -40.0 - -20.0 °C	@Temperature -40.0 - -4.00 °F	
	1.30 - 5.70 J/cm	2.44 - 10.7 ft-lb/in	Average value: 3.51 J/cm Grade Count:5
	@Thickness 1.57 - 3.18 mm	@Thickness 0.0618 - 0.125 in	
Izod Impact, Unnotched	10.7 - 5340 J/cm	20.0 - 10000 ft-lb/in	Average value: 16.4 J/cm Grade Count:11
Izod Impact, Notched (ISO)	2.90 - 170 kJ/m <sup>2</sup>	1.38 - 80.9 ft-lb/in <sup>2</sup>	Average value: 24.1 kJ/m <sup>2</sup> Grade Count:23
	3.00 - 22.0 kJ/m <sup>2</sup>	1.43 - 10.5 ft-lb/in <sup>2</sup>	Average value: 7.20 kJ/m <sup>2</sup> Grade Count:6
	@Temperature -40.0 - -30.0 °C	@Temperature -40.0 - -22.0 °F	
Izod Impact, Unnotched (ISO)	80.0 kJ/m <sup>2</sup> - NB	38.1 ft-lb/in <sup>2</sup> - NB	Average value: 109 kJ/m <sup>2</sup> Grade Count:6
	NB - NB	NB - NB	Grade Count:2
	@Temperature -30.0 - -30.0 °C	@Temperature -22.0 - -22.0 °F	
Charpy Impact Unnotched	0.550 J/cm <sup>2</sup> - NB	2.62 ft-lb/in <sup>2</sup> - NB	Average value: 14.1 J/cm <sup>2</sup> Grade Count:69
	2.50 J/cm <sup>2</sup> - NB	11.9 ft-lb/in <sup>2</sup> - NB	Average value: 17.3 J/cm <sup>2</sup> Grade Count:51
	@Temperature -30.0 - -20.0 °C	@Temperature -22.0 - -4.00 °F	
Charpy Impact, Notched	0.120 - 1000 J/cm <sup>2</sup>	0.571 - 4760 ft-lb/in <sup>2</sup>	Average value: 1.40 J/cm <sup>2</sup> Grade Count:83
	0.250 - 2.50 J/cm <sup>2</sup>	1.19 - 11.9 ft-lb/in <sup>2</sup>	Average value: 0.841 J/cm <sup>2</sup> Grade Count:49
	@Temperature -30.0 - -20.0 °C	@Temperature -22.0 - -4.00 °F	
Gardner Impact	16.9 - 43.0 J	12.5 - 31.7 ft-lb	Average value: 29.5 J Grade Count:5
Tensile Impact Strength	65.0 - 160 kJ/m <sup>2</sup>	30.9 - 76.1 ft-lb/in <sup>2</sup>	Average value: 112 kJ/m <sup>2</sup> Grade Count:3
Dart Drop, Total Energy	100 - 140 J	73.8 - 103 ft-lb	Average value: 130 J Grade Count:4
Puncture Energy	6.90 - 45.0 J	5.09 - 33.2 ft-lb	Average value: 29.8 J Grade Count:8
	2.00 - 32.0 J	1.48 - 23.6 ft-lb	Average value: 15.5 J Grade Count:6

Mechanical Properties	Metric @Temperature -30.0 - - 30.0 °C	English @Temperature -22.0 - - 22.0 °F	Comments
Tensile Creep Modulus, 1 hour	1400 - 2800 MPa	203000 - 406000 psi	Average value: 2130 MPa Grade Count:16
Tensile Creep Modulus, 1000 hours	700 - 1800 MPa	102000 - 261000 psi	Average value: 1260 MPa Grade Count:20

Electrical Properties	Metric	English	Comments
Electrical Resistivity	100 - 1.20e+17 ohm-cm	100 - 1.20e+17 ohm-cm	Average value: 8.69e+15 ohm-cm Grade Count:110
Surface Resistance	100 - 2.00e+17 ohm	100 - 2.00e+17 ohm	Average value: 8.00e+15 ohm Grade Count:88
Dielectric Constant	2.90 - 4.00	2.90 - 4.00	Average value: 3.30 Grade Count:92

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China