

## Overview of materials for Polyethylene Terephthalate (PET), Glass/Mineral Reinforced

Category : Polymer , Thermoplastic , Polyester, TP , Polyethylene Terephthalate (PET) , Polyethylene Terephthalate (PET), Glass/Mineral Reinforced

### Material Notes:

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

Physical Properties	Metric	English	Comments
Density	1.42 - 1.83 g/cc	0.0514 - 0.0661 lb/in <sup>3</sup>	Average value: 1.61 g/cc Grade Count:48
Water Absorption	0.0300 - 0.750 %	0.0300 - 0.750 %	Average value: 0.101 % Grade Count:13
Moisture Absorption at Equilibrium	0.0500 - 0.240 %	0.0500 - 0.240 %	Average value: 0.148 % Grade Count:9
Linear Mold Shrinkage	0.00100 - 0.0110 cm/cm	0.00100 - 0.0110 in/in	Average value: 0.00341 cm/cm Grade Count:33
Linear Mold Shrinkage, Transverse	0.00530 - 0.0100 cm/cm	0.00530 - 0.0100 in/in	Average value: 0.00804 cm/cm Grade Count:19
Ash	25.0 - 35.0 %	25.0 - 35.0 %	Average value: 31.7 % Grade Count:3

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	87.0 - 115	87.0 - 115	Average value: 97.7 Grade Count:3
Hardness, Rockwell R	109 - 120	109 - 120	Average value: 116 Grade Count:12
Tensile Strength, Ultimate	90.0 - 195 MPa	13100 - 28300 psi	Average value: 117 MPa Grade Count:44
	45.0 - 145 MPa @Temperature -40.0 - 120 °C	6530 - 21000 psi @Temperature -40.0 - 248 °F	Average value: 83.3 MPa Grade Count:1
Tensile Strength, Yield	91.0 - 145 MPa	13200 - 21000 psi	Average value: 114 MPa Grade Count:4
Elongation at Break	1.00 - 7.00 %	1.00 - 7.00 %	Average value: 2.34 % Grade Count:38
	1.60 - 8.10 % @Temperature -40.0 - 120 °C	1.60 - 8.10 % @Temperature -40.0 - 248 °F	Average value: 5.33 % Grade Count:1

Mechanical Properties	Metric	English	Comments
Modulus of Elasticity	11.0 - 13.8 GPa	1600 - 2000 ksi	Average value: 12.0 GPa Grade Count:9
	2.59 - 12.27 GPa	376 - 1780 ksi	
	@Temperature -40.0 - 120 °C	@Temperature -40.0 - 248 °F	Average value: 6.33 GPa Grade Count:1
Flexural Yield Strength	130 - 265 MPa	18900 - 38400 psi	Average value: 182 MPa Grade Count:42
Flexural Modulus	6.30 - 15.5 GPa	914 - 2250 ksi	Average value: 9.65 GPa Grade Count:44
Compressive Yield Strength	126 - 151 MPa	18300 - 21900 psi	Average value: 141 MPa Grade Count:3
Izod Impact, Notched	0.430 - 0.910 J/cm	0.806 - 1.70 ft-lb/in	Average value: 0.649 J/cm Grade Count:26
Izod Impact, Unnotched	4.27 - 5.34 J/cm	8.00 - 10.0 ft-lb/in	Average value: 4.85 J/cm Grade Count:6
Izod Impact, Notched (ISO)	6.00 - 59.0 kJ/m²	2.86 - 28.1 ft-lb/in²	Average value: 14.0 kJ/m² Grade Count:7
	5.00 - 5.00 kJ/m²	2.38 - 2.38 ft-lb/in²	
	@Temperature -30.0 - - 30.0 °C	@Temperature -22.0 - - 22.0 °F	Average value: 5.00 kJ/m² Grade Count:1
Charpy Impact Unnotched	2.60 - 3.50 J/cm²	12.4 - 16.7 ft-lb/in²	Average value: 3.03 J/cm² Grade Count:3
	2.20 - 3.50 J/cm²	10.5 - 16.7 ft-lb/in²	
	@Temperature -40.0 - - 30.0 °C	@Temperature -40.0 - - 22.0 °F	Average value: 2.85 J/cm² Grade Count:2
Charpy Impact, Notched	0.320 - 0.860 J/cm²	1.52 - 4.09 ft-lb/in²	Average value: 0.674 J/cm² Grade Count:19
	0.530 - 0.600 J/cm²	2.52 - 2.86 ft-lb/in²	
	@Temperature -40.0 - - 30.0 °C	@Temperature -40.0 - - 22.0 °F	Average value: 0.560 J/cm² Grade Count:3

Thermal Properties	Metric	English	Comments
CTE, linear	15.0 - 59.4 µm/m-°C	8.33 - 33.0 µin/in-°F	Average value: 24.1 µm/m-°C Grade Count:14
	0.140 - 6.00 µm/m-°C	0.0778 - 3.33 µin/in-°F	
	@Temperature 55.0 - 160 °C	@Temperature 131 - 320 °F	Average value: 3.07 µm/m-°C Grade Count:2
CTE, linear, Transverse to Flow	0.610 - 87.0 µm/m-°C	0.339 - 48.3 µin/in-°F	Average value: 55.9 µm/m-°C Grade Count:8
	1.10 - 84.0 µm/m-°C	0.611 - 46.7 µin/in-°F	
			Average value: 42.5 µm/m-°C Grade

Thermal Properties	Metric @Temperature 55.0 - 160 °C	English @Temperature 131 - 320 °F	Count:2 Comments
Melting Point	232 - 268 °C	450 - 514 °F	Average value: 251 °C Grade Count:20
Maximum Service Temperature, Air	75.0 - 140 °C	167 - 284 °F	Average value: 115 °C Grade Count:3
Deflection Temperature at 0.46 MPa (66 psi)	94.0 - 243 °C	201 - 470 °F	Average value: 223 °C Grade Count:12
Deflection Temperature at 1.8 MPa (264 psi)	79.0 - 242 °C	174 - 468 °F	Average value: 212 °C Grade Count:48
Vicat Softening Point	225 °C	437 °F	Average value: 225 °C Grade Count:4
Flammability, UL94	HB - 5VA	HB - 5VA	Grade Count:31

Electrical Properties	Metric	English	Comments
Electrical Resistivity	5.00e+14 - 1.00e+17 ohm-cm	5.00e+14 - 1.00e+17 ohm-cm	Average value: 2.43e+16 ohm-cm Grade Count:24
Surface Resistance	1.00e+13 - 1.00e+17 ohm	1.00e+13 - 1.00e+17 ohm	Average value: 5.27e+16 ohm Grade Count:19
Dielectric Constant	3.50 - 3.80	3.50 - 3.80	Average value: 3.72 Grade Count:8
Dielectric Strength	16.2 - 38.0 kV/mm	411 - 965 kV/in	Average value: 21.8 kV/mm Grade Count:25
Dissipation Factor	0.00500 - 0.0160	0.00500 - 0.0160	Average value: 0.0102 Grade Count:7
Arc Resistance	75.0 - 125 sec	75.0 - 125 sec	Average value: 94.8 sec Grade Count:4
Comparative Tracking Index	175 - 250 V	175 - 250 V	Average value: 219 V Grade Count:16

Processing Properties	Metric	English	Comments
Processing Temperature	110 - 300 °C	230 - 572 °F	Average value: 246 °C Grade Count:4
Nozzle Temperature	270 - 300 °C	518 - 572 °F	Average value: 286 °C Grade Count:7
Melt Temperature	20.0 - 304 °C	68.0 - 579 °F	Average value: 274 °C Grade Count:22
Mold Temperature	65.0 - 140 °C	149 - 284 °F	Average value: 108 °C Grade Count:22
Drying Temperature	120 - 140 °C	248 - 284 °F	Average value: 125 °C Grade Count:8
Moisture Content	0.0100 - 0.0800 %	0.0100 - 0.0800 %	Average value: 0.0243 % Grade Count:7
Injection Pressure	50.0 - 120 MPa	7250 - 17400 psi	Average value: 72.1 MPa Grade Count:6

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