

## Overview of materials for Thermoplastic Polyurethane, Elastomer, Glass Filled

Category : Polymer , Thermoplastic , Elastomer, TPE , Polyurethane, TP , Thermoplastic Polyurethane, Elastomer, Glass Filled

### Material Notes:

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

Physical Properties	Metric	English	Comments
Density	1.28 - 1.66 g/cc	0.0462 - 0.0600 lb/in <sup>3</sup>	Average value: 1.46 g/cc Grade Count:18
Filler Content	10.0 - 50.0 %	10.0 - 50.0 %	Average value: 29.1 % Grade Count:12
Water Absorption	0.200 - 0.300 %	0.200 - 0.300 %	Average value: 0.238 % Grade Count:4
Maximum Moisture Content	0.0200	0.0200	Average value: 0.0200 Grade Count:4
Linear Mold Shrinkage	0.000400 - 0.00300 cm/cm	0.000400 - 0.00300 in/in	Average value: 0.00157 cm/cm Grade Count:13

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	60.0 - 70.0	60.0 - 70.0	Average value: 66.3 Grade Count:4
Hardness, Shore D	55.0 - 83.0	55.0 - 83.0	Average value: 71.3 Grade Count:12
Tensile Strength, Ultimate	20.7 - 96.0 MPa	3000 - 13900 psi	Average value: 65.0 MPa Grade Count:14
Tensile Strength, Yield	52.4 - 79.3 MPa	7600 - 11500 psi	Average value: 63.6 MPa Grade Count:4
Elongation at Break	7.00 - 86.0 %	7.00 - 86.0 %	Average value: 23.1 % Grade Count:14
Elongation at Yield	15.0 - 35.0 %	15.0 - 35.0 %	Average value: 23.8 % Grade Count:4
Modulus of Elasticity	0.483 - 5.86 GPa	70.0 - 850 ksi	Average value: 2.85 GPa Grade Count:14
Flexural Yield Strength	15.2 - 116 MPa	2200 - 16800 psi	Average value: 66.6 MPa Grade Count:17
Flexural Modulus	0.345 - 5.85 GPa	50.0 - 848 ksi	Average value: 2.37 GPa Grade Count:18
Izod Impact, Notched	2.14 - 6.41 J/cm	4.00 - 12.0 ft-lb/in	Average value: 4.72 J/cm Grade Count:12
	0.37373 - 1.81526	0.70015 - 3.40073 ft-	

Mechanical Properties	Metric	English	Comments
	@Temperature -40.0 - - 40.0 °C	@Temperature -40.0 - - 40.0 °F	Average value: 1.08 J/cm Grade Count:4
Izod Impact, Unnotched	6.41 - 5340 J/cm	12.0 - 10000 ft-lb/in	Average value: 12.8 J/cm Grade Count:4
Izod Impact, Notched (ISO)	11.0 - 76.0 kJ/m <sup>2</sup>	5.23 - 36.2 ft-lb/in <sup>2</sup>	Average value: 35.8 kJ/m <sup>2</sup> Grade Count:6
Izod Impact, Unnotched (ISO)	100 kJ/m <sup>2</sup> - NB	47.6 ft-lb/in <sup>2</sup> - NB	Average value: 109 kJ/m <sup>2</sup> Grade Count:6
	52.0 - 95.0 kJ/m <sup>2</sup>	24.7 - 45.2 ft-lb/in <sup>2</sup>	Average value: 75.0 kJ/m <sup>2</sup> Grade Count:5
	@Temperature -30.0 - - 30.0 °C	@Temperature -22.0 - - 22.0 °F	
Charpy Impact Unnotched	11.3 J/cm <sup>2</sup> - NB	53.8 ft-lb/in <sup>2</sup> - NB	Average value: 12.5 J/cm <sup>2</sup> Grade Count:6
	8.70 - 103 J/cm <sup>2</sup>	41.4 - 490 ft-lb/in <sup>2</sup>	Average value: 68.3 J/cm <sup>2</sup> Grade Count:6
	@Temperature -30.0 - - 30.0 °C	@Temperature -22.0 - - 22.0 °F	
Charpy Impact, Notched	4.00 - 7.90 J/cm <sup>2</sup>	19.0 - 37.6 ft-lb/in <sup>2</sup>	Average value: 5.30 J/cm <sup>2</sup> Grade Count:6
	1.20 - 11.5 J/cm <sup>2</sup>	5.71 - 54.7 ft-lb/in <sup>2</sup>	Average value: 3.27 J/cm <sup>2</sup> Grade Count:6
	@Temperature -30.0 - - 30.0 °C	@Temperature -22.0 - - 22.0 °F	
Taber Abrasion, mg/1000 Cycles	5.00 - 50.0	5.00 - 50.0	Average value: 21.7 Grade Count:6

Thermal Properties	Metric	English	Comments
CTE, linear	13.5 - 55.8 μm/m-°C	7.50 - 31.0 μin/in-°F	Average value: 26.9 μm/m-°C Grade Count:10
Deflection Temperature at 0.46 MPa (66 psi)	51.0 - 199 °C	124 - 390 °F	Average value: 146 °C Grade Count:9
Deflection Temperature at 1.8 MPa (264 psi)	71.0 - 171 °C	160 - 340 °F	Average value: 131 °C Grade Count:13
Vicat Softening Point	79.0 - 182 °C	174 - 360 °F	Average value: 136 °C Grade Count:6

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+10 - 1.00e+15 ohm-cm	1.00e+10 - 1.00e+15 ohm-cm	Average value: 7.50e+14 ohm-cm Grade Count:4
Dielectric Strength	15.7 kV/mm	400 kV/in	Average value: 15.7 kV/mm Grade Count:3

Processing Properties	Metric	English	Comments
-----------------------	--------	---------	----------

<b>Processing Properties</b>	<b>221 - 243 °C Metric</b>	<b>430 - 469 °F English</b>	<b>Average value: 231 °C Grade Count:4 Comments</b>
Melt Temperature	185 - 243 °C	365 - 469 °F	Average value: 218 °C Grade Count:8
Mold Temperature	15.6 - 60.0 °C	60.0 - 140 °F	Average value: 35.0 °C Grade Count:4
Drying Temperature	82.2 - 110 °C	180 - 230 °F	Average value: 99.0 °C Grade Count:8
Moisture Content	0.0100 - 0.0200 %	0.0100 - 0.0200 %	Average value: 0.0175 % Grade Count:4
Dew Point	-40.0 - -17.8 °C	-40.0 - 0.000 °F	Average value: -35.8 °C Grade Count:8
Injection Pressure	48.3 - 103 MPa	7000 - 15000 psi	Average value: 79.2 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