

## Overview of materials for Polyethersulfone (PES), 20% Glass Fiber Filled

Category : Polymer , Thermoplastic , Polyethersulfone (PES) , Polyethersulfone (PES), 20%Glass Fiber Filled

### Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polyethersulfone (PES), 20% Glass Fiber 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-Polyethersulfone-PES-20-Glass-Fiber-Filled.php](http://www.lookpolymers.com/polymer_Overview-of-materials-for-Polyethersulfone-PES-20-Glass-Fiber-Filled.php)

Physical Properties	Metric	English	Comments
Density	1.47 - 1.62 g/cc	0.0531 - 0.0585 lb/in <sup>3</sup>	Average value: 1.51 g/cc Grade Count:27
Filler Content	15.0 - 20.0 %	15.0 - 20.0 %	Average value: 18.5 % Grade Count:17
Water Absorption	0.180 - 1.60 %	0.180 - 1.60 %	Average value: 0.516 % Grade Count:20
Moisture Absorption at Equilibrium	0.300 - 0.600 %	0.300 - 0.600 %	Average value: 0.500 % Grade Count:3
Linear Mold Shrinkage	0.00100 - 0.00800 cm/cm	0.00100 - 0.00800 in/in	Average value: 0.00335 cm/cm Grade Count:27
Linear Mold Shrinkage, Transverse	0.00250 - 0.00900 cm/cm	0.00250 - 0.00900 in/in	Average value: 0.00599 cm/cm Grade Count:4
Melt Flow	6.00 - 43.5 g/10 min	6.00 - 43.5 g/10 min	Average value: 26.2 g/10 min Grade Count:3

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	98.0 - 125	98.0 - 125	Average value: 118 Grade Count:13
Tensile Strength, Ultimate	81.4 - 150 MPa	11800 - 21800 psi	Average value: 118 MPa Grade Count:23
	80.0 - 110 MPa	11600 - 16000 psi	Average value: 95.0 MPa Grade Count:1
	@Temperature 60.0 - 150 °C	@Temperature 140 - 302 °F	
Tensile Strength, Yield	109 - 133 MPa	15800 - 19300 psi	Average value: 125 MPa Grade Count:5
Elongation at Break	1.50 - 5.00 %	1.50 - 5.00 %	Average value: 2.97 % Grade Count:27
	2.60 - 3.00 %	2.60 - 3.00 %	Average value: 2.78 % Grade Count:1
	@Temperature 60.0 - 150 °C	@Temperature 140 - 302 °F	
	2.50 - 2.50 %	2.50 - 2.50 %	

Mechanical Properties	Metric @ Temperature 150 - 150 °C	English @ Temperature 302 - 302 °F	Comments Average value: 2.50 % Grade Count: 1
Modulus of Elasticity	4.48 - 13.8 GPa	650 - 2000 ksi	Average value: 6.61 GPa Grade Count:24
	5.90 - 6.50 GPa @Temperature 60.0 - 150 °C	856 - 943 ksi @Temperature 140 - 302 °F	Average value: 6.21 GPa Grade Count:1
Flexural Yield Strength	138 - 193 MPa	20000 - 28000 psi	Average value: 175 MPa Grade Count:22
Flexural Modulus	3.79 - 6.89 GPa	550 - 1000 ksi	Average value: 5.79 GPa Grade Count:22
Compressive Yield Strength	124 - 138 MPa	18000 - 20000 psi	Average value: 131 MPa Grade Count:8
Shear Modulus	0.200 - 1.00 GPa @Temperature 50.0 - 225 °C	29.0 - 145 ksi @Temperature 122 - 437 °F	Average value: 0.762 GPa Grade Count:1
Izod Impact, Notched	0.320 - 0.854 J/cm	0.600 - 1.60 ft-lb/in	Average value: 0.672 J/cm Grade Count:22
Izod Impact, Unnotched	1.87 - 7.47 J/cm	3.50 - 14.0 ft-lb/in	Average value: 5.99 J/cm Grade Count:16
Izod Impact, Notched (ISO)	6.00 - 6.50 kJ/m <sup>2</sup>	2.86 - 3.09 ft-lb/in <sup>2</sup>	Average value: 6.33 kJ/m <sup>2</sup> Grade Count:3
	6.50 - 6.50 kJ/m <sup>2</sup> @Temperature -30.0 - - 30.0 °C	3.09 - 3.09 ft-lb/in <sup>2</sup> @Temperature -22.0 - - 22.0 °F	Average value: 6.50 kJ/m <sup>2</sup> Grade Count:1
Charpy Impact Unnotched	2.50 - 4.70 J/cm <sup>2</sup>	11.9 - 22.4 ft-lb/in <sup>2</sup>	Average value: 3.85 J/cm <sup>2</sup> Grade Count:4
	4.50 - 4.50 J/cm <sup>2</sup> @Temperature -30.0 - - 30.0 °C	21.4 - 21.4 ft-lb/in <sup>2</sup> @Temperature -22.0 - - 22.0 °F	Average value: 4.50 J/cm <sup>2</sup> Grade Count:1
Charpy Impact, Notched	0.400 - 0.650 J/cm <sup>2</sup>	1.90 - 3.09 ft-lb/in <sup>2</sup>	Average value: 0.575 J/cm <sup>2</sup> Grade Count:4
	0.650 - 0.650 J/cm <sup>2</sup> @Temperature -30.0 - - 30.0 °C	3.09 - 3.09 ft-lb/in <sup>2</sup> @Temperature -22.0 - - 22.0 °F	Average value: 0.650 J/cm <sup>2</sup> Grade Count:1

Thermal Properties	Metric	English	Comments
CTE, linear	20.0 - 39.6 µm/m-°C	11.1 - 22.0 µin/in-°F	Average value: 32.0 µm/m-°C Grade Count:15
	23.0 - 23.0 µm/m-°C	12.8 - 12.8 µin/in-°F	Average value: 23.0 µm/m-°C Grade

Thermal Properties	@Temperature 140 - Metric 180 °C	@Temperature 284 - English 399 °F	Count: Comments
Thermal Conductivity	0.190 - 0.303 W/m-K	1.32 - 2.10 BTU-in/hr-ft <sup>2</sup> -°F	Average value: 0.281 W/m-K Grade Count:8
Maximum Service Temperature, Air	180 - 220 °C	356 - 428 °F	Average value: 199 °C Grade Count:4
Deflection Temperature at 0.46 MPa (66 psi)	210 - 224 °C	410 - 435 °F	Average value: 217 °C Grade Count:10
Deflection Temperature at 1.8 MPa (264 psi)	204 - 220 °C	399 - 428 °F	Average value: 211 °C Grade Count:26
Glass Transition Temp, Tg	225 °C	437 °F	Average value: 225 °C Grade Count:3
Flammability, UL94	V-0	V-0	Grade Count:23
Oxygen Index	39.0 - 44.5 %	39.0 - 44.5 %	Average value: 41.6 % Grade Count:4

Electrical Properties	Metric	English	Comments
Electrical Resistivity	200 - 1.00e+17 ohm-cm	200 - 1.00e+17 ohm-cm	Average value: 1.01e+16 ohm-cm Grade Count:22
Surface Resistance	200 - 1.00e+14 ohm	200 - 1.00e+14 ohm	Average value: 7.50e+13 ohm Grade Count:4
Dielectric Constant	3.80 - 4.20	3.80 - 4.20	Average value: 3.90 Grade Count:10
Dielectric Strength	14.8 - 37.0 kV/mm	375 - 940 kV/in	Average value: 18.0 kV/mm Grade Count:15
Dissipation Factor	0.00150 - 0.0100	0.00150 - 0.0100	Average value: 0.00611 Grade Count:10
Arc Resistance	70.0 - 110 sec	70.0 - 110 sec	Average value: 75.6 sec Grade Count:9
Comparative Tracking Index	125 - 150 V	125 - 150 V	Average value: 142 V Grade Count:3

Processing Properties	Metric	English	Comments
Processing Temperature	80.0 - 366 °C	176 - 690 °F	Average value: 320 °C Grade Count:8
Melt Temperature	340 - 399 °C	644 - 750 °F	Average value: 363 °C Grade Count:16
Mold Temperature	93.0 - 190 °C	199 - 374 °F	Average value: 155 °C Grade Count:23
Drying Temperature	135 - 180 °C	275 - 356 °F	Average value: 151 °C Grade Count:15
Moisture Content	0.0400 %	0.0400 %	Average value: 0.0400 % Grade Count:9
Dew Point	-31.7 °C	-25.0 °F	Average value: -31.7 °C Grade Count:9
	68.9 - 103 MPa	10000 - 15000 psi	Average value: 86.2 MPa Grade

## 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