

Overview of materials for Polysulfone, 20% Glass Fiber Reinforced

Category : Polymer , Thermoplastic , Polysulfone (PSU) , Polysulfone, 20% Glass Fiber Reinforced

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polysulfone, 20% Glass Fiber Reinforced".

Specific grades with glass content between 15% and 24% are included. 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-Polysulfone-20-Glass-Fiber-Reinforced.php

Physical Properties	Metric	English	Comments
Density	1.33 - 1.47 g/cc	0.0480 - 0.0531 lb/in ³	Average value: 1.39 g/cc Grade Count:14
Filler Content	15.0 - 20.0 %	15.0 - 20.0 %	Average value: 19.2 % Grade Count:6
Water Absorption	0.200 - 0.700 %	0.200 - 0.700 %	Average value: 0.320 % Grade Count:8
Linear Mold Shrinkage	0.00150 - 0.00800 cm/cm	0.00150 - 0.00800 in/in	Average value: 0.00356 cm/cm Grade Count:13
Linear Mold Shrinkage, Transverse	0.00520 - 0.00850 cm/cm	0.00520 - 0.00850 in/in	Average value: 0.00657 cm/cm Grade Count:3
Melt Flow	10.0 - 40.0 g/10 min	10.0 - 40.0 g/10 min	Average value: 20.3 g/10 min Grade Count:3

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	120 - 123	120 - 123	Average value: 122 Grade Count:6
Tensile Strength, Ultimate	62.1 - 115 MPa	9000 - 16700 psi	Average value: 96.0 MPa Grade Count:12
	50.0 - 90.0 MPa @Temperature 60.0 - 150 °C	7250 - 13100 psi @Temperature 140 - 302 °F	Average value: 71.3 MPa Grade Count:2
Tensile Strength, Yield	97.9 - 112 MPa	14200 - 16200 psi	Average value: 107 MPa Grade Count:3
Elongation at Break	0.500 - 7.00 %	0.500 - 7.00 %	Average value: 3.09 % Grade Count:14
	1.80 - 2.50 % @Temperature 60.0 - 150 °C	1.80 - 2.50 % @Temperature 140 - 302 °F	Average value: 2.16 % Grade Count:2
Modulus of Elasticity	2.55 - 7.00 GPa	370 - 1020 ksi	Average value: 5.73 GPa Grade Count:12

Mechanical Properties	Metric	English	Comments
	1.80 GPa	1 ksi	Average value: 3.36 GPa Grade Count:2
	@Temperature 60.0 - 150 °C	@Temperature 140 - 302 °F	
Flexural Yield Strength	82.7 - 176 MPa	12000 - 25500 psi	Average value: 143 MPa Grade Count:12
Flexural Modulus	2.41 - 6.70 GPa	350 - 972 ksi	Average value: 5.50 GPa Grade Count:11
Shear Modulus	0.0250 - 0.950 GPa	3.63 - 138 ksi	Average value: 0.669 GPa Grade Count:1
	@Temperature 50.0 - 200 °C	@Temperature 122 - 392 °F	
Izod Impact, Notched	0.534 - 1.07 J/cm	1.00 - 2.00 ft-lb/in	Average value: 0.714 J/cm Grade Count:11
Izod Impact, Unnotched	3.35 - 6.94 J/cm	6.28 - 13.0 ft-lb/in	Average value: 5.18 J/cm Grade Count:9
Izod Impact, Notched (ISO)	7.00 - 7.00 kJ/m ²	3.33 - 3.33 ft-lb/in ²	Average value: 7.00 kJ/m ² Grade Count:1
	@Temperature -30.0 - -30.0 °C	@Temperature -22.0 - -22.0 °F	
Charpy Impact Unnotched	3.00 - 4.50 J/cm ²	14.3 - 21.4 ft-lb/in ²	Average value: 3.50 J/cm ² Grade Count:3
	4.00 - 4.50 J/cm ²	19.0 - 21.4 ft-lb/in ²	Average value: 4.25 J/cm ² Grade Count:2
	@Temperature -30.0 - -20.0 °C	@Temperature -22.0 - -4.00 °F	
Charpy Impact, Notched	0.350 - 0.800 J/cm ²	1.67 - 3.81 ft-lb/in ²	Average value: 0.617 J/cm ² Grade Count:3
	0.350 - 0.750 J/cm ²	1.67 - 3.57 ft-lb/in ²	Average value: 0.550 J/cm ² Grade Count:2
	@Temperature -30.0 - -20.0 °C	@Temperature -22.0 - -4.00 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	26.0 - 55.8 µm/m-°C	14.4 - 31.0 µin/in-°F	Average value: 35.8 µm/m-°C Grade Count:4
	28.0 - 28.0 µm/m-°C	15.6 - 15.6 µin/in-°F	Average value: 28.0 µm/m-°C Grade Count:1
	@Temperature 140 - 180 °C	@Temperature 284 - 356 °F	
Maximum Service Temperature, Air	160 - 180 °C	320 - 356 °F	Average value: 166 °C Grade Count:4
Deflection Temperature at 0.46 MPa (66 psi)	181 - 188 °C	358 - 370 °F	Average value: 185 °C Grade Count:6
Deflection Temperature at 1.8 MPa (264 psi)	174 - 260 °C	345 - 500 °F	Average value: 191 °C Grade Count:13
Glass Transition Temp, Tg	185 - 265 °C	365 - 509 °F	Average value: 221 °C Grade Count:4

Thermal Properties Flammability, UL 94	Metric HG - V-0	English HG - V-0	Comments Grade Count:10
Oxygen Index	35.0 - 40.0 %	35.0 - 40.0 %	Average value: 37.7 % Grade Count:3

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+12 - 1.00e+16 ohm-cm	1.00e+12 - 1.00e+16 ohm-cm	Average value: 4.72e+15 ohm-cm Grade Count:10
Surface Resistance	1.00e+14 ohm	1.00e+14 ohm	Average value: 1.00e+14 ohm Grade Count:3
Dielectric Strength	16.7 - 46.0 kV/mm	425 - 1170 kV/in	Average value: 23.3 kV/mm Grade Count:5
Comparative Tracking Index	125 V	125 V	Average value: 125 V Grade Count:3

Processing Properties	Metric	English	Comments
Melt Temperature	300 - 410 °C	572 - 770 °F	Average value: 356 °C Grade Count:9
Mold Temperature	93.3 - 210 °C	200 - 410 °F	Average value: 146 °C Grade Count:11
Drying Temperature	110 - 170 °C	230 - 338 °F	Average value: 142 °C Grade Count:8
Moisture Content	0.150 %	0.150 %	Average value: 0.150 % Grade Count:4
Dew Point	-31.7 °C	-25.0 °F	Average value: -31.7 °C Grade Count:4
Injection Pressure	68.9 - 124 MPa	10000 - 18000 psi	Average value: 96.5 MPa Grade Count:6

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