

Overview of materials for Polypropylene with 20% Glass Fiber Filler

Category : Polymer , Thermoplastic , Polypropylene (PP) , Polypropylene with 20% Glass Fiber Filler

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polypropylene with 20% Glass Fiber Filler".

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-Polypropylene-with-20-Glass-Fiber-Filler.php

Physical Properties	Metric	English	Comments
Density	0.970 - 1.46 g/cc	0.0350 - 0.0527 lb/in ³	Average value: 1.06 g/cc Grade Count:237
Filler Content	15.0 - 23.0 %	15.0 - 23.0 %	Average value: 19.1 % Grade Count:97
Water Absorption	0.0100 - 0.0500 %	0.0100 - 0.0500 %	Average value: 0.0197 % Grade Count:40
Additive Loading	20.0 %	20.0 %	Average value: 20.0 % Grade Count:5
Maximum Moisture Content	0.0100	0.0100	Average value: 0.0100 Grade Count:3
Linear Mold Shrinkage	0.00100 - 0.0320 cm/cm	0.00100 - 0.0320 in/in	Average value: 0.00502 cm/cm Grade Count:190
Linear Mold Shrinkage, Transverse	0.00400 - 0.0206 cm/cm	0.00400 - 0.0206 in/in	Average value: 0.0109 cm/cm Grade Count:17
Melt Flow	0.500 - 34.0 g/10 min	0.500 - 34.0 g/10 min	Average value: 7.61 g/10 min Grade Count:164
Ash	13.0 - 23.0 %	13.0 - 23.0 %	Average value: 19.5 % Grade Count:11

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	53.0 - 105	53.0 - 105	Average value: 67.2 Grade Count:5
Hardness, Rockwell R	80.0 - 115	80.0 - 115	Average value: 96.6 Grade Count:56
Hardness, Shore D	70.0 - 75.0	70.0 - 75.0	Average value: 73.6 Grade Count:25
Tensile Strength, Ultimate	22.0 - 115 MPa	3190 - 16700 psi	Average value: 60.9 MPa Grade Count:150
	9.00 - 60.0 MPa @Temperature 60.0 - 120 °C	1310 - 8700 psi @Temperature 140 - 248 °F	Average value: 36.3 MPa Grade Count:4

Tensile Strength, Yield Mechanical Properties	25.0 - 90.0 MPa Metric	3630 - 13100 psi English	Average value: 59.6 MPa Grade Count:3
Elongation at Break	1.00 - 100 %	1.00 - 100 %	Average value: 5.65 % Grade Count:170
	2.40 - 2.60 %	2.40 - 2.60 %	
	@Temperature 80.0 - 80.0 °C	@Temperature 176 - 176 °F	Average value: 2.50 % Grade Count:3
Elongation at Yield	2.00 - 11.0 %	2.00 - 11.0 %	Average value: 4.43 % Grade Count:51
Modulus of Elasticity	1.03 - 6.55 GPa	149 - 950 ksi	Average value: 4.22 GPa Grade Count:97
	3.30 - 3.40 GPa	479 - 493 ksi	
	@Temperature 80.0 - 80.0 °C	@Temperature 176 - 176 °F	Average value: 3.37 GPa Grade Count:3
Flexural Yield Strength	32.0 - 170 MPa	4640 - 24700 psi	Average value: 86.9 MPa Grade Count:184
	82.0 - 90.0 MPa	11900 - 13100 psi	
	@Temperature 80.0 - 80.0 °C	@Temperature 176 - 176 °F	Average value: 87.3 MPa Grade Count:3
Flexural Modulus	1.49 - 6.76 GPa	217 - 980 ksi	Average value: 3.53 GPa Grade Count:240
	0.800 - 3.40 GPa	116 - 493 ksi	
	@Temperature 60.0 - 120 °C	@Temperature 140 - 248 °F	Average value: 2.45 GPa Grade Count:4
Compressive Yield Strength	48.3 - 170 MPa	7000 - 24700 psi	Average value: 71.2 MPa Grade Count:7
Izod Impact, Notched	0.135 - 4.50 J/cm	0.253 - 8.43 ft-lb/in	Average value: 0.940 J/cm Grade Count:178
	0.350 - 0.800 J/cm	0.656 - 1.50 ft-lb/in	
	@Temperature -40.0 - 0.000 °C	@Temperature -40.0 - 32.0 °F	Average value: 0.533 J/cm Grade Count:4
	0.5339 - 0.5339 J/cm	1.000 - 1.000 ft-lb/in	
	@Temperature -28.9 - - 28.9 °C	@Temperature -20.0 - - 20.0 °F	Average value: 0.533 J/cm Grade Count:1
	0.5339 - 0.5339 J/cm	1.000 - 1.000 ft-lb/in	
	@Thickness 3.17 - 3.17 mm	@Thickness 0.125 - 0.125 in	Average value: 0.533 J/cm Grade Count:1
Izod Impact, Unnotched	0.747 - 8.54 J/cm	1.40 - 16.0 ft-lb/in	Average value: 4.35 J/cm Grade Count:79
Izod Impact, Notched (ISO)	4.00 - 38.0 kJ/m²	1.90 - 18.1 ft-lb/in²	Average value: 13.3 kJ/m² Grade Count:18

Mechanical Properties	Metric	English	Comments
	7.00 - 10.0 kJ/m ² @Temperature -30.0 - - 20.0 °C	2.075 - 4.76 ft-lb/in ² @Temperature -22.0 - - 4.00 °F	Average value: 7.11 kJ/m ² Grade Count:9
Izod Impact, Unnotched (ISO)	27.0 - 65.0 kJ/m ²	12.8 - 30.9 ft-lb/in ²	Average value: 39.0 kJ/m ² Grade Count:8
	13.0 - 40.0 kJ/m ² @Temperature -30.0 - - 30.0 °C	6.19 - 19.0 ft-lb/in ² @Temperature -22.0 - - 22.0 °F	Average value: 27.3 kJ/m ² Grade Count:6
Charpy Impact Unnotched	2.30 - 7.00 J/cm ²	10.9 - 33.3 ft-lb/in ²	Average value: 4.49 J/cm ² Grade Count:27
	1.10 - 6.00 J/cm ² @Temperature -40.0 - - 20.0 °C	5.24 - 28.6 ft-lb/in ² @Temperature -40.0 - - 4.00 °F	Average value: 3.55 J/cm ² Grade Count:25
Charpy Impact, Notched	0.200 - 2.70 J/cm ²	0.952 - 12.8 ft-lb/in ²	Average value: 1.11 J/cm ² Grade Count:55
	0.100 - 2.00 J/cm ² @Temperature -40.0 - - 20.0 °C	0.476 - 9.52 ft-lb/in ² @Temperature -40.0 - - 4.00 °F	Average value: 0.596 J/cm ² Grade Count:39
Gardner Impact	0.282 - 2.09 J	0.208 - 1.54 ft-lb	Average value: 0.746 J Grade Count:41

Thermal Properties	Metric	English	Comments
CTE, linear	4.32 - 80.0 µm/m-°C	2.40 - 44.4 µin/in-°F	Average value: 41.8 µm/m-°C Grade Count:33
Thermal Conductivity	0.288 - 1.21 W/m-K	2.00 - 8.40 BTU-in/hr- ft ² -°F	Average value: 0.442 W/m-K Grade Count:6
Melting Point	130 - 182 °C	266 - 360 °F	Average value: 162 °C Grade Count:30
Maximum Service Temperature, Air	65.0 - 180 °C	149 - 356 °F	Average value: 115 °C Grade Count:5
Deflection Temperature at 0.46 MPa (66 psi)	96.1 - 205 °C	205 - 401 °F	Average value: 149 °C Grade Count:153
Deflection Temperature at 1.8 MPa (264 psi)	60.0 - 190 °C	140 - 374 °F	Average value: 131 °C Grade Count:211
Vicat Softening Point	79.0 - 205 °C	174 - 401 °F	Average value: 126 °C Grade Count:44
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:102

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1000 - 4.00e+16 ohm- cm	1000 - 4.00e+16 ohm- cm	Average value: 1.25e+16 ohm-cm Grade Count:37

Surface Resistance Electrical Properties	1e+05 - 1.00e+15 ohm Metric	1e+05 - 1.00e+15 ohm English	Average value: 5.13e+14 ohm Grade Count:3
Static Decay	2.00 sec	2.00 sec	Average value: 2.00 sec Grade Count:3
Dielectric Constant	2.60 - 3.00	2.60 - 3.00	Average value: 2.75 Grade Count:12
Dielectric Strength	17.3 - 22.0 kV/mm	440 - 559 kV/in	Average value: 20.6 kV/mm Grade Count:21
Dissipation Factor	0.00100 - 0.00200	0.00100 - 0.00200	Average value: 0.00109 Grade Count:11
Arc Resistance	80.0 - 130 sec	80.0 - 130 sec	Average value: 119 sec Grade Count:9

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

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