

Overview of materials for Polypropylene with 10% Glass Fiber Filler

Category : Polymer , Thermoplastic , Polypropylene (PP) , Polypropylene with 10% Glass Fiber Filler

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polypropylene with 10% Glass Fiber Filler".

Specific grades with glass content between 5% and 14% 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-10-Glass-Fiber-Filler.php

Physical Properties	Metric	English	Comments
Density	0.930 - 1.45 g/cc	0.0336 - 0.0524 lb/in ³	Average value: 1.01 g/cc Grade Count:110
Filler Content	5.00 - 13.0 %	5.00 - 13.0 %	Average value: 10.1 % Grade Count:55
Water Absorption	0.0100 - 0.150 %	0.0100 - 0.150 %	Average value: 0.0190 % Grade Count:20
Additive Loading	10.0 %	10.0 %	Average value: 10.0 % Grade Count:4
Linear Mold Shrinkage	0.00100 - 0.0390 cm/cm	0.00100 - 0.0390 in/in	Average value: 0.00750 cm/cm Grade Count:94
Linear Mold Shrinkage, Transverse	0.00620 - 0.0210 cm/cm	0.00620 - 0.0210 in/in	Average value: 0.0156 cm/cm Grade Count:8
Melt Flow	1.00 - 15.0 g/10 min	1.00 - 15.0 g/10 min	Average value: 8.72 g/10 min Grade Count:73
Ash	10.0 - 29.0 %	10.0 - 29.0 %	Average value: 12.8 % Grade Count:8

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	76.0 - 110	76.0 - 110	Average value: 90.4 Grade Count:28
Hardness, Shore D	32.0 - 73.0	32.0 - 73.0	Average value: 69.3 Grade Count:23
Tensile Strength, Ultimate	20.0 - 55.8 MPa	2900 - 8100 psi	Average value: 42.6 MPa Grade Count:74
Tensile Strength, Yield	21.0 - 75.0 MPa	3050 - 10900 psi	Average value: 43.2 MPa Grade Count:39
Elongation at Break	1.50 - 34.0 %	1.50 - 34.0 %	Average value: 7.31 % Grade Count:69
Elongation at Yield	2.00 - 10.0 %	2.00 - 10.0 %	Average value: 4.56 % Grade Count:21
Modulus of Elasticity	1.70 - 5.17 GPa	247 - 750 ksi	Average value: 2.95 GPa Grade Count:46

Mechanical Properties	Metric	English	Comments
	30.0 MPa	4350 psi	Average value: 57.7 MPa Grade Count:74
Flexural Modulus	1.20 - 4.30 GPa	174 - 624 ksi	Average value: 2.43 GPa Grade Count:106
Compressive Yield Strength	47.6 - 52.4 MPa	6900 - 7600 psi	Average value: 49.1 MPa Grade Count:4
Izod Impact, Notched	0.267 - 3.74 J/cm	0.500 - 7.00 ft-lb/in	Average value: 0.740 J/cm Grade Count:95
Izod Impact, Unnotched	1.33 - 5340 J/cm	2.50 - 10000 ft-lb/in	Average value: 4.39 J/cm Grade Count:41
Izod Impact, Notched (ISO)	5.00 - 20.0 kJ/m ²	2.38 - 9.52 ft-lb/in ²	Average value: 9.75 kJ/m ² Grade Count:4
	10.0 - 10.0 kJ/m ² @Temperature -30.0 - - 30.0 °C	4.76 - 4.76 ft-lb/in ² @Temperature -22.0 - - 22.0 °F	Average value: 10.0 kJ/m ² Grade Count:1
Charpy Impact Unnotched	2.00 - 5.00 J/cm ²	9.52 - 23.8 ft-lb/in ²	Average value: 3.80 J/cm ² Grade Count:8
	2.00 - 3.00 J/cm ² @Temperature -20.0 - - 20.0 °C	9.52 - 14.3 ft-lb/in ² @Temperature -4.00 - - 4.00 °F	Average value: 2.45 J/cm ² Grade Count:8
Charpy Impact, Notched	0.250 - 1.50 J/cm ²	1.19 - 7.14 ft-lb/in ²	Average value: 0.882 J/cm ² Grade Count:11
	0.100 - 0.700 J/cm ² @Temperature -20.0 - - 20.0 °C	0.476 - 3.33 ft-lb/in ² @Temperature -4.00 - - 4.00 °F	Average value: 0.303 J/cm ² Grade Count:11
Gardner Impact	0.339 - 4.51 J	0.250 - 3.33 ft-lb	Average value: 1.02 J Grade Count:29
	1.90 - 1.90 J @Temperature -20.0 - - 20.0 °C	1.40 - 1.40 ft-lb @Temperature -4.00 - - 4.00 °F	Average value: 1.90 J Grade Count:1

Thermal Properties	Metric	English	Comments
CTE, linear	37.8 - 68.4 µm/m-°C	21.0 - 38.0 µin/in-°F	Average value: 55.0 µm/m-°C Grade Count:13
Thermal Conductivity	0.159 - 0.187 W/m-K	1.10 - 1.30 BTU-in/hr-ft ² -°F	Average value: 0.180 W/m-K Grade Count:4
Melting Point	136 - 170 °C	277 - 338 °F	Average value: 160 °C Grade Count:13
Deflection Temperature at 0.46 MPa (66 psi)	65.0 - 202 °C	149 - 396 °F	Average value: 142 °C Grade Count:80
Deflection Temperature at 1.8 MPa (264 psi)	46.0 - 155 °C	115 - 311 °F	Average value: 117 °C Grade Count:92

Thermal Properties	Metric	English	Comments
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:41
Glow Wire Test	650 - 850 °C	1200 - 1560 °F	Average value: 717 °C Grade Count:3

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1000 - 1.00e+17 ohm-cm	1000 - 1.00e+17 ohm-cm	Average value: 8.62e+15 ohm-cm Grade Count:26
Surface Resistance	1e+05 - 1.00e+15 ohm	1e+05 - 1.00e+15 ohm	Average value: 2.22e+14 ohm Grade Count:9
Static Decay	1.00 - 2.00 sec	1.00 - 2.00 sec	Average value: 1.86 sec Grade Count:7
Dielectric Constant	2.50 - 2.90	2.50 - 2.90	Average value: 2.67 Grade Count:6
Dielectric Strength	19.3 - 22.4 kV/mm	490 - 570 kV/in	Average value: 21.1 kV/mm Grade Count:10
Dissipation Factor	0.00100	0.00100	Average value: 0.00100 Grade Count:6
Arc Resistance	80.0 - 132 sec	80.0 - 132 sec	Average value: 118 sec Grade Count:5

Processing Properties	Metric	English	Comments
Processing Temperature	166 - 240 °C	330 - 464 °F	Average value: 209 °C Grade Count:16
Nozzle Temperature	210 - 260 °C	410 - 500 °F	Average value: 218 °C Grade Count:24
Melt Temperature	180 - 260 °C	356 - 500 °F	Average value: 215 °C Grade Count:49
Mold Temperature	20.0 - 80.0 °C	68.0 - 176 °F	Average value: 45.0 °C Grade Count:65
Drying Temperature	65.6 - 82.2 °C	150 - 180 °F	Average value: 76.0 °C Grade Count:43
Moisture Content	0.0500 - 0.200 %	0.0500 - 0.200 %	Average value: 0.0568 % Grade Count:22
Injection Pressure	2.76 - 120 MPa	400 - 17400 psi	Average value: 56.9 MPa Grade Count:58

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