

Overview of materials for Polypropylene with 30% Glass Fiber Filler

Category : Polymer , Thermoplastic , Polypropylene (PP) , Polypropylene with 30% Glass Fiber Filler

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polypropylene with 30% Glass Fiber Filler".

Specific grades with glass content between 25% and 34% 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-30-Glass-Fiber-Filler.php

Physical Properties	Metric	English	Comments
Density	1.00 - 1.51 g/cc	0.0361 - 0.0546 lb/in ³	Average value: 1.14 g/cc Grade Count:288
Filler Content	25.0 - 32.0 %	25.0 - 32.0 %	Average value: 29.6 % Grade Count:90
Water Absorption	0.0100 - 0.0500 %	0.0100 - 0.0500 %	Average value: 0.0280 % Grade Count:38
Additive Loading	25.0 - 30.0 %	25.0 - 30.0 %	Average value: 29.4 % Grade Count:9
Maximum Moisture Content	0.0100	0.0100	Average value: 0.0100 Grade Count:3
Linear Mold Shrinkage	0.000600 - 0.0200 cm/cm	0.000600 - 0.0200 in/in	Average value: 0.00418 cm/cm Grade Count:208
Linear Mold Shrinkage, Transverse	0.00230 - 0.0193 cm/cm	0.00230 - 0.0193 in/in	Average value: 0.0101 cm/cm Grade Count:33
Melt Flow	0.400 - 25.0 g/10 min	0.400 - 25.0 g/10 min	Average value: 6.85 g/10 min Grade Count:182
Spiral Flow	95.0 - 95.0 cm	37.4 - 37.4 in	Average value: 95.0 cm Grade Count:1
	@Temperature 250 - 250 °C	@Temperature 482 - 482 °F	
Spiral Flow	95.0 - 95.0 cm	37.4 - 37.4 in	Average value: 95.0 cm Grade Count:1
	@Thickness 2.00 - 2.00 mm	@Thickness 0.0787 - 0.0787 in	
Ash	26.0 - 32.0 %	26.0 - 32.0 %	Average value: 29.9 % Grade Count:12

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	57.0 - 107	57.0 - 107	Average value: 66.7 Grade Count:9
Hardness, Rockwell R	81.0 - 115	81.0 - 115	Average value: 99.3 Grade Count:45

Hardness, Shore D Mechanical Properties	47.0 - 76.0 Metric	47.0 - 76.0 English	Average value: 71.9 Grade Count:23 Comments
Ball Indentation Hardness	110 - 132 MPa	16000 - 19100 psi	Average value: 117 MPa Grade Count:7
Tensile Strength, Ultimate	6.89 - 130 MPa	1000 - 18900 psi	Average value: 80.8 MPa Grade Count:184
	9.00 - 140.653 MPa @Temperature -40.0 - 120 °C	1310 - 20400.0 psi @Temperature -40.0 - 248 °F	Average value: 58.0 MPa Grade Count:30
Tensile Strength, Yield	36.0 - 110 MPa	5220 - 16000 psi	Average value: 76.5 MPa Grade Count:111
Elongation at Break	0.900 - 30.0 %	0.900 - 30.0 %	Average value: 3.63 % Grade Count:194
	1.30 - 7.50 % @Temperature -40.0 - 100 °C	1.30 - 7.50 % @Temperature -40.0 - 212 °F	Average value: 3.08 % Grade Count:27
Elongation at Yield	2.00 - 9.40 %	2.00 - 9.40 %	Average value: 3.56 % Grade Count:64
	2.50 - 4.00 % @Temperature 60.0 - 90.0 °C	2.50 - 4.00 % @Temperature 140 - 194 °F	Average value: 3.25 % Grade Count:1
Modulus of Elasticity	2.25 - 15.0 GPa	326 - 2180 ksi	Average value: 6.31 GPa Grade Count:143
	3.30 - 11.0 GPa @Temperature -40.0 - 100 °C	479 - 1600 ksi @Temperature -40.0 - 212 °F	Average value: 5.19 GPa Grade Count:27
Flexural Yield Strength	32.0 - 210 MPa	4640 - 30500 psi	Average value: 117 MPa Grade Count:217
	70.0 - 234.422 MPa @Temperature -40.0 - 121 °C	10200 - 34000.1 psi @Temperature -40.0 - 250 °F	Average value: 113 MPa Grade Count:22
Flexural Modulus	1.60 - 8.00 GPa	232 - 1160 ksi	Average value: 5.28 GPa Grade Count:278
	1.60 - 8.34266 GPa @Temperature -40.0 - 121 °C	232 - 1210.02 ksi @Temperature -40.0 - 250 °F	Average value: 4.93 GPa Grade Count:25
Compressive Yield Strength	57.9 - 82.7 MPa	8400 - 12000 psi	Average value: 71.7 MPa Grade Count:7
Izod Impact, Notched	0.320 - 3.26 J/cm	0.599 - 6.10 ft-lb/in	Average value: 1.11 J/cm Grade Count:184
	0.300 - 4.35 J/cm	0.562 - 8.15 ft-lb/in	Average value: 1.55 J/cm Grade

Mechanical Properties	@Temperature -40.0 - Metric 121 °C	@Temperature -40.0 - English 29 °F	Count:16 Comments
	0.5339 - 0.5339 J/cm @Temperature -28.9 - - 28.9 °C	1.000 - 1.000 ft-lb/in @Temperature -20.0 - - 20.0 °F	Average value: 1.55 J/cm Grade Count:1
	0.5339 - 0.5339 J/cm @Thickness 3.17 - 3.17 mm	1.000 - 1.000 ft-lb/in @Thickness 0.125 - 0.125 in	Average value: 1.55 J/cm Grade Count:1
Izod Impact, Unnotched	1.60 - 8.54 J/cm	3.00 - 16.0 ft-lb/in	Average value: 5.23 J/cm Grade Count:73
Izod Impact, Notched (ISO)	5.30 - 55.0 kJ/m ²	2.52 - 26.2 ft-lb/in ²	Average value: 15.7 kJ/m ² Grade Count:28
	4.60 - 16.0 kJ/m ² @Temperature -40.0 - - 20.0 °C	2.19 - 7.61 ft-lb/in ² @Temperature -40.0 - - 4.00 °F	Average value: 8.37 kJ/m ² Grade Count:15
Izod Impact, Unnotched (ISO)	28.0 - 55.0 kJ/m ²	13.3 - 26.2 ft-lb/in ²	Average value: 42.2 kJ/m ² Grade Count:9
	18.0 - 68.0 kJ/m ² @Temperature -45.0 - - 30.0 °C	8.57 - 32.4 ft-lb/in ² @Temperature -49.0 - - 22.0 °F	Average value: 42.8 kJ/m ² Grade Count:6
Charpy Impact Unnotched	0.500 - 1000 J/cm ²	2.38 - 4760 ft-lb/in ²	Average value: 4.95 J/cm ² Grade Count:70
	0.400 - 8.70 J/cm ² @Temperature -40.0 - - 20.0 °C	1.90 - 41.4 ft-lb/in ² @Temperature -40.0 - - 4.00 °F	Average value: 4.42 J/cm ² Grade Count:56
Charpy Impact, Notched	0.280 - 3.90 J/cm ²	1.33 - 18.6 ft-lb/in ²	Average value: 1.57 J/cm ² Grade Count:99
	0.100 - 2.90 J/cm ² @Temperature -40.0 - - 20.0 °C	0.476 - 13.8 ft-lb/in ² @Temperature -40.0 - - 4.00 °F	Average value: 1.28 J/cm ² Grade Count:69
Gardner Impact	0.300 - 13.6 J	0.221 - 10.0 ft-lb	Average value: 1.39 J Grade Count:36
	2.71164 - 2.71164 J @Temperature -5.56 - - 5.56 °C	2.00000 - 2.00000 ft-lb @Temperature 22.0 - 22.0 °F	Average value: 2.71 J Grade Count:1
Puncture Energy	21.0 - 21.0 J @Temperature -30.0 - - 30.0 °C	15.5 - 15.5 ft-lb @Temperature -22.0 - - 22.0 °F	Average value: 21.0 J Grade Count:1

Thermal Properties	Metric	English	Comments
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CTE linear Thermal Properties	26.0 - 70.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ Metric	14.4 - 38.9 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ English	Average value: 39.7 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ Grade Count:28 Comments
Electrical Properties	Metric	English	Comments
Electrical Resistivity	1000 - 3.00e+16 ohm-cm	1000 - 3.00e+16 ohm-cm	Average value: 3.87e+15 ohm-cm Grade Count:28
Surface Resistance	1e+05 - 1.00e+15 ohm	1e+05 - 1.00e+15 ohm	Average value: 4.02e+14 ohm Grade Count:5
Dielectric Constant	2.60 - 3.30	2.60 - 3.30	Average value: 2.93 Grade Count:11
Dielectric Strength	17.7 - 40.0 kV/mm	450 - 1020 kV/in	Average value: 22.1 kV/mm Grade Count:18
Dissipation Factor	0.00100 - 0.00300	0.00100 - 0.00300	Average value: 0.00160 Grade Count:10
Arc Resistance	85.0 - 125 sec	85.0 - 125 sec	Average value: 109 sec Grade Count:8
Comparative Tracking Index	575 - 600 V	575 - 600 V	Average value: 598 V Grade Count:10

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