

Overview of materials for Polypropylene, Long Glass Fiber 50%

Category : Polymer , Thermoplastic , Polypropylene (PP) , Polypropylene with 50% Glass Fiber Filler

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polypropylene, Long Glass Fiber 50%".

Specific grades with glass content between 45% and 54% 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-Long-Glass-Fiber-50.php

Physical Properties	Metric	English	Comments
Density	1.05 - 1.68 g/cc	0.0379 - 0.0607 lb/in ³	Average value: 1.31 g/cc Grade Count:46
Filler Content	45.0 - 50.0 %	45.0 - 50.0 %	Average value: 48.6 % Grade Count:9
Water Absorption	0.0100 - 0.0600 %	0.0100 - 0.0600 %	Average value: 0.0517 % Grade Count:6
Linear Mold Shrinkage	0.000300 - 0.00780 cm/cm	0.000300 - 0.00780 in/in	Average value: 0.00304 cm/cm Grade Count:17
Linear Mold Shrinkage, Transverse	0.00750 - 0.0128 cm/cm	0.00750 - 0.0128 in/in	Average value: 0.0113 cm/cm Grade Count:3
Melt Flow	2.50 - 10.0 g/10 min	2.50 - 10.0 g/10 min	Average value: 5.43 g/10 min Grade Count:7

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	110 - 112	110 - 112	Average value: 111 Grade Count:3
Tensile Strength, Ultimate	49.6 - 400 MPa	7200 - 58000 psi	Average value: 132 MPa Grade Count:34
	40.0 - 85.0 MPa @Temperature 60.0 - 90.0 °C	5800 - 12300 psi @Temperature 140 - 194 °F	Average value: 78.1 MPa Grade Count:12
Tensile Strength, Yield	60.0 - 135 MPa	8700 - 19600 psi	Average value: 115 MPa Grade Count:12
Elongation at Break	1.00 - 4.00 %	1.00 - 4.00 %	Average value: 1.98 % Grade Count:42
	2.20 - 5.80 % @Temperature 60.0 - 90.0 °C	2.20 - 5.80 % @Temperature 140 - 194 °F	Average value: 2.65 % Grade Count:12
Elongation at Yield	2.00 - 4.00 %	2.00 - 4.00 %	Average value: 3.00 % Grade Count:3

Mechanical Properties	Metric 1,20 %	English 20 %	Comments
	@Temperature 60.0 - 90.0 °C	@Temperature 140 - 194 °F	Average value: 3.45 % Grade Count:1
Modulus of Elasticity	6.85 - 20.5 GPa	994 - 2970 ksi	Average value: 11.5 GPa Grade Count:40
	5.30 - 8.40 GPa	769 - 1220 ksi	Average value: 7.70 GPa Grade Count:12
	@Temperature 60.0 - 90.0 °C	@Temperature 140 - 194 °F	
Flexural Yield Strength	62.1 - 370 MPa	9000 - 53700 psi	Average value: 188 MPa Grade Count:43
	90.0 - 130 MPa	13100 - 18900 psi	Average value: 121 MPa Grade Count:9
	@Temperature 80.0 - 80.0 °C	@Temperature 176 - 176 °F	
Flexural Modulus	3.86 - 17.5 GPa	560 - 2540 ksi	Average value: 10.1 GPa Grade Count:44
	6.00 - 9.00 GPa	870 - 1310 ksi	Average value: 7.78 GPa Grade Count:9
	@Temperature 80.0 - 80.0 °C	@Temperature 176 - 176 °F	
Izod Impact, Notched	0.534 - 3.50 J/cm	1.00 - 6.56 ft-lb/in	Average value: 2.10 J/cm Grade Count:24
	1.10 - 1.30 J/cm	2.06 - 2.44 ft-lb/in	Average value: 1.20 J/cm Grade Count:1
	@Temperature -20.0 - 0.000 °C	@Temperature -4.00 - 32.0 °F	
Izod Impact, Unnotched	1.60 - 9.61 J/cm	3.00 - 18.0 ft-lb/in	Average value: 6.63 J/cm Grade Count:11
Izod Impact, Notched (ISO)	20.0 - 25.0 kJ/m ²	9.52 - 11.9 ft-lb/in ²	Average value: 23.3 kJ/m ² Grade Count:3
	15.0 - 15.0 kJ/m ²	7.14 - 7.14 ft-lb/in ²	Average value: 15.0 kJ/m ² Grade Count:1
	@Temperature -30.0 - - 30.0 °C	@Temperature -22.0 - - 22.0 °F	
Charpy Impact Unnotched	2.00 - 8.00 J/cm ²	9.52 - 38.1 ft-lb/in ²	Average value: 6.12 J/cm ² Grade Count:16
	1.80 - 8.20 J/cm ²	8.57 - 39.0 ft-lb/in ²	Average value: 5.75 J/cm ² Grade Count:14
	@Temperature -30.0 - - 20.0 °C	@Temperature -22.0 - - 4.00 °F	
Charpy Impact, Notched	0.500 - 4.40 J/cm ²	2.38 - 20.9 ft-lb/in ²	Average value: 2.52 J/cm ² Grade Count:23
	0.400 - 4.00 J/cm ²	1.90 - 19.0 ft-lb/in ²	Average value: 2.71 J/cm ² Grade Count:14
	@Temperature -30.0 - - 20.0 °C	@Temperature -22.0 - - 4.00 °F	

Mechanical Properties	Metric	English	Comments
CTE, linear	21.6 - 28.8 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	12.0 - 16.0 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Average value: 24.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ Grade Count:3
Melting Point	160 - 167 $^\circ\text{C}$	320 - 333 $^\circ\text{F}$	Average value: 164 $^\circ\text{C}$ Grade Count:18
Maximum Service Temperature, Air	90.0 - 140 $^\circ\text{C}$	194 - 284 $^\circ\text{F}$	Average value: 116 $^\circ\text{C}$ Grade Count:3
Deflection Temperature at 0.46 MPa (66 psi)	149 - 163 $^\circ\text{C}$	300 - 325 $^\circ\text{F}$	Average value: 158 $^\circ\text{C}$ Grade Count:9
Deflection Temperature at 1.8 MPa (264 psi)	121 - 165 $^\circ\text{C}$	250 - 329 $^\circ\text{F}$	Average value: 153 $^\circ\text{C}$ Grade Count:41
Deflection Temperature at 8.0 MPa	132 - 138 $^\circ\text{C}$	270 - 280 $^\circ\text{F}$	Average value: 136 $^\circ\text{C}$ Grade Count:10
Vicat Softening Point	140 - 163 $^\circ\text{C}$	284 - 325 $^\circ\text{F}$	Average value: 151 $^\circ\text{C}$ Grade Count:4
Flammability, UL94	HB	HB	Grade Count:14

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+15 - 2.00e+16 ohm-cm	1.00e+15 - 2.00e+16 ohm-cm	Average value: 7.33e+15 ohm-cm Grade Count:6

Processing Properties	Metric	English	Comments
Processing Temperature	30.0 - 290 $^\circ\text{C}$	86.0 - 554 $^\circ\text{F}$	Average value: 137 $^\circ\text{C}$ Grade Count:24
Nozzle Temperature	204 - 249 $^\circ\text{C}$	400 - 480 $^\circ\text{F}$	Average value: 225 $^\circ\text{C}$ Grade Count:3
Die Temperature	225 - 290 $^\circ\text{C}$	437 - 554 $^\circ\text{F}$	Average value: 265 $^\circ\text{C}$ Grade Count:18
Melt Temperature	191 - 290 $^\circ\text{C}$	375 - 554 $^\circ\text{F}$	Average value: 249 $^\circ\text{C}$ Grade Count:27
Mold Temperature	20.0 - 80.0 $^\circ\text{C}$	68.0 - 176 $^\circ\text{F}$	Average value: 56.0 $^\circ\text{C}$ Grade Count:18
Injection Velocity	50.0 - 80.0 mm/sec	1.97 - 3.15 in/sec	Average value: 64.5 mm/sec Grade Count:3
Drying Temperature	79.4 - 100 $^\circ\text{C}$	175 - 212 $^\circ\text{F}$	Average value: 92.3 $^\circ\text{C}$ Grade Count:22
Moisture Content	0.200 %	0.200 %	Average value: 0.200 % Grade Count:18
Injection Pressure	60.0 - 120 MPa	8700 - 17400 psi	Average value: 88.2 MPa Grade Count:21
Hot-Working Temperature	260 - 290 $^\circ\text{C}$	500 - 554 $^\circ\text{F}$	Average value: 275 $^\circ\text{C}$ Grade Count:4

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