

Overview of materials for Polypropylene, Fiber Grade

Category : Polymer , Thermoplastic , Polypropylene (PP) , Polypropylene, Fiber Grade

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polypropylene, Fiber Grade". 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-Fiber-Grade.php

Physical Properties	Metric	English	Comments
Density	0.886 - 0.926 g/cc	0.0320 - 0.0335 lb/in ³	Average value: 0.903 g/cc Grade Count:89
Water Absorption	0.0100 %	0.0100 %	Average value: 0.0100 % Grade Count:3
Environmental Stress Crack Resistance	>= 500 hour @Temperature 50.0 - 50.0 °C	>= 500 hour @Temperature 122 - 122 °F	Average value: 500 hour Grade Count:2
Linear Mold Shrinkage	0.0100 - 0.0250 cm/cm	0.0100 - 0.0250 in/in	Average value: 0.0175 cm/cm Grade Count:4
Melt Flow	0.300 - 1500 g/10 min	0.300 - 1500 g/10 min	Average value: 63.5 g/10 min Grade Count:103

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	68.0 - 112	68.0 - 112	Average value: 99.1 Grade Count:44
Hardness, Shore D	70.0 - 76.0	70.0 - 76.0	Average value: 73.1 Grade Count:16
Tensile Strength, Ultimate	25.0 - 317 MPa	3630 - 46000 psi	Average value: 133 MPa Grade Count:19
Tensile Strength, Yield	24.1 - 40.7 MPa	3500 - 5900 psi	Average value: 34.9 MPa Grade Count:78
Elongation at Break	15.0 - 650 %	15.0 - 650 %	Average value: 268 % Grade Count:19
Elongation at Yield	6.00 - 203 %	6.00 - 203 %	Average value: 19.0 % Grade Count:68
Modulus of Elasticity	1.35 - 1.79 GPa	196 - 260 ksi	Average value: 1.59 GPa Grade Count:15
Tenacity	0.168 - 0.353 N/tex	1.90 - 4.00 g/denier	Average value: 0.255 N/tex Grade Count:14
Flexural Modulus	0.827 - 1.93 GPa	120 - 280 ksi	Average value: 1.49 GPa Grade Count:92

Izod Impact, Notched Mechanical Properties	0.196 - 0.490 J/cm Metric	0.367 - 0.919 ft-lb/in English	Average value: 0.288 J/cm Grade Count:3
	0.166713 - 0.274586 J/cm	0.312322 - 0.514412 ft-lb/in	Average value: 0.216 J/cm Grade Count:2
	@Temperature -20.0 - 0.000 °C	@Temperature -4.00 - 32.0 °F	
Izod Impact, Unnotched	0.186 J/cm - NB	0.349 ft-lb/in - NB	Average value: 3.08 J/cm Grade Count:13
Izod Impact, Notched (ISO)	3.00 - 6.50 kJ/m ²	1.43 - 3.09 ft-lb/in ²	Average value: 4.44 kJ/m ² Grade Count:8
Charpy Impact, Notched	0.450 J/cm ²	2.14 ft-lb/in ²	Average value: 0.450 J/cm ² Grade Count:3

Thermal Properties	Metric	English	Comments
Melting Point	146 - 165 °C	295 - 329 °F	Average value: 162 °C Grade Count:21
Deflection Temperature at 0.46 MPa (66 psi)	75.0 - 129 °C	167 - 264 °F	Average value: 104 °C Grade Count:60
Deflection Temperature at 1.8 MPa (264 psi)	52.0 - 104 °C	126 - 219 °F	Average value: 64.8 °C Grade Count:18
Vicat Softening Point	78.0 - 155 °C	172 - 311 °F	Average value: 147 °C Grade Count:35
Heat Distortion Temperature	95.0 - 119 °C	203 - 246 °F	Average value: 108 °C Grade Count:6

Processing Properties	Metric	English	Comments
Processing Temperature	204 - 274 °C	399 - 525 °F	Average value: 238 °C Grade Count:10
Melt Temperature	204 - 288 °C	399 - 550 °F	Average value: 232 °C Grade Count:10

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