

Overview of materials for Polypropylene with 20% Talc Filler

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

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polypropylene with 20% Talc Filler". Specific grades with primary filler 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-Talc-Filler.php

Physical Properties	Metric	English	Comments
Density	0.980 - 1.46 g/cc	0.0354 - 0.0527 lb/in ³	Average value: 1.05 g/cc Grade Count:296
Filler Content	15.0 - 25.0 %	15.0 - 25.0 %	Average value: 19.3 % Grade Count:153
Water Absorption	0.0200 - 0.0300 %	0.0200 - 0.0300 %	Average value: 0.0277 % Grade Count:13
Linear Mold Shrinkage	0.000900 - 0.0265 cm/cm	0.000900 - 0.0265 in/in	Average value: 0.0120 cm/cm Grade Count:236
Linear Mold Shrinkage, Transverse	0.00720 - 0.0272 cm/cm	0.00720 - 0.0272 in/in	Average value: 0.0153 cm/cm Grade Count:31
Melt Flow	0.600 - 30.0 g/10 min	0.600 - 30.0 g/10 min	Average value: 12.6 g/10 min Grade Count:268
Ash	16.0 - 25.0 %	16.0 - 25.0 %	Average value: 20.4 % Grade Count:20
	15.0 - 20.0 % @Temperature 600 - 600 °C	15.0 - 20.0 % @Temperature 1110 - 1110 °F	Average value: 19.0 % Grade Count:5

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	48.0 - 100	48.0 - 100	Average value: 67.8 Grade Count:4
Hardness, Rockwell R	52.0 - 98.0	52.0 - 98.0	Average value: 86.8 Grade Count:38
Hardness, Shore D	56.0 - 80.0	56.0 - 80.0	Average value: 69.5 Grade Count:66
Tensile Strength, Ultimate	12.0 - 37.0 MPa	1740 - 5370 psi	Average value: 26.8 MPa Grade Count:212
Tensile Strength, Yield	13.8 - 39.0 MPa	2000 - 5660 psi	Average value: 28.4 MPa Grade Count:105
	3.00 - 400 %	3.00 - 400 %	Average value: 30.7 % Grade

Elongation at Break Mechanical Properties	Metric	English	Count:125 Comments
Elongation at Yield	3.00 - 32.0 %	3.00 - 32.0 %	Average value: 8.70 % Grade Count:125
Modulus of Elasticity	1.10 - 3.45 GPa	160 - 500 ksi	Average value: 2.19 GPa Grade Count:85
Flexural Yield Strength	17.0 - 70.0 MPa	2470 - 10200 psi	Average value: 42.9 MPa Grade Count:163
Flexural Modulus	1.02 - 4.10 GPa	148 - 595 ksi	Average value: 2.08 GPa Grade Count:301
	2.30 - 2.40 GPa @Temperature -20.0 - - 20.0 °C	334 - 348 ksi @Temperature -4.00 - - 4.00 °F	Average value: 2.32 GPa Grade Count:5
Izod Impact, Notched	0.198 - 8.01 J/cm	0.370 - 15.0 ft-lb/in	Average value: 0.688 J/cm Grade Count:159
	0.200 - 0.26695 J/cm @Temperature -40.0 - - 20.0 °C	0.375 - 0.50011 ft-lb/in @Temperature -40.0 - - 4.00 °F	Average value: 0.229 J/cm Grade Count:3
Izod Impact, Unnotched	0.200 - 5340 J/cm	0.375 - 10000 ft-lb/in	Average value: 5.80 J/cm Grade Count:44
Izod Impact, Notched (ISO)	2.40 - 28.0 kJ/m²	1.14 - 13.3 ft-lb/in²	Average value: 8.43 kJ/m² Grade Count:14
	1.80 - 4.00 kJ/m² @Temperature -40.0 - - 20.0 °C	0.857 - 1.90 ft-lb/in² @Temperature -40.0 - - 4.00 °F	Average value: 2.41 kJ/m² Grade Count:7
Izod Impact, Unnotched (ISO)	15.0 - 55.0 kJ/m²	7.14 - 26.2 ft-lb/in²	Average value: 31.3 kJ/m² Grade Count:4
	17.0 - 24.0 kJ/m² @Temperature -30.0 - - 30.0 °C	8.09 - 11.4 ft-lb/in² @Temperature -22.0 - - 22.0 °F	Average value: 20.5 kJ/m² Grade Count:2
Charpy Impact Unnotched	1.50 J/cm² - NB	7.14 ft-lb/in² - NB	Average value: 4.92 J/cm² Grade Count:68
	1.00 J/cm² - NB @Temperature -30.0 - 0.000 °C	4.76 ft-lb/in² - NB @Temperature -22.0 - 32.0 °F	Average value: 2.55 J/cm² Grade Count:63
Charpy Impact, Notched	0.200 - 7.50 J/cm²	0.952 - 35.7 ft-lb/in²	Average value: 1.07 J/cm² Grade Count:127
	0.100 - 4.80 J/cm² @Temperature -40.0 - 0.000 °C	0.476 - 22.8 ft-lb/in² @Temperature -40.0 - 32.0 °F	Average value: 0.394 J/cm² Grade Count:108
Gardner Impact	0.451 - 271 J	0.333 - 200 ft-lb	Average value: 13.4 J Grade Count:74

Mechanical Properties	Metric	English	Comments
	1.25582 - 43.3862 J	1.00000 - 32.0000 ft-lb	
	@Temperature -30.0 - -5.56 °C	@Temperature -22.0 - 22.0 °F	Average value: 13.7 J Grade Count:4

Thermal Properties	Metric	English	Comments
CTE, linear	50.0 - 110 µm/m-°C	27.8 - 61.1 µin/in-°F	Average value: 68.2 µm/m-°C Grade Count:24
Melting Point	135 - 182 °C	275 - 360 °F	Average value: 157 °C Grade Count:26
Deflection Temperature at 0.46 MPa (66 psi)	70.0 - 144 °C	158 - 291 °F	Average value: 114 °C Grade Count:233
Deflection Temperature at 1.8 MPa (264 psi)	25.0 - 174 °C	77.0 - 345 °F	Average value: 71.4 °C Grade Count:236
Vicat Softening Point	53.0 - 160 °C	127 - 320 °F	Average value: 113 °C Grade Count:112
Flammability, UL94	HB - 5VA	HB - 5VA	Grade Count:100
Flame Spread	15.2 - 22.9 mm/min	0.600 - 0.900 in/min	Average value: 19.8 mm/min Grade Count:5
Glow Wire Test	650 - 960 °C	1200 - 1760 °F	Average value: 746 °C Grade Count:52

Optical Properties	Metric	English	Comments
Gloss	45.0 - 47.0 %	45.0 - 47.0 %	Average value: 46.0 % Grade Count:4

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+16 ohm-cm	1.00e+16 ohm-cm	Average value: 1.00e+16 ohm-cm Grade Count:9
Dielectric Strength	19.7 - 24.0 kV/mm	500 - 610 kV/in	Average value: 21.1 kV/mm Grade Count:3
Comparative Tracking Index	600 V	600 V	Average value: 600 V Grade Count:3

Processing Properties	Metric	English	Comments
Processing Temperature	193 - 227 °C	380 - 440 °F	Average value: 210 °C Grade Count:8
Nozzle Temperature	200 - 227 °C	392 - 440 °F	Average value: 218 °C Grade Count:65
Melt Temperature	149 - 279 °C	300 - 534 °F	Average value: 219 °C Grade Count:177
Mold Temperature	10.0 - 80.0 °C	50.0 - 176 °F	Average value: 48.0 °C Grade Count:178
Drying Temperature	51.7 - 100 °C	125 - 212 °F	Average value: 75.3 °C Grade Count:137

Processing Properties	Metric	English	Comments
	0.0180 - 0.100 %	0.0180 - 0.100 %	Average value: 0.0515 % Grade Count:153
Injection Pressure	2.76 - 120 MPa	400 - 17400 psi	Average value: 54.6 MPa Grade Count:153

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