

Overview of materials for Polypropylene with 20% Calcium Carbonate (CaCO3) Filler

Category : Polymer , Thermoplastic , Polypropylene (PP) , Polypropylene with 20% Calcium Carbonate (CaCO3) Filler

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polypropylene with 20% Calcium Carbonate (CaCO3) Filler". 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-Calcium-Carbonate-CaCO3-Filler.php

Physical Properties	Metric	English	Comments
Density	0.980 - 1.10 g/cc	0.0354 - 0.0397 lb/in ³	Average value: 1.04 g/cc Grade Count:84
Filler Content	15.0 - 20.0 %	15.0 - 20.0 %	Average value: 19.9 % Grade Count:35
Water Absorption	0.0200 - 0.0300 %	0.0200 - 0.0300 %	Average value: 0.0211 % Grade Count:9
Linear Mold Shrinkage	0.00100 - 0.0200 cm/cm	0.00100 - 0.0200 in/in	Average value: 0.0133 cm/cm Grade Count:60
Melt Flow	0.900 - 70.0 g/10 min	0.900 - 70.0 g/10 min	Average value: 13.9 g/10 min Grade Count:61
Ash	18.0 - 23.0 %	18.0 - 23.0 %	Average value: 20.0 % Grade Count:13

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	50.0 - 98.0	50.0 - 98.0	Average value: 81.2 Grade Count:24
Hardness, Shore D	65.0 - 72.0	65.0 - 72.0	Average value: 69.8 Grade Count:12
Tensile Strength, Ultimate	12.0 - 30.3 MPa	1740 - 4400 psi	Average value: 22.5 MPa Grade Count:39
Tensile Strength, Yield	14.0 - 32.0 MPa	2030 - 4640 psi	Average value: 25.1 MPa Grade Count:55
Elongation at Break	2.00 - 545 %	2.00 - 545 %	Average value: 74.8 % Grade Count:61
Elongation at Yield	3.00 - 100 %	3.00 - 100 %	Average value: 10.4 % Grade Count:25
Modulus of Elasticity	1.00 - 2.69 GPa	145 - 390 ksi	Average value: 1.80 GPa Grade Count:22
Flexural Yield Strength	16.0 - 54.0 MPa	2320 - 7830 psi	Average value: 36.5 MPa Grade Count:47
Flexural Modulus	0.800 - 2.70 GPa	116 - 392 ksi	Average value: 1.65 GPa Grade Count:83

Mechanical Properties	Metric	English	Comments
Compressive Yield Strength	27.0 - 47.6 MPa	4000 - 6900 psi	Average value: 40.9 MPa Grade Count:3
Izod Impact, Notched	0.267 - 7.47 J/cm	0.500 - 14.0 ft-lb/in	Average value: 1.04 J/cm Grade Count:76
Izod Impact, Unnotched	0.534 - 5340 J/cm	1.00 - 10000 ft-lb/in	Average value: 9.81 J/cm Grade Count:19
Izod Impact, Notched (ISO)	3.80 - 16.0 kJ/m ²	1.81 - 7.61 ft-lb/in ²	Average value: 7.07 kJ/m ² Grade Count:7
	3.30 - 3.30 kJ/m ² @Temperature -40.0 - -40.0 °C	1.57 - 1.57 ft-lb/in ² @Temperature -40.0 - -40.0 °F	Average value: 3.30 kJ/m ² Grade Count:1
Izod Impact, Unnotched (ISO)	15.0 - 20.0 kJ/m ²	7.14 - 9.52 ft-lb/in ²	Average value: 17.7 kJ/m ² Grade Count:3
Gardner Impact	0.983 - 40.7 J	0.725 - 30.0 ft-lb	Average value: 13.4 J Grade Count:29
	2.71164 - 18.5295 J @Temperature -30.0 - -5.56 °C	2.00000 - 13.6667 ft-lb @Temperature -22.0 - 22.0 °F	Average value: 14.7 J Grade Count:3
	20.8 - 20.8 J @Temperature -23.0 - -23.0 °C	15.3 - 15.3 ft-lb @Temperature -9.40 - -9.40 °F	Average value: 14.7 J Grade Count:1
	20.8 - 20.8 J @Thickness 3.18 - 3.18 mm	15.3 - 15.3 ft-lb @Thickness 0.125 - 0.125 in	Average value: 14.7 J Grade Count:1

Thermal Properties	Metric	English	Comments
CTE, linear	63.0 - 80.0 µm/m-°C	35.0 - 44.4 µin/in-°F	Average value: 68.7 µm/m-°C Grade Count:3
Melting Point	160 - 182 °C	320 - 360 °F	Average value: 168 °C Grade Count:4
Deflection Temperature at 0.46 MPa (66 psi)	50.0 - 118 °C	122 - 245 °F	Average value: 95.9 °C Grade Count:65
Deflection Temperature at 1.8 MPa (264 psi)	40.6 - 106 °C	105 - 223 °F	Average value: 59.7 °C Grade Count:56
Vicat Softening Point	70.0 - 150 °C	158 - 302 °F	Average value: 112 °C Grade Count:9
Flammability, UL94	HB	HB	Grade Count:22

Optical Properties	Metric	English	Comments
Gloss	55.0 - 75.0 %	55.0 - 75.0 %	Average value: 67.5 % 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:7

Processing Properties	Metric	English	Comments
Processing Temperature	193 - 227 °C	380 - 440 °F	Average value: 210 °C Grade Count:7
Nozzle Temperature	200 - 227 °C	392 - 440 °F	Average value: 217 °C Grade Count:11
Melt Temperature	170 - 302 °C	338 - 576 °F	Average value: 215 °C Grade Count:17
Mold Temperature	4.00 - 91.0 °C	39.2 - 196 °F	Average value: 44.4 °C Grade Count:22
Drying Temperature	65.6 - 82.2 °C	150 - 180 °F	Average value: 77.6 °C Grade Count:13
Moisture Content	0.0100 - 0.0500 %	0.0100 - 0.0500 %	Average value: 0.0400 % Grade Count:8
Injection Pressure	2.76 - 103 MPa	400 - 15000 psi	Average value: 54.3 MPa Grade Count:15

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