

Overview of materials for Polypropylene with 20% Mica Filler

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

Material Notes:

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

Physical Properties	Metric	English	Comments
Density	0.950 - 1.14 g/cc	0.0343 - 0.0414 lb/in ³	Average value: 1.03 g/cc Grade Count:43
Filler Content	15.0 - 20.0 %	15.0 - 20.0 %	Average value: 17.8 % Grade Count:9
Linear Mold Shrinkage	0.000900 - 0.0120 cm/cm	0.000900 - 0.0120 in/in	Average value: 0.00745 cm/cm Grade Count:41
Melt Flow	3.00 - 56.0 g/10 min	3.00 - 56.0 g/10 min	Average value: 16.6 g/10 min Grade Count:41
Ash	20.0 %	20.0 %	Average value: 20.0 % Grade Count:9

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	40.0 - 97.0	40.0 - 97.0	Average value: 70.5 Grade Count:12
Hardness, Shore D	68.0 - 76.0	68.0 - 76.0	Average value: 74.3 Grade Count:8
Ball Indentation Hardness	23.0 - 63.0 MPa	3340 - 9140 psi	Average value: 39.4 MPa Grade Count:14
Tensile Strength, Ultimate	10.0 - 35.2 MPa	1450 - 5110 psi	Average value: 26.2 MPa Grade Count:22
Tensile Strength, Yield	16.0 - 38.6 MPa	2320 - 5600 psi	Average value: 23.6 MPa Grade Count:32
Elongation at Break	4.90 - 300 %	4.90 - 300 %	Average value: 55.0 % Grade Count:26
Elongation at Yield	2.60 - 8.00 %	2.60 - 8.00 %	Average value: 5.17 % Grade Count:27
Modulus of Elasticity	1.00 - 3.10 GPa	145 - 450 ksi	Average value: 1.86 GPa Grade Count:29
Flexural Yield Strength	20.0 - 51.0 MPa	2900 - 7400 psi	Average value: 32.2 MPa Grade Count:28
Flexural Modulus	1.07 - 3.59 GPa	155 - 520 ksi	Average value: 2.15 GPa Grade Count:43

Mechanical Properties	Metric	English	Comments
Izod Impact, Notched	0.287 - 1.98 J/cm	0.240 - 3.70 ft-lb/in	Average value: 0.530 J/cm Grade Count:23
Izod Impact, Unnotched	2.70 - 5.23 J/cm	5.06 - 9.80 ft-lb/in	Average value: 3.71 J/cm Grade Count:3
Izod Impact, Notched (ISO)	6.40 - 50.0 kJ/m ²	3.05 - 23.8 ft-lb/in ²	Average value: 33.0 kJ/m ² Grade Count:13
	2.60 - 15.0 kJ/m ² @Temperature -20.0 - - 20.0 °C	1.24 - 7.14 ft-lb/in ² @Temperature -4.00 - - 4.00 °F	Average value: 5.34 kJ/m ² Grade Count:13
Izod Impact, Unnotched (ISO)	27.0 - 42.0 kJ/m ² @Temperature -20.0 - - 20.0 °C	12.8 - 20.0 ft-lb/in ² @Temperature -4.00 - - 4.00 °F	Average value: 34.5 kJ/m ² Grade Count:2
Charpy Impact Unnotched	6.30 - 1000 J/cm ²	30.0 - 4760 ft-lb/in ²	Average value: 12.6 J/cm ² Grade Count:18
	2.90 - 999.9 J/cm ² @Temperature -20.0 - - 20.0 °C	13.8 - 4759 ft-lb/in ² @Temperature -4.00 - - 4.00 °F	Average value: 7.04 J/cm ² Grade Count:18
Charpy Impact, Notched	0.650 - 6.00 J/cm ²	3.09 - 28.6 ft-lb/in ²	Average value: 3.20 J/cm ² Grade Count:20
	0.200 - 0.700 J/cm ² @Temperature -30.0 - - 20.0 °C	0.952 - 3.33 ft-lb/in ² @Temperature -22.0 - - 4.00 °F	Average value: 0.445 J/cm ² Grade Count:20
Gardner Impact	0.339 - 1.81 J	0.250 - 1.33 ft-lb	Average value: 0.698 J Grade Count:12

Thermal Properties	Metric	English	Comments
CTE, linear	30.0 - 80.0 µm/m-°C	16.7 - 44.4 µin/in-°F	Average value: 53.1 µm/m-°C Grade Count:11
Deflection Temperature at 0.46 MPa (66 psi)	80.0 - 132 °C	176 - 270 °F	Average value: 108 °C Grade Count:40
Deflection Temperature at 1.8 MPa (264 psi)	47.0 - 79.0 °C	117 - 174 °F	Average value: 60.0 °C Grade Count:41
Vicat Softening Point	36.0 - 150 °C	96.8 - 302 °F	Average value: 89.8 °C Grade Count:20

Processing Properties	Metric	English	Comments
Processing Temperature	220 - 260 °C	428 - 500 °F	Average value: 240 °C Grade Count:20
Nozzle Temperature	210 - 227 °C	410 - 440 °F	Average value: 219 °C Grade Count:7
Melt Temperature	193 - 238 °C	380 - 460 °F	Average value: 216 °C Grade Count:7

Processing Properties	Metric	English	Comments
Injection Velocity	100 - 200 mm/sec	3.94 - 7.87 in/sec	Average value: 150 mm/sec Grade Count:20
Drying Temperature	65.6 - 82.2 °C	150 - 180 °F	Average value: 73.9 °C Grade Count:7
Moisture Content	0.0500 %	0.0500 %	Average value: 0.0500 % Grade Count:7
Injection Pressure	2.76 - 10.3 MPa	400 - 1500 psi	Average value: 6.55 MPa Grade Count:7

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