

Overview of materials for Polypropylene with 40% Talc Filler

Category : Polymer , Thermoplastic , Polypropylene (PP) , Polypropylene with 40% Talc Filler

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polypropylene with 40% Talc Filler". Specific grades with primary filler content between 35% and 44% 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-40-Talc-Filler.php

| Physical Properties | Metric | English | Comments |
|-----------------------------------|---------------------------|------------------------------------|--|
| Density | 1.10 - 1.56 g/cc | 0.0397 - 0.0564 lb/in ³ | Average value: 1.24 g/cc Grade Count:177 |
| Filler Content | 30.0 - 40.0 % | 30.0 - 40.0 % | Average value: 39.7 % Grade Count:83 |
| Water Absorption | 0.0200 - 0.0400 % | 0.0200 - 0.0400 % | Average value: 0.0277 % Grade Count:13 |
| Linear Mold Shrinkage | 0.00300 - 0.0200 cm/cm | 0.00300 - 0.0200 in/in | Average value: 0.00955 cm/cm Grade Count:136 |
| Linear Mold Shrinkage, Transverse | 0.00560 - 0.0165 cm/cm | 0.00560 - 0.0165 in/in | Average value: 0.0126 cm/cm Grade Count:18 |
| Melt Flow | 1.00 - 30.0 g/10 min | 1.00 - 30.0 g/10 min | Average value: 10.1 g/10 min Grade Count:156 |
| Ash | 34.0 - 45.0 % | 34.0 - 45.0 % | Average value: 39.9 % Grade Count:19 |
| | 37.0 - 63.0 % | 37.0 - 63.0 % | Average value: 42.0 % Grade Count:5 |
| | @Temperature 600 - 600 °C | @Temperature 1110 - 1110 °F | |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|----------------------------|---------------------------|---|
| Hardness, Rockwell M | 50.0 - 100 | 50.0 - 100 | Average value: 64.5 Grade Count:6 |
| Hardness, Rockwell R | 42.0 - 102 | 42.0 - 102 | Average value: 84.8 Grade Count:34 |
| Hardness, Shore D | 65.0 - 84.0 | 65.0 - 84.0 | Average value: 72.8 Grade Count:20 |
| Tensile Strength, Ultimate | 13.0 - 50.0 MPa | 1890 - 7250 psi | Average value: 27.6 MPa Grade Count:116 |
| | 7.00 - 18.0 MPa | 1020 - 2610 psi | Average value: 12.3 MPa Grade Count:1 |
| | @Temperature 60.0 - 120 °C | @Temperature 140 - 248 °F | |

| Mechanical Properties | Metric 17.8 - 60.0 MPa | English 2500 - 8700 psi | Comments Average value: 29.2 MPa Grade Count:74 |
|----------------------------|---|--|---|
| Elongation at Break | 3.00 - 70.0 % | 3.00 - 70.0 % | Average value: 10.2 % Grade Count:77 |
| Elongation at Yield | 2.00 - 25.0 % | 2.00 - 25.0 % | Average value: 5.20 % Grade Count:74 |
| Modulus of Elasticity | 1.40 - 5.17 GPa | 203 - 750 ksi | Average value: 3.21 GPa Grade Count:45 |
| Flexural Yield Strength | 20.0 - 75.0 MPa | 2900 - 10900 psi | Average value: 48.5 MPa Grade Count:100 |
| Flexural Modulus | 1.50 - 5.70 GPa | 218 - 827 ksi | Average value: 3.21 GPa Grade Count:175 |
| | 0.450 - 1.40 GPa @Temperature 60.0 - 120 °C | 65.3 - 203 ksi @Temperature 140 - 248 °F | Average value: 0.883 GPa Grade Count:1 |
| Compressive Yield Strength | 51.7 MPa | 7500 psi | Average value: 51.7 MPa Grade Count:3 |
| Izod Impact, Notched | 0.200 - 1.33 J/cm | 0.375 - 2.50 ft-lb/in | Average value: 0.377 J/cm Grade Count:106 |
| | 0.200 - 0.300 J/cm @Temperature -40.0 - - 20.0 °C | 0.375 - 0.562 ft-lb/in @Temperature -40.0 - - 4.00 °F | Average value: 0.267 J/cm Grade Count:2 |
| Izod Impact, Unnotched | 1.39 - 9.08 J/cm | 2.60 - 17.0 ft-lb/in | Average value: 2.95 J/cm Grade Count:33 |
| Izod Impact, Notched (ISO) | 2.00 - 12.0 kJ/m ² | 0.952 - 5.71 ft-lb/in ² | Average value: 4.05 kJ/m ² Grade Count:14 |
| | 1.60 - 3.00 kJ/m ² @Temperature -40.0 - - 20.0 °C | 0.761 - 1.43 ft-lb/in ² @Temperature -40.0 - - 4.00 °F | Average value: 2.18 kJ/m ² Grade Count:9 |
| Charpy Impact Unnotched | 1.70 - 1000 J/cm ² | 8.09 - 4760 ft-lb/in ² | Average value: 4.44 J/cm ² Grade Count:23 |
| | 0.900 - 6.40 J/cm ² @Temperature -40.0 - - 20.0 °C | 4.28 - 30.5 ft-lb/in ² @Temperature -40.0 - - 4.00 °F | Average value: 1.77 J/cm ² Grade Count:22 |
| Charpy Impact, Notched | 0.200 - 2.70 J/cm ² | 0.952 - 12.8 ft-lb/in ² | Average value: 0.477 J/cm ² Grade Count:59 |
| | 0.100 - 0.600 J/cm ² @Temperature -40.0 - - 20.0 °C | 0.476 - 2.86 ft-lb/in ² @Temperature -40.0 - - 4.00 °F | Average value: 0.193 J/cm ² Grade Count:46 |
| Gardner Impact | 0.565 - 13.6 J | 0.417 - 10.0 ft-lb | Average value: 2.05 J Grade Count:32 |
| | 1.35582 - 1.35582 J | 1.00000 - 1.00000 ft-lb | Average value: 3.11 J Grade Count:2 |

| Mechanical Properties | @Temperature -30.0 - - Metric -30.0 °C | @Temperature -22.0 - English -22.0 °F | Comments |
|-----------------------|--|---|-------------------------------------|
| | 4.86 - 4.86 J | 3.58 - 3.58 ft-lb | |
| | @Temperature -23.0 - - 23.0 °C | @Temperature -9.40 - - 9.40 °F | Average value: 3.11 J Grade Count:1 |
| | 4.86 - 4.86 J | 3.58 - 3.58 ft-lb | |
| | @Thickness 3.18 - 3.18 mm | @Thickness 0.125 - 0.125 in | Average value: 3.11 J Grade Count:1 |

| Thermal Properties | Metric | English | Comments |
|---|--------------------|------------------------------------|--|
| CTE, linear | 41.4 - 172 µm/m-°C | 23.0 - 95.6 µin/in-°F | Average value: 67.7 µm/m-°C Grade Count:11 |
| Thermal Conductivity | 0.317 W/m-K | 2.20 BTU-in/hr-ft ² -°F | Average value: 0.317 W/m-K Grade Count:3 |
| Melting Point | 150 - 182 °C | 302 - 360 °F | Average value: 159 °C Grade Count:19 |
| Deflection Temperature at 0.46 MPa (66 psi) | 94.0 - 150 °C | 201 - 302 °F | Average value: 128 °C Grade Count:140 |
| Deflection Temperature at 1.8 MPa (264 psi) | 56.0 - 142 °C | 133 - 287 °F | Average value: 81.1 °C Grade Count:143 |
| Vicat Softening Point | 54.0 - 165 °C | 129 - 329 °F | Average value: 119 °C Grade Count:71 |
| Flammability, UL94 | HB | HB | Grade Count:77 |
| Oxygen Index | 21.0 - 22.0 % | 21.0 - 22.0 % | Average value: 21.2 % Grade Count:6 |
| Glow Wire Test | 650 - 750 °C | 1200 - 1380 °F | Average value: 742 °C Grade Count:47 |

| Optical Properties | Metric | English | Comments |
|--------------------|---------------|---------------|-------------------------------------|
| Gloss | 20.0 - 40.0 % | 20.0 - 40.0 % | Average value: 32.3 % Grade Count:3 |

| Electrical Properties | Metric | English | Comments |
|----------------------------|----------------------------|----------------------------|--|
| Electrical Resistivity | 1.00e+15 - 1.00e+16 ohm-cm | 1.00e+15 - 1.00e+16 ohm-cm | Average value: 8.50e+15 ohm-cm Grade Count:6 |
| Dielectric Constant | 2.60 - 4.80 | 2.60 - 4.80 | Average value: 3.15 Grade Count:4 |
| Dielectric Strength | 19.7 - 24.0 kV/mm | 500 - 610 kV/in | Average value: 21.4 kV/mm Grade Count:7 |
| Dissipation Factor | 0.00800 | 0.00800 | Average value: 0.00800 Grade Count:3 |
| Arc Resistance | 120 sec | 120 sec | Average value: 120 sec Grade Count:3 |
| Comparative Tracking Index | 600 V | 600 V | Average value: 600 V Grade Count:5 |

| Processing Properties | Metric | English | Comments |
|------------------------|----------------|---------------|---------------------------------------|
| Processing Temperature | 193 - 227 °C | 380 - 440 °F | Average value: 210 °C Grade Count:5 |
| Nozzle Temperature | 200 - 238 °C | 392 - 460 °F | Average value: 226 °C Grade Count:28 |
| Melt Temperature | 170 - 279 °C | 338 - 534 °F | Average value: 224 °C Grade Count:92 |
| Mold Temperature | 18.0 - 80.0 °C | 64.4 - 176 °F | Average value: 51.0 °C Grade Count:95 |
| Drying Temperature | 65.6 - 104 °C | 150 - 219 °F | Average value: 76.8 °C Grade Count:77 |

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