

Overview of materials for Polypropylene, Flame Retardant


Categories: [Polymer](#); [Thermoplastic](#); [Polypropylene](#); [Polypropylene, Flame Retardant](#)

Material Notes: This property data is a summary of similar materials in the MatWeb database for the category "Polypropylene, Flame Retardant". 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.

Vendors: [Click here to view all available suppliers for this material.](#)

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Physical Properties	Metric	English	Comments
Density	0.905 - 1.49 g/cc	0.0327 - 0.0538 lb/in ³	Average value: 1.07 g/cc Grade Count:99
Water Absorption	0.0100 - 0.0600 %	0.0100 - 0.0600 %	Average value: 0.0224 % Grade Count:46
Linear Mold Shrinkage	0.00100 - 0.0500 cm/cm	0.00100 - 0.0500 in/in	Average value: 0.0149 cm/cm Grade Count:96
Linear Mold Shrinkage, 6.35 mm section	0.00700 - 0.0200 cm/cm	0.00700 - 0.0200 in/in	Average value: 0.0158 cm/cm Grade Count:5
Melt Flow	1.00 - 30.0 g/10 min	1.00 - 30.0 g/10 min	Average value: 11.8 g/10 min Grade Count:70
Ash	15.0 - 25.0 %	15.0 - 25.0 %	Average value: 20.0 % Grade Count:4

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	100	100	Average value: 100 Grade Count:4
Hardness, Rockwell R	69.0 - 105	69.0 - 105	Average value: 89.8 Grade Count:13
Hardness, Shore A	66.0 - 69.0	66.0 - 69.0	Average value: 67.8 Grade Count:6
Hardness, Shore D	60.0 - 75.0	60.0 - 75.0	Average value: 67.7 Grade Count:7
Tensile Strength, Ultimate	13.8 - 300 MPa	2000 - 43500 psi	Average value: 35.9 MPa Grade Count:53
Tensile Strength, Yield	16.5 - 76.0 MPa	2400 - 11000 psi	Average value: 31.3 MPa Grade Count:59
Elongation at Break	1.00 - 300 %	1.00 - 300 %	Average value: 55.8 % Grade Count:74
Elongation at Yield	3.00 - 150 %	3.00 - 150 %	Average value: 23.5 % Grade Count:20
Modulus of Elasticity	0.800 - 9.31 GPa	116 - 1350 ksi	Average value: 1.79 GPa Grade Count:54
Flexural Modulus	0.621 - 7.50 GPa	90.0 - 1090 ksi	Average value: 1.68 GPa Grade Count:88
Flexural Yield Strength	17.9 - 63.7 MPa	2600 - 9250 psi	Average value: 37.2 MPa Grade Count:57
Izod Impact, Unnotched	0.300 - 5340 J/cm	0.562 - 10000 ft-lb/in	Average value: 5.94 J/cm Grade Count:51
Izod Impact, Unnotched Low Temp	0.150 - 0.400 J/cm	0.281 - 0.749 ft-lb/in	Average value: 0.254 J/cm Grade Count:8
Gardner Impact	0.904 - 27.1 J	0.667 - 20.0 ft-lb	Average value: 15.8 J Grade Count:12
Izod Impact, Notched	0.214 J/cm - NB	0.400 ft-lb/in - NB	Average value: 1.10 J/cm Grade Count:74
Izod Impact, Notched, Low Temp	0.150 - 0.500 J/cm	0.281 - 0.937 ft-lb/in	Average value: 0.290 J/cm Grade Count:5
Izod Impact, Notched (ISO)	4.00 - 17.0 kJ/m ²	1.90 - 8.09 ft-lb/in ²	Average value: 8.06 kJ/m ² Grade Count:8
	3.50 - 3.50 kJ/m ²	1.67 - 1.67 ft-lb/in ²	Average value: 3.50 kJ/m ² Grade Count:2

@Temperature -20.0 - -20.0 °C @Temperature -4.00 - -4.00 °F

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1000 - 1.00e+16 ohm-cm	1000 - 1.00e+16 ohm-cm	Average value: 3.57e+15 ohm-cm Grade Count:30
Surface Resistance	10000 - 1.00e+15 ohm	10000 - 1.00e+15 ohm	Average value: 1.43e+14 ohm Grade Count:4
Static Decay	2.00 sec	2.00 sec	Average value: 2.00 sec Grade Count:3
Dielectric Constant	2.30 - 2.70	2.30 - 2.70	Average value: 2.57 Grade Count:3
Dielectric Strength	19.7 - 29.5 kV/mm	500 - 750 kV/in	Average value: 20.4 kV/mm Grade Count:13
Dissipation Factor	0.00120 - 0.0100	0.00120 - 0.0100	Average value: 0.00440 Grade Count:3
Comparative Tracking Index	250 - 600 V	250 - 600 V	Average value: 549 V Grade Count:24

Thermal Properties	Metric	English	Comments
Thermal Conductivity	0.170 - 0.303 W/m-K	1.18 - 2.10 BTU-in/hr-ft ² -°F	Average value: 0.258 W/m-K Grade Count:3
Melting Point	160 - 165 °C	320 - 329 °F	Average value: 165 °C Grade Count:11
Maximum Service Temperature, Air	65.0 - 130 °C	149 - 266 °F	Average value: 93.6 °C Grade Count:6
Hot Ball Pressure Test	75.0 - 125 °C	167 - 257 °F	Average value: 118 °C Grade Count:15
Deflection Temperature at 0.46 MPa (66 psi)	70.0 - 136 °C	158 - 277 °F	Average value: 102 °C Grade Count:43
Deflection Temperature at 1.8 MPa (264 psi)	40.6 - 146 °C	105 - 295 °F	Average value: 61.4 °C Grade Count:70
Vicat Softening Point	70.0 - 150 °C	158 - 302 °F	Average value: 102 °C Grade Count:27
Heat Distortion Temperature	120 - 155 °C	248 - 311 °F	Average value: 136 °C Grade Count:6
UL RTI, Electrical	105 - 110 °C	221 - 230 °F	Average value: 108 °C Grade Count:6
UL RTI, Mechanical with Impact	110 °C	230 °F	Average value: 110 °C Grade Count:3
UL RTI, Mechanical without Impact	110 °C	230 °F	Average value: 110 °C Grade Count:3
Flammability, UL94	V-2 - 5.50	V-2 - 5.50	Average value: 5.50 Grade Count:95
Flammability Test	125	125	Average value: 125 Grade Count:6
Oxygen Index	21.0 - 34.0 %	21.0 - 34.0 %	Average value: 26.6 % Grade Count:30
Glow Wire Test	850 - 960 °C	1560 - 1760 °F	Average value: 955 °C Grade Count:23

Processing Properties	Metric	English	Comments
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Processing Temperature	160 - 240 °C	320 - 464 °F	Average value: 203 °C Grade Count:56
Feed Temperature	70.0 °C	158 °F	Average value: 70.0 °C Grade Count:6
Rear Barrel Temperature	190 - 220 °C	374 - 428 °F	Average value: 199 °C Grade Count:15
Middle Barrel Temperature	180 - 230 °C	356 - 446 °F	Average value: 200 °C Grade Count:21
Front Barrel Temperature	190 - 230 °C	374 - 446 °F	Average value: 205 °C Grade Count:15
Nozzle Temperature	200 - 240 °C	392 - 464 °F	Average value: 207 °C Grade Count:15
Mold Temperature	20.0 - 90.0 °C	68.0 - 194 °F	Average value: 45.5 °C Grade Count:63
Drying Temperature	51.7 - 90.0 °C	125 - 194 °F	Average value: 73.5 °C Grade Count:62
Dry Time	1.00 - 3.00 hour	1.00 - 3.00 hour	Average value: 1.88 hour Grade Count:56
Moisture Content	0.0100 - 0.200 %	0.0100 - 0.200 %	Average value: 0.0500 % Grade Count:12
Injection Pressure	2.76 - 118 MPa	400 - 17100 psi	Average value: 75.5 MPa Grade Count:40
Hold Pressure	2.07 - 6.89 MPa	300 - 1000 psi	Average value: 4.48 MPa Grade Count:5
Back Pressure	0.345 - 3.92 MPa	50.0 - 569 psi	Average value: 0.999 MPa Grade Count:7

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your calculations to minimize rounding error. We also ask that you refer to MatWeb's disclaimer and terms of use regarding this information. [Click here](#) to view all the property values for this datasheet as they were originally entered into MatWeb.