

Overview of materials for Polypropylene, Flame Retardant

Category : Polymer , Thermoplastic , Polypropylene (PP) , 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.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Overview-of-materials-for-Polypropylene-Flame-Retardant.php

Physical Properties	Metric	English	Comments
Density	0.850 - 1.90 g/cc	0.0307 - 0.0686 lb/in ³	Average value: 1.09 g/cc Grade Count:250
Filler Content	10.0 - 40.0 %	10.0 - 40.0 %	Average value: 23.7 % Grade Count:18
Water Absorption	0.0100 - 0.0500 %	0.0100 - 0.0500 %	Average value: 0.0227 % Grade Count:49
Maximum Moisture Content	0.0100 - 0.0200	0.0100 - 0.0200	Average value: 0.0125 Grade Count:4
Linear Mold Shrinkage	0.000100 - 0.0500 cm/cm	0.000100 - 0.0500 in/in	Average value: 0.0144 cm/cm Grade Count:176
Linear Mold Shrinkage, Transverse	0.00700 - 0.0243 cm/cm	0.00700 - 0.0243 in/in	Average value: 0.0164 cm/cm Grade Count:29
Melt Flow	0.300 - 140 g/10 min	0.300 - 140 g/10 min	Average value: 12.4 g/10 min Grade Count:170
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: 89.7 Grade Count:20
Hardness, Shore A	66.0 - 69.0	66.0 - 69.0	Average value: 67.8 Grade Count:6
Hardness, Shore D	60.0 - 80.0	60.0 - 80.0	Average value: 71.0 Grade Count:30
Tensile Strength, Ultimate	10.3 - 300 MPa	1500 - 43500 psi	Average value: 31.7 MPa Grade Count:167
	7.00 - 45.0 MPa @Temperature 60.0 - 90.0 °C	1020 - 6530 psi @Temperature 140 - 194 °F	Average value: 16.9 MPa Grade Count:4
Tensile Strength, Yield	2.07 - 75.0 MPa	300 - 10900 psi	Average value: 27.9 MPa Grade Count:100

Mechanical Properties	Metric	English	Comments
Elongation at Break	1.00 - 558 %	1.00 - 558 %	Average value: 64.0 % Grade Count:182
	4.00 - 20.0 %	4.00 - 20.0 %	
	@Temperature 60.0 - 90.0 °C	@Temperature 140 - 194 °F	Average value: 66.2 % Grade Count:8
Elongation at Yield	2.00 - 350 %	2.00 - 350 %	Average value: 31.6 % Grade Count:46
	2.50 - 10.0 %	2.50 - 10.0 %	
	@Temperature 60.0 - 90.0 °C	@Temperature 140 - 194 °F	Average value: 7.56 % Grade Count:8
Modulus of Elasticity	0.800 - 9.31 GPa	116 - 1350 ksi	Average value: 2.08 GPa Grade Count:120
	0.300 - 5.70 GPa	43.5 - 827 ksi	
	@Temperature 60.0 - 90.0 °C	@Temperature 140 - 194 °F	Average value: 1.26 GPa Grade Count:8
Flexural Yield Strength	17.9 - 300 MPa	2600 - 43500 psi	Average value: 40.5 MPa Grade Count:128
Flexural Modulus	0.621 - 7.24 GPa	90.0 - 1050 ksi	Average value: 1.79 GPa Grade Count:199
Izod Impact, Notched	0.107 J/cm - NB	0.200 ft-lb/in - NB	Average value: 0.913 J/cm Grade Count:165
	0.150 - 0.550 J/cm	0.281 - 1.03 ft-lb/in	
	@Temperature -20.0 - 0.000 °C	@Temperature -4.00 - 32.0 °F	Average value: 0.329 J/cm Grade Count:17
Izod Impact, Unnotched	0.801 - 5340 J/cm	1.50 - 10000 ft-lb/in	Average value: 8.47 J/cm Grade Count:46
Izod Impact, Notched (ISO)	2.00 - 60.0 kJ/m²	0.952 - 28.6 ft-lb/in²	Average value: 7.59 kJ/m² Grade Count:44
	2.00 - 10.0 kJ/m²	0.952 - 4.76 ft-lb/in²	
	@Temperature -30.0 - -20.0 °C	@Temperature -22.0 - -4.00 °F	Average value: 4.11 kJ/m² Grade Count:9
Izod Impact, Unnotched (ISO)	15.0 - 98.0 kJ/m²	7.14 - 46.6 ft-lb/in²	Average value: 56.2 kJ/m² Grade Count:10
	13.0 - 13.0 kJ/m²	6.19 - 6.19 ft-lb/in²	
	@Temperature -30.0 - -30.0 °C	@Temperature -22.0 - -22.0 °F	Average value: 13.0 kJ/m² Grade Count:1
Charpy Impact Unnotched	1.00 J/cm² - NB	4.76 ft-lb/in² - NB	Average value: 4.21 J/cm² Grade Count:48
	0.650 - 999.9 J/cm²	3.09 - 4759 ft-lb/in²	
	@Temperature -40.0 - -	@Temperature -40.0 - -	Average value: 3.16 J/cm² Grade Count:26

Mechanical Properties	20.0 °C Metric	4.00 °F English	Comments
Charpy Impact, Notched	0.150 - 9.00 J/cm ²	0.714 - 42.8 ft-lb/in ²	Average value: 0.657 J/cm ² Grade Count:53
	0.0400 - 1.40 J/cm ² @Temperature -30.0 - - 20.0 °C	0.190 - 6.66 ft-lb/in ² @Temperature -22.0 - - 4.00 °F	Average value: 0.266 J/cm ² Grade Count:30
Gardner Impact	0.904 - 260 J	0.667 - 192 ft-lb	Average value: 26.8 J Grade Count:24
Dart Drop, Total Energy	2.71 - 14.9 J	2.00 - 11.0 ft-lb	Average value: 8.59 J Grade Count:3
Dart Drop Total Energy	1.44 - 8.54 J/cm	0.00270 - 0.0160 ft-lb/mil	Average value: 6.10 J/cm Grade Count:4

Thermal Properties	Metric	English	Comments
CTE, linear	31.0 - 120 µm/m-°C	17.2 - 66.7 µin/in-°F	Average value: 69.8 µm/m-°C Grade Count:10
CTE, linear, Transverse to Flow	96.0 - 140 µm/m-°C	53.3 - 77.8 µin/in-°F	Average value: 116 µm/m-°C Grade Count:4
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	130 - 170 °C	266 - 338 °F	Average value: 162 °C Grade Count:52
Maximum Service Temperature, Air	60.0 - 130 °C	140 - 266 °F	Average value: 92.7 °C Grade Count:14
Deflection Temperature at 0.46 MPa (66 psi)	70.0 - 187 °C	158 - 368 °F	Average value: 109 °C Grade Count:119
Deflection Temperature at 1.8 MPa (264 psi)	40.6 - 155 °C	105 - 311 °F	Average value: 68.4 °C Grade Count:152

Electrical Properties	Metric	English	Comments
Electrical Resistivity	10.0 - 1.00e+17 ohm-cm	10.0 - 1.00e+17 ohm-cm	Average value: 4.60e+15 ohm-cm Grade Count:80
Surface Resistance	1000 - 1.00e+16 ohm	1000 - 1.00e+16 ohm	Average value: 2.31e+15 ohm Grade Count:45
Static Decay	0.500 - 2.00 sec	0.500 - 2.00 sec	Average value: 1.50 sec Grade Count:3
Dielectric Constant	2.10 - 3.06	2.10 - 3.06	Average value: 2.50 Grade Count:9
Dielectric Strength	17.7 - 43.0 kV/mm	450 - 1090 kV/in	Average value: 28.8 kV/mm Grade Count:50
Dissipation Factor	0.00120 - 0.0100	0.00120 - 0.0100	Average value: 0.00380 Grade Count:4
Arc Resistance	60.0 - 180 sec	60.0 - 180 sec	Average value: 124 sec Grade Count:6

Electrical Properties	Metric	English	Comments
Hot Wire Ignition, HWI	7.00 - 60.0 sec	7.00 - 60.0 sec	Average value: 26.8 sec Grade Count:4
High Amp Arc Ignition, HAI	120 arcs	120 arcs	Average value: 120 arcs Grade Count:4
High Voltage Arc-Tracking Rate, HVTR	0.000 - 330 mm/min	0.000 - 13.0 in/min	Average value: 116 mm/min Grade Count:3

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