

Overview of materials for Nylon 12, Flame Retardant

Category : Polymer , Thermoplastic , Nylon , Nylon 12 , Nylon 12, Flame Retardant

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Nylon 12, 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-Nylon-12-Flame-Retardant.php

Physical Properties	Metric	English	Comments
Density	1.05 - 1.17 g/cc	0.0379 - 0.0423 lb/in ³	Average value: 1.07 g/cc Grade Count:7
Moisture Absorption at Equilibrium	0.500 - 0.700 %	0.500 - 0.700 %	Average value: 0.600 % Grade Count:5
Water Absorption at Saturation	1.20 - 1.50 %	1.20 - 1.50 %	Average value: 1.38 % Grade Count:4
Linear Mold Shrinkage	0.00600 - 0.0110 cm/cm	0.00600 - 0.0110 in/in	Average value: 0.00900 cm/cm Grade Count:5
Linear Mold Shrinkage, Transverse	0.00800 - 0.0120 cm/cm	0.00800 - 0.0120 in/in	Average value: 0.0104 cm/cm Grade Count:5

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	36.0 - 78.0 MPa	5220 - 11300 psi	Average value: 52.4 MPa Grade Count:7
Elongation at Break	6.00 - 50.0 %	6.00 - 50.0 %	Average value: 44.5 % Grade Count:7
Elongation at Yield	5.00 - 17.0 %	5.00 - 17.0 %	Average value: 7.88 % Grade Count:7
Modulus of Elasticity	1.00 - 2.80 GPa	145 - 406 ksi	Average value: 1.86 GPa Grade Count:7
Charpy Impact Unnotched	3.40 J/cm ² - NB	16.2 ft-lb/in ² - NB	Average value: 4.95 J/cm ² Grade Count:6
	3.40 J/cm ² - NB @Temperature -30.0 - 30.0 °C	16.2 ft-lb/in ² - NB @Temperature -22.0 - 86.0 °F	Average value: 5.70 J/cm ² Grade Count:5
Charpy Impact, Notched	0.300 - 1.48 J/cm ²	1.43 - 7.04 ft-lb/in ²	Average value: 0.797 J/cm ² Grade Count:6
	0.500 - 1.33 J/cm ² @Temperature -30.0 - 30.0 °C	2.38 - 6.33 ft-lb/in ² @Temperature -22.0 - 86.0 °F	Average value: 0.676 J/cm ² Grade Count:6

Thermal Properties	Metric	English	Comments
CTE, linear	70.0 - 90.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	38.9 - 50.0 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	Average value: 80.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ Grade Count:4
Melting Point	175 - 178 $^{\circ}\text{C}$	347 - 352 $^{\circ}\text{F}$	Average value: 177 $^{\circ}\text{C}$ Grade Count:5
Deflection Temperature at 0.46 MPa (66 psi)	130 - 160 $^{\circ}\text{C}$	266 - 320 $^{\circ}\text{F}$	Average value: 140 $^{\circ}\text{C}$ Grade Count:6
Deflection Temperature at 1.8 MPa (264 psi)	40.0 - 135 $^{\circ}\text{C}$	104 - 275 $^{\circ}\text{F}$	Average value: 67.5 $^{\circ}\text{C}$ Grade Count:6
Vicat Softening Point	150 - 175 $^{\circ}\text{C}$	302 - 347 $^{\circ}\text{F}$	Average value: 163 $^{\circ}\text{C}$ Grade Count:5
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:7

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+12 - 1.00e+14 ohm-cm	1.00e+12 - 1.00e+14 ohm-cm	Average value: 5.35e+13 ohm-cm Grade Count:6
Dielectric Constant	3.00 - 7.00	3.00 - 7.00	Average value: 4.53 Grade Count:5
Dielectric Strength	7.00 - 50.0 kV/mm	178 - 1270 kV/in	Average value: 29.0 kV/mm Grade Count:6
Dissipation Factor	0.0200 - 0.170	0.0200 - 0.170	Average value: 0.0588 Grade Count:5
Comparative Tracking Index	175 - 600 V	175 - 600 V	Average value: 518 V Grade Count:6

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