

Overview of materials for Nylon 66, Extruded

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, Extruded

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Nylon 66, Extruded". 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-66-Extruded.php

Physical Properties	Metric	English	Comments
Density	1.14 - 1.37 g/cc	0.0412 - 0.0495 lb/in³	Average value: 1.17 g/cc Grade Count:14
Water Absorption	0.300 - 8.50 %	0.300 - 8.50 %	Average value: 2.63 % Grade Count:9
Moisture Absorption at Equilibrium	2.40 - 2.70 %	2.40 - 2.70 %	Average value: 2.53 % Grade Count:4
Water Absorption at Saturation	2.50 - 8.50 %	2.50 - 8.50 %	Average value: 7.04 % Grade Count:9
Linear Mold Shrinkage	0.00500 - 0.0200 cm/cm	0.00500 - 0.0200 in/in	Average value: 0.0124 cm/cm Grade Count:7

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	79.0 - 101	79.0 - 101	Average value: 88.3 Grade Count:4
Hardness, Rockwell R	115 - 120	115 - 120	Average value: 117 Grade Count:6
Hardness, Shore D	80.0 - 82.0	80.0 - 82.0	Average value: 80.7 Grade Count:3
Tensile Strength, Ultimate	82.7 - 138 MPa	12000 - 20000 psi	Average value: 95.9 MPa Grade Count:6
Tensile Strength, Yield	83.0 - 179 MPa	12000 - 26000 psi	Average value: 101 MPa Grade Count:6
Elongation at Break	3.00 - 90.0 %	3.00 - 90.0 %	Average value: 45.6 % Grade Count:11
Modulus of Elasticity	2.80 - 3.70 GPa	406 - 537 ksi	Average value: 3.20 GPa Grade Count:5
Flexural Yield Strength	100 - 269 MPa	14500 - 39000 psi	Average value: 141 MPa Grade Count:10
Flexural Modulus	2.60 - 9.65 GPa	377 - 1400 ksi	Average value: 3.97 GPa Grade Count:12
Compressive Yield Strength	32.0 - 100 MPa	4640 - 14500 psi	Average value: 74.0 MPa Grade Count:3
	0.320 - 1.12 J/cm	0.600 - 2.10 ft-lb/in	Average value: 0.767 J/cm Grade

Izod Impact, Notched Mechanical Properties	Metric	English	Count:8 Comments
Izod Impact, Notched (ISO)	5.00 - 5.70 kJ/m ²	2.38 - 2.71 ft-lb/in ²	Average value: 5.23 kJ/m ² Grade Count:3
	3.00 - 4.00 kJ/m ² @Temperature -40.0 - - 20.0 °C	1.43 - 1.90 ft-lb/in ² @Temperature -40.0 - - 4.00 °F	Average value: 3.50 kJ/m ² Grade Count:1
Coefficient of Friction	0.250 - 0.600	0.250 - 0.600	Average value: 0.333 Grade Count:3
Limiting Pressure Velocity	0.0800 - 0.130 MPa-m/sec	2280 - 3710 psi-ft/min	Average value: 0.101 MPa-m/sec Grade Count:3

Thermal Properties	Metric	English	Comments
CTE, linear	10.0 - 100 µm/m-°C	5.56 - 55.6 µin/in-°F	Average value: 63.3 µm/m-°C Grade Count:8
	90.0 - 90.0 µm/m-°C @Temperature 93.3 - 238 °C	50.0 - 50.0 µin/in-°F @Temperature 200 - 460 °F	Average value: 90.0 µm/m-°C Grade Count:1
Thermal Conductivity	0.230 - 0.280 W/m-K	1.60 - 1.94 BTU-in/hr-ft ² -°F	Average value: 0.252 W/m-K Grade Count:3
Melting Point	254 - 265 °C	489 - 509 °F	Average value: 258 °C Grade Count:8
Maximum Service Temperature, Air	80.0 - 241 °C	176 - 466 °F	Average value: 130 °C Grade Count:5
Deflection Temperature at 0.46 MPa (66 psi)	200 - 259 °C	392 - 499 °F	Average value: 230 °C Grade Count:10
Deflection Temperature at 1.8 MPa (264 psi)	70.0 - 256 °C	158 - 492 °F	Average value: 119 °C Grade Count:12
Flammability, UL94	HB - V-2	HB - V-2	Grade Count:7

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+11 - 1.00e+15 ohm-cm	1.00e+11 - 1.00e+15 ohm-cm	Average value: 6.50e+14 ohm-cm Grade Count:8
Surface Resistance	1.00e+12 - 1.00e+13 ohm	1.00e+12 - 1.00e+13 ohm	Average value: 7.00e+12 ohm Grade Count:3
Dielectric Constant	3.50 - 4.30	3.50 - 4.30	Average value: 3.76 Grade Count:6
Dielectric Strength	11.8 - 30.5 kV/mm	300 - 775 kV/in	Average value: 22.6 kV/mm Grade Count:8
Dissipation Factor	0.0130 - 0.0240	0.0130 - 0.0240	Average value: 0.0190 Grade Count:3
Comparative Tracking Index	600 V	600 V	Average value: 600 V Grade Count:4

Processing Properties	Metric	English	Comments
Melt Temperature	250 - 304 °C	482 - 580 °F	Average value: 276 °C Grade Count:3

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