

## Overview of materials for Nylon 66, PTFE Filled

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, PTFE Filled

### Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Nylon 66, PTFE Filled". 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-PTFE-Filled.php](http://www.lookpolymers.com/polymer_Overview-of-materials-for-Nylon-66-PTFE-Filled.php)

Physical Properties	Metric	English	Comments
Density	1.11 - 1.60 g/cc	0.0401 - 0.0578 lb/in <sup>3</sup>	Average value: 1.30 g/cc Grade Count:112
Filler Content	10.0 - 30.0 %	10.0 - 30.0 %	Average value: 18.3 % Grade Count:3
Water Absorption	0.300 - 8.50 %	0.300 - 8.50 %	Average value: 0.899 % Grade Count:77
Moisture Absorption at Equilibrium	0.300 - 2.80 %	0.300 - 2.80 %	Average value: 1.24 % Grade Count:5
Water Absorption at Saturation	5.00 - 6.00 %	5.00 - 6.00 %	Average value: 5.50 % Grade Count:3
Additive Loading	5.00 - 15.0 %	5.00 - 15.0 %	Average value: 10.0 % Grade Count:3
Linear Mold Shrinkage	0.00200 - 0.0400 cm/cm	0.00200 - 0.0400 in/in	Average value: 0.0160 cm/cm Grade Count:109
Linear Mold Shrinkage, Transverse	0.0100 - 0.0400 cm/cm	0.0100 - 0.0400 in/in	Average value: 0.0188 cm/cm Grade Count:10
Melt Flow	10.0 - 14.3 g/10 min	10.0 - 14.3 g/10 min	Average value: 12.4 g/10 min Grade Count:3

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	90.0 - 122	90.0 - 122	Average value: 108 Grade Count:40
Tensile Strength, Ultimate	35.9 - 170 MPa	5200 - 24700 psi	Average value: 62.9 MPa Grade Count:84
Tensile Strength, Yield	40.7 - 181 MPa	5900 - 26200 psi	Average value: 114 MPa Grade Count:35
	131 - 131 MPa @Temperature 93.3 - 93.3 °C	19000 - 19000 psi @Temperature 200 - 200 °F	Average value: 131 MPa Grade Count:1
Elongation at Break	2.00 - 40.0 %	2.00 - 40.0 %	Average value: 6.73 % Grade Count:92
Elongation at Yield	2.00 - 40.0 %	2.00 - 40.0 %	Average value: 7.26 % Grade Count:26

Mechanical Properties	Metric	English	Comments
Modulus of Elasticity	10.0 - 10.0 GPa	1450 - 1450 ksi	Average value: 2.80 GPa Grade Count:93
Flexural Yield Strength	50.0 - 303 MPa	7250 - 44000 psi	Average value: 115 MPa Grade Count:108
Flexural Modulus	1.38 - 11.0 GPa	200 - 1600 ksi	Average value: 3.70 GPa Grade Count:107
	8.96318 - 8.96318 GPa @Temperature 93.3 - 93.3 °C	1300.02 - 1300.02 ksi @Temperature 200 - 200 °F	Average value: 8.96 GPa Grade Count:1
Compressive Yield Strength	30.3 - 68.9 MPa	4400 - 10000 psi	Average value: 46.5 MPa Grade Count:10
Izod Impact, Notched	0.210 - 2.67 J/cm	0.393 - 5.00 ft-lb/in	Average value: 0.768 J/cm Grade Count:93
Izod Impact, Unnotched	1.60 J/cm - NB	3.00 ft-lb/in - NB	Average value: 8.75 J/cm Grade Count:58
Izod Impact, Notched (ISO)	2.00 - 13.0 kJ/m <sup>2</sup>	0.952 - 6.19 ft-lb/in <sup>2</sup>	Average value: 4.38 kJ/m <sup>2</sup> Grade Count:9
	11.0 - 11.0 kJ/m <sup>2</sup> @Temperature -30.0 - - 30.0 °C	5.23 - 5.23 ft-lb/in <sup>2</sup> @Temperature -22.0 - - 22.0 °F	Average value: 11.0 kJ/m <sup>2</sup> Grade Count:1
Izod Impact, Unnotched (ISO)	10.0 - 80.0 kJ/m <sup>2</sup>	4.76 - 38.1 ft-lb/in <sup>2</sup>	Average value: 34.7 kJ/m <sup>2</sup> Grade Count:9
	70.0 - 70.0 kJ/m <sup>2</sup> @Temperature -30.0 - - 30.0 °C	33.3 - 33.3 ft-lb/in <sup>2</sup> @Temperature -22.0 - - 22.0 °F	Average value: 70.0 kJ/m <sup>2</sup> Grade Count:1
Charpy Impact Unnotched	2.50 J/cm <sup>2</sup> - NB	11.9 ft-lb/in <sup>2</sup> - NB	Average value: 6.52 J/cm <sup>2</sup> Grade Count:18
	3.20 J/cm <sup>2</sup> - NB @Temperature -40.0 - - 30.0 °C	15.2 ft-lb/in <sup>2</sup> - NB @Temperature -40.0 - - 22.0 °F	Average value: 5.13 J/cm <sup>2</sup> Grade Count:12
Charpy Impact, Notched	0.280 - 1.40 J/cm <sup>2</sup>	1.33 - 6.66 ft-lb/in <sup>2</sup>	Average value: 0.715 J/cm <sup>2</sup> Grade Count:11
	0.400 - 0.800 J/cm <sup>2</sup> @Temperature -40.0 - - 30.0 °C	1.90 - 3.81 ft-lb/in <sup>2</sup> @Temperature -40.0 - - 22.0 °F	Average value: 0.625 J/cm <sup>2</sup> Grade Count:3
Falling Dart Impact	0.570 - 4.10 J	0.420 - 3.02 ft-lb	Average value: 2.55 J Grade Count:5
Coefficient of Friction	0.0700 - 0.500	0.0700 - 0.500	Average value: 0.207 Grade Count:34
Coefficient of Friction, Static	0.0600 - 0.390	0.0600 - 0.390	Average value: 0.162 Grade Count:34
	6.20 - 359 x 10 <sup>-8</sup>	3.08 - 178 x 10 <sup>-10</sup> in <sup>3</sup> -	Average value: 67.2 x 10 <sup>&lt;sup&gt;-&lt;/sup&gt;</sup>

<b>K (wear) Factor</b> <b>Mechanical Properties</b>	<b>mm<sup>3</sup>/N-M</b> <b>Metric</b>	<b>min/ft-lb-hr</b> <b>English</b>	<b>mm<sup>3</sup>/N-M</b> <b>Grade Count:22</b> <b>Comments</b>
Limiting Pressure Velocity	0.333 - 0.701 MPa-m/sec	9500 - 20000 psi-ft/min	Average value: 0.587 MPa-m/sec Grade Count:11

<b>Thermal Properties</b>	<b>Metric</b>	<b>English</b>	<b>Comments</b>
CTE, linear	18.0 - 82.8 μm/m-°C	10.0 - 46.0 μin/in-°F	Average value: 53.1 μm/m-°C Grade Count:50
Thermal Conductivity	0.230 - 0.418 W/m-K	1.60 - 2.90 BTU-in/hr-ft <sup>2</sup> -°F	Average value: 0.255 W/m-K Grade Count:16
Melting Point	254 - 275 °C	490 - 527 °F	Average value: 259 °C Grade Count:11
Maximum Service Temperature, Air	90.0 - 160 °C	194 - 320 °F	Average value: 126 °C Grade Count:17
Deflection Temperature at 0.46 MPa (66 psi)	155 - 260 °C	311 - 500 °F	Average value: 223 °C Grade Count:50
Deflection Temperature at 1.8 MPa (264 psi)	63.0 - 260 °C	145 - 500 °F	Average value: 129 °C Grade Count:100
Vicat Softening Point	200 - 250 °C	392 - 482 °F	Average value: 234 °C Grade Count:15
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:67

<b>Electrical Properties</b>	<b>Metric</b>	<b>English</b>	<b>Comments</b>
Electrical Resistivity	1.00e+14 - 1.00e+16 ohm-cm	1.00e+14 - 1.00e+16 ohm-cm	Average value: 1.52e+15 ohm-cm Grade Count:64
Surface Resistance	1.00e+9 - 1.00e+13 ohm	1.00e+9 - 1.00e+13 ohm	Average value: 1.54e+12 ohm Grade Count:13
Insulation Resistance	1.00e+9 - 1.00e+12 ohm	1.00e+9 - 1.00e+12 ohm	Average value: 8.42e+11 ohm Grade Count:12
Dielectric Constant	3.60 - 3.70	3.60 - 3.70	Average value: 3.63 Grade Count:6
Dielectric Strength	17.3 - 23.6 kV/mm	440 - 600 kV/in	Average value: 19.9 kV/mm Grade Count:33
Dissipation Factor	0.0100 - 0.0200	0.0100 - 0.0200	Average value: 0.0161 Grade Count:9
Comparative Tracking Index	550 - 600 V	550 - 600 V	Average value: 583 V Grade Count:3

<b>Processing Properties</b>	<b>Metric</b>	<b>English</b>	<b>Comments</b>
Processing Temperature	270 - 300 °C	518 - 572 °F	Average value: 287 °C Grade Count:34
Nozzle Temperature	280 - 300 °C	536 - 572 °F	Average value: 290 °C Grade Count:14
Melt Temperature	260 - 310 °C	500 - 590 °F	Average value: 294 °C Grade Count:49
Mold Temperature			Average value: 90.2 °C Grade

Processing Properties	49.0 - 121 °C Metric	120 - 250 °F English	Count:66 Comments
Drying Temperature	75.0 - 105 °C	167 - 221 °F	Average value: 85.0 °C Grade Count:49

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