

Overview of materials for Nylon 66, Glass Fiber/PTFE Filled

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, Glass Fiber/PTFE Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Nylon 66, Glass Fiber/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-Glass-FiberPTFE-Filled.php

Physical Properties	Metric	English	Comments
Density	1.22 - 1.78 g/cc	0.0441 - 0.0643 lb/in ³	Average value: 1.45 g/cc Grade Count:114
Filler Content	5.00 - 40.0 %	5.00 - 40.0 %	Average value: 23.6 % Grade Count:63
Water Absorption	0.300 - 6.00 %	0.300 - 6.00 %	Average value: 0.959 % Grade Count:66
Water Absorption at Saturation	0.800 - 5.50 %	0.800 - 5.50 %	Average value: 3.08 % Grade Count:4
Additive Loading	15.0 - 50.0 %	15.0 - 50.0 %	Average value: 29.2 % Grade Count:9
Linear Mold Shrinkage	0.000300 - 0.0200 cm/cm	0.000300 - 0.0200 in/in	Average value: 0.00496 cm/cm Grade Count:111
Linear Mold Shrinkage, Transverse	0.00750 - 0.0140 cm/cm	0.00750 - 0.0140 in/in	Average value: 0.0105 cm/cm Grade Count:9

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	108 - 120	108 - 120	Average value: 118 Grade Count:29
Tensile Strength, Ultimate	68.0 - 250 MPa	9860 - 36300 psi	Average value: 143 MPa Grade Count:110
Tensile Strength, Yield	118 - 179 MPa	17100 - 26000 psi	Average value: 153 MPa Grade Count:4
Elongation at Break	1.00 - 7.00 %	1.00 - 7.00 %	Average value: 3.21 % Grade Count:95
Elongation at Yield	2.50 - 5.00 %	2.50 - 5.00 %	Average value: 3.51 % Grade Count:18
Modulus of Elasticity	3.45 - 15.5 GPa	500 - 2250 ksi	Average value: 8.61 GPa Grade Count:108
Flexural Yield Strength	89.0 - 320 MPa	12900 - 46400 psi	Average value: 212 MPa Grade Count:106
Flexural Modulus	3.03 - 14.8 GPa	440 - 2150 ksi	Average value: 7.75 GPa Grade Count:104

Compressive Yield Strength Mechanical Properties	68.9 - 165 MPa Metric	10000 - 23900 psi English	Average value: 114 MPa Grade Count:20
Shear Strength	76.0 - 79.0 MPa	11000 - 11500 psi	Average value: 77.0 MPa Grade Count:3
Izod Impact, Notched	0.427 - 2.14 J/cm	0.800 - 4.01 ft-lb/in	Average value: 0.972 J/cm Grade Count:84
Izod Impact, Unnotched	3.74 - 13.3 J/cm	7.00 - 25.0 ft-lb/in	Average value: 7.85 J/cm Grade Count:74
Charpy Impact Unnotched	3.00 J/cm ² - NB	14.3 ft-lb/in ² - NB	Average value: 5.55 J/cm ² Grade Count:24
	2.70 - 6.00 J/cm ² @Temperature -40.0 - - 30.0 °C	12.8 - 28.6 ft-lb/in ² @Temperature -40.0 - - 22.0 °F	Average value: 4.42 J/cm ² Grade Count:10
Charpy Impact, Notched	0.350 - 1.50 J/cm ²	1.67 - 7.14 ft-lb/in ²	Average value: 1.08 J/cm ² Grade Count:19
	0.300 - 0.300 J/cm ² @Temperature -40.0 - - 40.0 °C	1.43 - 1.43 ft-lb/in ² @Temperature -40.0 - - 40.0 °F	Average value: 0.300 J/cm ² Grade Count:1
Coefficient of Friction	0.130 - 0.620	0.130 - 0.620	Average value: 0.243 Grade Count:23
Coefficient of Friction, Static	0.110 - 0.520	0.110 - 0.520	Average value: 0.231 Grade Count:23
K (wear) Factor	5.10 - 50.4 x 10 ⁻⁸ mm ³ /N-M	2.53 - 25.0 x 10 ⁻¹⁰ in ³ - min/ft-lb-hr	Average value: 20.3 x 10 ^{<sup>-8</sup>}

Thermal Properties	Metric	English	Comments
CTE, linear	19.8 - 55.8 µm/m-°C	11.0 - 31.0 µin/in-°F	Average value: 34.2 µm/m-°C Grade Count:29
Thermal Conductivity	0.220 - 0.519 W/m-K	1.53 - 3.60 BTU-in/hr- ft ² -°F	Average value: 0.383 W/m-K Grade Count:26
Melting Point	249 - 275 °C	480 - 527 °F	Average value: 256 °C Grade Count:6
Maximum Service Temperature, Air	90.0 - 160 °C	194 - 320 °F	Average value: 133 °C Grade Count:19
Deflection Temperature at 0.46 MPa (66 psi)	216 - 270 °C	420 - 518 °F	Average value: 249 °C Grade Count:54
Deflection Temperature at 1.8 MPa (264 psi)	199 - 260 °C	390 - 500 °F	Average value: 238 °C Grade Count:94
Vicat Softening Point	200 - 250 °C	392 - 482 °F	Average value: 245 °C Grade Count:24
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:79

Electrical Properties	Metric	English	Comments
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Electrical Properties	Metric 1.00e+13 - 1.00e+16 ohm-cm	English 1.00e+13 - 1.00e+16 ohm-cm	Comments Average value: 1.44e+15 ohm-cm Grade Count:59
Surface Resistance	1.00e+12 - 1.00e+15 ohm	1.00e+12 - 1.00e+15 ohm	Average value: 6.40e+13 ohm Grade Count:19
Insulation Resistance	1.00e+12 ohm	1.00e+12 ohm	Average value: 1.00e+12 ohm Grade Count:17
Dielectric Constant	3.70 - 4.20	3.70 - 4.20	Average value: 3.79 Grade Count:18
Dielectric Strength	18.1 - 19.7 kV/mm	460 - 500 kV/in	Average value: 19.5 kV/mm Grade Count:18
Dissipation Factor	0.0130 - 0.0200	0.0130 - 0.0200	Average value: 0.0158 Grade Count:18
Arc Resistance	100 - 120 sec	100 - 120 sec	Average value: 112 sec Grade Count:9

Processing Properties	Metric	English	Comments
Processing Temperature	274 - 293 °C	525 - 560 °F	Average value: 286 °C Grade Count:52
Nozzle Temperature	280 - 300 °C	536 - 572 °F	Average value: 290 °C Grade Count:17
Melt Temperature	260 - 310 °C	500 - 590 °F	Average value: 293 °C Grade Count:72
Mold Temperature	60.0 - 121 °C	140 - 250 °F	Average value: 90.1 °C Grade Count:106
Drying Temperature	75.0 - 107 °C	167 - 225 °F	Average value: 86.2 °C Grade Count:67
Moisture Content	0.200 %	0.200 %	Average value: 0.200 % Grade Count:37
Dew Point	-17.8 °C	0.000 °F	Average value: -17.8 °C Grade Count:37
Injection Pressure	68.9 - 124 MPa	10000 - 18000 psi	Average value: 100 MPa Grade Count:72

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China