

## Overview of materials for Nylon 6, Glass Fiber/Solid Lube Filled

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6 , Glass Fiber/Solid Lube Filled

### Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Nylon 6, Glass Fiber/Solid Lube 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-6-Glass-FiberSolid-Lube-Filled.php](http://www.lookpolymers.com/polymer_Overview-of-materials-for-Nylon-6-Glass-FiberSolid-Lube-Filled.php)

Physical Properties	Metric	English	Comments
Density	1.11 - 1.61 g/cc	0.0401 - 0.0582 lb/in <sup>3</sup>	Average value: 1.39 g/cc Grade Count:37
Filler Content	10.0 - 45.0 %	10.0 - 45.0 %	Average value: 30.9 % Grade Count:22
Water Absorption	0.300 - 1.40 %	0.300 - 1.40 %	Average value: 0.829 % Grade Count:18
Water Absorption at Saturation	6.00 - 7.00 %	6.00 - 7.00 %	Average value: 6.52 % Grade Count:5
Linear Mold Shrinkage	0.000500 - 0.0100 cm/cm	0.000500 - 0.0100 in/in	Average value: 0.00342 cm/cm Grade Count:26

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	59.0 - 85.0	59.0 - 85.0	Average value: 74.2 Grade Count:5
Hardness, Rockwell R	110 - 120	110 - 120	Average value: 118 Grade Count:8
Hardness, Shore D	73.0 - 85.0	73.0 - 85.0	Average value: 78.0 Grade Count:3
Tensile Strength, Ultimate	59.3 - 179 MPa	8600 - 26000 psi	Average value: 131 MPa Grade Count:35
Elongation at Break	2.00 - 50.0 %	2.00 - 50.0 %	Average value: 6.76 % Grade Count:33
Modulus of Elasticity	2.75 - 15.2 GPa	399 - 2200 ksi	Average value: 8.65 GPa Grade Count:31
Flexural Yield Strength	84.1 - 290 MPa	12200 - 42000 psi	Average value: 198 MPa Grade Count:36
Flexural Modulus	2.24 - 13.8 GPa	325 - 2000 ksi	Average value: 7.77 GPa Grade Count:36
Compressive Yield Strength	26.0 - 138 MPa	3770 - 20000 psi	Average value: 87.0 MPa Grade Count:11
Compressive Modulus	2.28 - 3.00 GPa	330 - 435 ksi	Average value: 2.63 GPa Grade Count:4

Izod Impact, Notched Mechanical Properties	0.267 - 2.40 J/cm Metric	0.500 - 4.50 ft-lb/in English	Average value: 1.16 J/cm Grade Count:21
Izod Impact, Unnotched	4.27 - 12.8 J/cm	8.00 - 24.0 ft-lb/in	Average value: 9.44 J/cm Grade Count:24
Charpy Impact Unnotched	2.50 - 9.00 J/cm <sup>2</sup>	11.9 - 42.8 ft-lb/in <sup>2</sup>	Average value: 5.50 J/cm <sup>2</sup> Grade Count:3
Charpy Impact, Notched	0.400 - 1.30 J/cm <sup>2</sup>	1.90 - 6.19 ft-lb/in <sup>2</sup>	Average value: 0.700 J/cm <sup>2</sup> Grade Count:3
Coefficient of Friction	0.120 - 0.350	0.120 - 0.350	Average value: 0.192 Grade Count:7
K (wear) Factor	24.2 - 161 x 10 <sup>-8</sup> mm <sup>3</sup> /N-M	12.0 - 80.0 x 10 <sup>-10</sup> in <sup>3</sup> - min/ft-lb-hr	Average value: 101 x 10 <sup>&lt;sup&gt;-8&lt;/sup&gt;</sup>
Limiting Pressure Velocity	0.0800 - 0.701 MPa- m/sec	2280 - 20000 psi- ft/min	Average value: 0.398 MPa-m/sec Grade Count:7

Thermal Properties	Metric	English	Comments
CTE, linear	23.4 - 101 μm/m-°C	13.0 - 56.0 μin/in-°F	Average value: 65.1 μm/m-°C Grade Count:11
Thermal Conductivity	0.280 - 0.519 W/m-K	1.94 - 3.60 BTU-in/hr- ft <sup>2</sup> -°F	Average value: 0.447 W/m-K Grade Count:7
Melting Point	215 - 220 °C	419 - 428 °F	Average value: 217 °C Grade Count:7
Maximum Service Temperature, Air	90.0 - 190 °C	194 - 374 °F	Average value: 110 °C Grade Count:6
Deflection Temperature at 0.46 MPa (66 psi)	204 - 218 °C	400 - 425 °F	Average value: 213 °C Grade Count:17
Deflection Temperature at 1.8 MPa (264 psi)	70.0 - 216 °C	158 - 420 °F	Average value: 186 °C Grade Count:36
Flammability, UL94	HB	HB	Grade Count:30

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+14 - 1.00e+15 ohm-cm	1.00e+14 - 1.00e+15 ohm-cm	Average value: 2.06e+14 ohm-cm Grade Count:17
Surface Resistance	1.00e+12 - 1.00e+14 ohm	1.00e+12 - 1.00e+14 ohm	Average value: 2.03e+13 ohm Grade Count:7
Dielectric Constant	3.50 - 4.00	3.50 - 4.00	Average value: 3.77 Grade Count:5
Dielectric Strength	15.7 - 25.0 kV/mm	400 - 635 kV/in	Average value: 19.6 kV/mm Grade Count:6
Dissipation Factor	0.0150 - 0.0160	0.0150 - 0.0160	Average value: 0.0157 Grade Count:3

Processing Properties	Metric	English	Comments
Processing Temperature			Average value: 246 °C Grade Count:13

<b>Processing Properties</b>	<b>221 - 271 °C Metric</b>	<b>430 - 520 °F English</b>	<b>Comments</b>
Melt Temperature	243 - 279 °C	470 - 535 °F	Average value: 261 °C Grade Count:11
Mold Temperature	54.4 - 93.3 °C	130 - 200 °F	Average value: 73.9 °C Grade Count:24
Drying Temperature	82.2 °C	180 °F	Average value: 82.2 °C Grade Count:11
Moisture Content	0.200 %	0.200 %	Average value: 0.200 % Grade Count:11
Dew Point	-17.8 °C	0.000 °F	Average value: -17.8 °C Grade Count:11
Injection Pressure	68.9 - 103 MPa	10000 - 15000 psi	Average value: 86.2 MPa Grade Count:24

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