

## Overview of materials for Nylon 66/6, 40% Glass Fiber Reinforced

Category : Polymer , Thermoplastic , Nylon , Nylon 6/66 , Nylon 66/6, 40% Glass Fiber Reinforced

### Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Nylon 66/6, 40% Glass Fiber Reinforced". Specific grades with glass content between 35% and 44% are included. 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-666-40-Glass-Fiber-Reinforced.php](http://www.lookpolymers.com/polymer_Overview-of-materials-for-Nylon-666-40-Glass-Fiber-Reinforced.php)

Physical Properties	Metric	English	Comments
Density	1.39 - 1.62 g/cc	0.0502 - 0.0585 lb/in <sup>3</sup>	Average value: 1.51 g/cc Grade Count:45
Filler Content	40.0 - 50.0 %	40.0 - 50.0 %	Average value: 44.3 % Grade Count:6
Water Absorption	0.00700 - 6.00 %	0.00700 - 6.00 %	Average value: 4.17 % Grade Count:26
Moisture Absorption at Equilibrium	0.850 - 2.00 %	0.850 - 2.00 %	Average value: 1.61 % Grade Count:23
Water Absorption at Saturation	2.75 - 5.00 %	2.75 - 5.00 %	Average value: 3.92 % Grade Count:3
Linear Mold Shrinkage	0.00100 - 0.0180 cm/cm	0.00100 - 0.0180 in/in	Average value: 0.00226 cm/cm Grade Count:36
Linear Mold Shrinkage, Transverse	0.00300 - 0.0120 cm/cm	0.00300 - 0.0120 in/in	Average value: 0.00596 cm/cm Grade Count:27

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	100 - 325 MPa	14500 - 47100 psi	Average value: 223 MPa Grade Count:21
Tensile Strength, Ultimate	50.0 - 265 MPa	7250 - 38400 psi	Average value: 187 MPa Grade Count:44
	140 - 150 MPa	20300 - 21800 psi	Average value: 128 MPa Grade Count:4
	@Temperature 80.0 - 80.0 °C	@Temperature 176 - 176 °F	
	110 - 110 MPa	16000 - 16000 psi	Average value: 128 MPa Grade Count:1
	@Temperature >=130 °C	@Temperature >=266 °F	
	110 - 110 MPa	16000 - 16000 psi	Average value: 128 MPa Grade Count:1
	@Time 1.80e+7 - 7.20e+7 sec	@Time 5000 - 20000 hour	

<b>Elongation at Break Mechanical Properties</b>	<b>1.50 - 16.0 % Metric</b>	<b>1.50 - 16.0 % English</b>	<b>Average value: 3.45 % Grade Count:43 Comments</b>
	2.40 - 2.80 %  @Temperature 80.0 - 80.0 °C	2.40 - 2.80 %  @Temperature 176 - 176 °F	Average value: 2.70 % Grade Count:4
<b>Elongation at Yield</b>	3.00 - 6.00 %	3.00 - 6.00 %	Average value: 4.60 % Grade Count:3
<b>Modulus of Elasticity</b>	3.00 - 17.8 GPa	435 - 2580 ksi	Average value: 12.3 GPa Grade Count:38
	8.05 - 10.0 GPa  @Temperature 80.0 - 80.0 °C	1170 - 1450 ksi  @Temperature 176 - 176 °F	Average value: 8.63 GPa Grade Count:4
<b>Flexural Yield Strength</b>	45.0 - 380 MPa	6530 - 55100 psi	Average value: 285 MPa Grade Count:18
	240 - 260 MPa  @Temperature 80.0 - 80.0 °C	34800 - 37700 psi  @Temperature 176 - 176 °F	Average value: 253 MPa Grade Count:4
<b>Flexural Modulus</b>	8.62 - 16.2 GPa	1250 - 2350 ksi	Average value: 12.5 GPa Grade Count:17
	8.30 - 9.50 GPa  @Temperature 80.0 - 80.0 °C	1200 - 1380 ksi  @Temperature 176 - 176 °F	Average value: 9.10 GPa Grade Count:3
<b>Izod Impact, Notched</b>	0.801 - 1.80 J/cm	1.50 - 3.37 ft-lb/in	Average value: 1.45 J/cm Grade Count:3
<b>Izod Impact, Notched (ISO)</b>	8.50 - 57.0 kJ/m <sup>2</sup>	4.04 - 27.1 ft-lb/in <sup>2</sup>	Average value: 18.0 kJ/m <sup>2</sup> Grade Count:10
	11.0 - 48.0 kJ/m <sup>2</sup>  @Temperature -40.0 - - 20.0 °C	5.23 - 22.8 ft-lb/in <sup>2</sup>  @Temperature -40.0 - - 4.00 °F	Average value: 20.5 kJ/m <sup>2</sup> Grade Count:2
<b>Izod Impact, Unnotched (ISO)</b>	50.0 - 82.0 kJ/m <sup>2</sup>	23.8 - 39.0 ft-lb/in <sup>2</sup>	Average value: 62.7 kJ/m <sup>2</sup> Grade Count:7
	45.0 - 74.0 kJ/m <sup>2</sup>  @Temperature -30.0 - - 30.0 °C	21.4 - 35.2 ft-lb/in <sup>2</sup>  @Temperature -22.0 - - 22.0 °F	Average value: 61.3 kJ/m <sup>2</sup> Grade Count:3
<b>Charpy Impact Unnotched</b>	4.00 J/cm <sup>2</sup> - NB	19.0 ft-lb/in <sup>2</sup> - NB	Average value: 8.17 J/cm <sup>2</sup> Grade Count:34
	3.00 J/cm <sup>2</sup> - NB  @Temperature -40.0 - 30.0 °C	14.3 ft-lb/in <sup>2</sup> - NB  @Temperature -40.0 - 86.0 °F	Average value: 6.90 J/cm <sup>2</sup> Grade Count:26
<b>Charpy Impact, Notched</b>	0.400 - 4.50 J/cm <sup>2</sup>	1.90 - 21.4 ft-lb/in <sup>2</sup>	Average value: 2.03 J/cm <sup>2</sup> Grade Count:34

Mechanical Properties	0.300 - 4.50 J/cm <sup>2</sup> Metric	1.43 - 21.4 ft-lb/in <sup>2</sup> English	Comments Average value: 1.92 J/cm <sup>2</sup> Grade Count:25
	@Temperature -30.0 - 30.0 °C	@Temperature -22.0 - 86.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	10.0 - 30.0 µm/m-°C	5.56 - 16.7 µin/in-°F	Average value: 19.6 µm/m-°C Grade Count:26
CTE, linear, Transverse to Flow	50.0 - 136 µm/m-°C	27.8 - 75.6 µin/in-°F	Average value: 78.2 µm/m-°C Grade Count:22
Melting Point	235 - 310 °C	455 - 590 °F	Average value: 258 °C Grade Count:38
Maximum Service Temperature, Air	90.0 - 250 °C	194 - 482 °F	Average value: 164 °C Grade Count:23
Hot Ball Pressure Test	123 - 220 °C	253 - 428 °F	Average value: 185 °C Grade Count:3
Deflection Temperature at 0.46 MPa (66 psi)	220 - 261 °C	428 - 502 °F	Average value: 243 °C Grade Count:4
Deflection Temperature at 1.8 MPa (264 psi)	145 - 280 °C	293 - 536 °F	Average value: 233 °C Grade Count:40
Deflection Temperature at 8.0 MPa	60.0 - 235 °C	140 - 455 °F	Average value: 194 °C Grade Count:27
Flammability, UL94	HB - 5VB	HB - 5VB	Grade Count:27
Glow Wire Test	650 - 960 °C	1200 - 1760 °F	Average value: 871 °C Grade Count:3

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+10 - 1.00e+16 ohm-cm	1.00e+10 - 1.00e+16 ohm-cm	Average value: 3.26e+14 ohm-cm Grade Count:28
Surface Resistance	1.00e+10 - 1.00e+16 ohm	1.00e+10 - 1.00e+16 ohm	Average value: 4.36e+14 ohm Grade Count:23
Dielectric Strength	18.5 - 45.0 kV/mm	470 - 1140 kV/in	Average value: 27.7 kV/mm Grade Count:23
Dissipation Factor	0.00680 - 0.0200	0.00680 - 0.0200	Average value: 0.0154 Grade Count:3
Comparative Tracking Index	350 - 600 V	350 - 600 V	Average value: 549 V Grade Count:28

Processing Properties	Metric	English	Comments
Processing Temperature	70.0 - 315 °C	158 - 599 °F	Average value: 109 °C Grade Count:6
Nozzle Temperature	271 - 304 °C	520 - 580 °F	Average value: 288 °C Grade Count:3
Die Temperature	310 - 320 °C	590 - 608 °F	Average value: 315 °C Grade Count:6
Melt Temperature	70.0 - 325 °C	158 - 617 °F	Average value: 282 °C Grade Count:14

Mold Temperature Processing Properties	60.0 - 120 °C Metric	140 - 248 °F English	Average value: 83.6 °C Grade Count:9 Comments
Drying Temperature	70.0 - 85.0 °C	158 - 185 °F	Average value: 77.8 °C Grade Count:14
Moisture Content	0.0500 - 0.200 %	0.0500 - 0.200 %	Average value: 0.171 % Grade Count:12

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