

Overview of materials for Nylon 66, 40% Glass Fiber Filled

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, 40% Glass Fiber Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Nylon 66, 40% Glass Fiber Filled". 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-66-40-Glass-Fiber-Filled.php

Physical Properties	Metric	English	Comments
Density	1.20 - 1.72 g/cc	0.0434 - 0.0621 lb/in ³	Average value: 1.45 g/cc Grade Count:331
	1.24 - 1.29 g/cc @Temperature 250 - 295 °C	0.0448 - 0.0466 lb/in ³ @Temperature 482 - 563 °F	Average value: 1.26 g/cc Grade Count:7
Filler Content	30.0 - 46.0 %	30.0 - 46.0 %	Average value: 39.5 % Grade Count:67
Water Absorption	0.300 - 7.60 %	0.300 - 7.60 %	Average value: 2.02 % Grade Count:154
	1.30 - 2.00 % @Temperature 70.0 - 70.0 °C	1.30 - 2.00 % @Temperature 158 - 158 °F	Average value: 1.74 % Grade Count:5
Moisture Absorption at Equilibrium	0.170 - 2.30 %	0.170 - 2.30 %	Average value: 1.45 % Grade Count:99
Water Absorption at Saturation	0.0200 - 8.00 %	0.0200 - 8.00 %	Average value: 4.70 % Grade Count:47
Additive Loading	35.0 - 40.0 %	35.0 - 40.0 %	Average value: 38.8 % Grade Count:4
Viscosity	20.0 - 300 cP @Temperature 275 - 300 °C	20.0 - 300 cP @Temperature 527 - 572 °F	Average value: 144 cP Grade Count:2
	20.0 - 300 cP @Shear Rate 10.0 - 1000 1/s	20.0 - 300 cP @Shear Rate 10.0 - 1000 1/s	Average value: 144 cP Grade Count:2
Viscosity Test	140 - 150 cm ³ /g	140 - 150 cm ³ /g	Average value: 144 cm ³ /g Grade Count:9
Linear Mold Shrinkage	0.00000500 - 0.0250 cm/cm	0.00000500 - 0.0250 in/in	Average value: 0.00407 cm/cm Grade Count:262
	0.0000300 - 0.105		Average value: 0.00822 cm/cm Grade

Linear Mold Shrinkage, Transverse Physical Properties	cm/cm Metric	0.0000300 - 0.105 in/in English	Count:114 Comments
Melt Flow	1.00 - 56.4 g/10 min	1.00 - 56.4 g/10 min	Average value: 25.8 g/10 min Grade Count:30
Spiral Flow	66.0 - 664 cm	26.0 - 261 in	Average value: 129 cm Grade Count:11

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell L	108 - 115	108 - 115	Average value: 113 Grade Count:5
Hardness, Rockwell M	80.0 - 105	80.0 - 105	Average value: 95.7 Grade Count:27
Hardness, Rockwell R	111 - 125	111 - 125	Average value: 121 Grade Count:58
Hardness, Shore D	81.0 - 86.0	81.0 - 86.0	Average value: 83.2 Grade Count:4
Ball Indentation Hardness	130 - 310 MPa	18900 - 45000 psi	Average value: 254 MPa Grade Count:23
Tensile Strength, Ultimate	50.0 - 294 MPa	7250 - 42600 psi	Average value: 182 MPa Grade Count:253
	45.0 - 269.585 MPa @Temperature -40.0 - 150 °C	6530 - 39100.1 psi @Temperature -40.0 - 302 °F	Average value: 101 MPa Grade Count:9
	100 - 115 MPa @Temperature 130 - 175 °C	14500 - 16700 psi @Temperature 266 - 347 °F	Average value: 101 MPa Grade Count:5
	100 - 115 MPa @Time 1.80e+7 - 7.20e+7 sec	14500 - 16700 psi @Time 5000 - 20000 hour	Average value: 101 MPa Grade Count:5
	25.0 - 400 MPa @Strain 1.00 - 10.0 %	3630 - 58000 psi @Strain 1.00 - 10.0 %	Average value: 101 MPa Grade Count:5
	25.0 - 400 MPa @Temperature -40.0 - 200 °C	3630 - 58000 psi @Temperature -40.0 - 392 °F	Average value: 101 MPa Grade Count:5
Tensile Strength, Yield	55.0 - 230 MPa	7980 - 33400 psi	Average value: 184 MPa Grade Count:94
Elongation at Break	1.00 - 35.0 %	1.00 - 35.0 %	Average value: 3.30 % Grade Count:303
	2.00 - 5.60 % @Temperature -40.0 - 150 °C	2.00 - 5.60 % @Temperature -40.0 - 302 °F	Average value: 3.57 % Grade Count:8
Elongation at Yield	1.80 - 20.0 %	1.80 - 20.0 %	Average value: 4.23 % Grade Count:28

Mechanical Properties	Metric 10.9 GPa	English 180 ksi	Comments
	2.714 - 15.13 GPa	393.6 - 2194 ksi	Average value: 11.1 GPa Grade Count:15
	@Temperature -40.0 - 220 °C	@Temperature -40.0 - 428 °F	
Flexural Yield Strength	75.0 - 455 MPa	10900 - 66000 psi	Average value: 275 MPa Grade Count:245
	130 - 388.175 MPa	18900 - 56300.1 psi	Average value: 225 MPa Grade Count:8
	@Temperature -40.0 - 121 °C	@Temperature -40.0 - 250 °F	
Flexural Modulus	1.10 - 113 GPa	160 - 16300 ksi	Average value: 10.5 GPa Grade Count:272
	5.00 - 14.0 GPa	725 - 2030 ksi	Average value: 8.45 GPa Grade Count:8
	@Temperature -40.0 - 121 °C	@Temperature -40.0 - 250 °F	
Compressive Yield Strength	145 - 276 MPa	21000 - 40000 psi	Average value: 211 MPa Grade Count:10
Poissons Ratio	0.350 - 0.400	0.350 - 0.400	Average value: 0.393 Grade Count:7
Fatigue Strength	>= 45.0 MPa	>= 6530 psi	Average value: 53.8 MPa Grade Count:1
	@Temperature 150 - 200 °C	@Temperature 302 - 392 °F	
	>= 45.0 MPa	>= 6530 psi	Average value: 53.8 MPa Grade Count:1
	@Time 0.000 - 25200 sec	@Time 0.000 - 7.00 hour	
Shear Modulus	1.36 - 2.17 GPa	198 - 315 ksi	Average value: 1.78 GPa Grade Count:6
	>= 0.293 GPa	>= 42.5 ksi	Average value: 1.13 GPa Grade Count:6
	@Temperature -50.0 - 250 °C	@Temperature -58.0 - 482 °F	
Shear Strength	72.0 - 90.0 MPa	10400 - 13100 psi	Average value: 81.0 MPa Grade Count:8
Izod Impact, Notched	0.700 - 5.07 J/cm	1.31 - 9.50 ft-lb/in	Average value: 1.57 J/cm Grade Count:133
	1.05 - 4.64493 J/cm	1.97 - 8.70186 ft-lb/in	Average value: 2.82 J/cm Grade Count:4
	@Temperature -40.0 - 149 °C	@Temperature -40.0 - 300 °F	
Izod Impact, Unnotched	1.23 - 16.0 J/cm	2.30 - 30.0 ft-lb/in	Average value: 11.1 J/cm Grade Count:51
Izod Impact, Notched (ISO)	2.50 - 47.0 kJ/m²	1.19 - 22.4 ft-lb/in²	Average value: 14.3 kJ/m² Grade Count:111

Mechanical Properties	Metric	English	Comments
	54.0 kJ/m ² @Temperature -40.0 - - 20.0 °C	12.5 ft-lb/in ² @Temperature -40.0 - - 4.00 °F	Average value: 13.3 kJ/m ² Grade Count:45
Izod Impact, Unnotched (ISO)	55.0 - 105 kJ/m ²	26.2 - 50.0 ft-lb/in ²	Average value: 77.5 kJ/m ² Grade Count:16
	50.0 - 105 kJ/m ² @Temperature -40.0 - - 30.0 °C	23.8 - 50.0 ft-lb/in ² @Temperature -40.0 - - 22.0 °F	Average value: 73.8 kJ/m ² Grade Count:9
Charpy Impact Unnotched	3.80 J/cm ² - NB	18.1 ft-lb/in ² - NB	Average value: 8.46 J/cm ² Grade Count:171
	3.00 - 999.9 J/cm ² @Temperature -40.0 - - 30.0 °C	14.3 - 4759 ft-lb/in ² @Temperature -40.0 - - 86.0 °F	Average value: 7.50 J/cm ² Grade Count:91
Charpy Impact, Notched	0.600 - 3.60 J/cm ²	2.86 - 17.1 ft-lb/in ²	Average value: 1.53 J/cm ² Grade Count:178
	0.500 - 20.0 J/cm ² @Temperature -40.0 - - 30.0 °C	2.38 - 95.2 ft-lb/in ² @Temperature -40.0 - - 86.0 °F	Average value: 1.31 J/cm ² Grade Count:96

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