

Overview of materials for Nylon 66, 50% Glass Fiber Filled

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, 50% Glass Fiber Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Nylon 66, 50% Glass Fiber Filled". Specific grades with glass content between 45% and 54% 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-66-50-Glass-Fiber-Filled.php

Physical Properties	Metric	English	Comments
Density	1.45 - 1.78 g/cc	0.0524 - 0.0643 lb/in ³	Average value: 1.57 g/cc Grade Count:144
	1.40 - 1.40 g/cc @Temperature 295 - 295 °C	0.0506 - 0.0506 lb/in ³ @Temperature 563 - 563 °F	Average value: 1.40 g/cc Grade Count:1
Filler Content	45.0 - 50.0 %	45.0 - 50.0 %	Average value: 49.4 % Grade Count:27
Water Absorption	0.300 - 4.30 %	0.300 - 4.30 %	Average value: 1.77 % Grade Count:71
	1.10 - 1.50 % @Temperature 70.0 - 70.0 °C	1.10 - 1.50 % @Temperature 158 - 158 °F	Average value: 1.25 % Grade Count:4
Moisture Absorption at Equilibrium	0.170 - 2.00 %	0.170 - 2.00 %	Average value: 1.15 % Grade Count:43
Water Absorption at Saturation	0.200 - 7.00 %	0.200 - 7.00 %	Average value: 3.64 % Grade Count:21
Viscosity	8000 - 160000 cP @Temperature 277 - 322 °C	8000 - 160000 cP @Temperature 531 - 612 °F	Average value: 47200 cP Grade Count:1
	8000 - 160000 cP @Frequency 10.0 - 10000 Hz	8000 - 160000 cP @Frequency 10.0 - 10000 Hz	Average value: 47200 cP Grade Count:1
	20.0 - 450 cP @Temperature 280 - 300 °C	20.0 - 450 cP @Temperature 536 - 572 °F	Average value: 47200 cP Grade Count:1
	20.0 - 450 cP @Shear Rate 10.0 - 1000 1/s	20.0 - 450 cP @Shear Rate 10.0 - 1000 1/s	Average value: 47200 cP Grade Count:1

Physical Properties	Metric	English	Comments
Maximum Moisture Content	0.0900 - 0.900	0.0900 - 0.900	Average value: 0.360 Grade Count:3
Linear Mold Shrinkage	0.00100 - 0.0200 cm/cm	0.00100 - 0.0200 in/in	Average value: 0.00332 cm/cm Grade Count:117
Linear Mold Shrinkage, Transverse	0.00150 - 0.0120 cm/cm	0.00150 - 0.0120 in/in	Average value: 0.00781 cm/cm Grade Count:53
Melt Flow	1.00 - 40.0 g/10 min	1.00 - 40.0 g/10 min	Average value: 18.4 g/10 min Grade Count:19
Spiral Flow	54.0 - 536 cm	21.3 - 211 in	Average value: 138 cm Grade Count:6

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	80.0 - 97.0	80.0 - 97.0	Average value: 90.5 Grade Count:3
Hardness, Rockwell R	98.0 - 125	98.0 - 125	Average value: 120 Grade Count:34
Ball Indentation Hardness	131 - 340 MPa	19000 - 49300 psi	Average value: 303 MPa Grade Count:15
Tensile Strength, Ultimate	30.0 - 299 MPa	4350 - 43400 psi	Average value: 219 MPa Grade Count:91
	65.0 - 342.669 MPa @Temperature -40.0 - 150 °C	9430 - 49700.1 psi @Temperature -40.0 - 302 °F	Average value: 128 MPa Grade Count:9
	110 - 125 MPa @Temperature 130 - 175 °C	16000 - 18100 psi @Temperature 266 - 347 °F	Average value: 128 MPa Grade Count:4
	110 - 125 MPa @Time 1.80e+7 - 7.20e+7 sec	16000 - 18100 psi @Time 5000 - 20000 hour	Average value: 128 MPa Grade Count:4
	25.0 - 195 MPa @Strain 0.500 - 8.00 %	3630 - 28300 psi @Strain 0.500 - 8.00 %	Average value: 128 MPa Grade Count:1
	25.0 - 195 MPa @Temperature 60.0 - 120 °C	3630 - 28300 psi @Temperature 140 - 248 °F	Average value: 128 MPa Grade Count:1
Tensile Strength, Yield	130 - 265 MPa	18900 - 38400 psi	Average value: 212 MPa Grade Count:54
	131 - 265 MPa @Temperature -20.0 - 93.3 °C	19000 - 38400 psi @Temperature -4.00 - 200 °F	Average value: 179 MPa Grade Count:2
	1.00 - 5.00 %	1.00 - 5.00 %	Average value: 2.48 % Grade

Elongation at Break Mechanical Properties	Metric	English	Count:123 Comments
	1.80 - 8.00 % @Temperature 4.44 - 150 °C	1.80 - 8.00 % @Temperature 40.0 - 302 °F	Average value: 4.18 % Grade Count:8
Elongation at Yield	1.00 - 3.70 %	1.00 - 3.70 %	Average value: 2.63 % Grade Count:13
Modulus of Elasticity	10.2 - 18.7 GPa	1480 - 2710 ksi	Average value: 15.5 GPa Grade Count:101
	4.00 - 19.788 GPa @Temperature -40.0 - 200 °C	580 - 2870.0 ksi @Temperature -40.0 - 392 °F	Average value: 8.59 GPa Grade Count:9
Flexural Yield Strength	216 - 425 MPa	31300 - 61600 psi	Average value: 326 MPa Grade Count:106
	175 - 455.054 MPa @Temperature -40.0 - 149 °C	25400 - 66000.1 psi @Temperature -40.0 - 300 °F	Average value: 264 MPa Grade Count:6
Flexural Modulus	7.90 - 17.2 GPa	1150 - 2500 ksi	Average value: 13.9 GPa Grade Count:111
	6.60 - 19.0985 GPa @Temperature -40.0 - 149 °C	957 - 2770.04 ksi @Temperature -40.0 - 300 °F	Average value: 10.3 GPa Grade Count:7
Izod Impact, Notched	1.01 - 6.51 J/cm	1.90 - 12.2 ft-lb/in	Average value: 1.97 J/cm Grade Count:57
	1.10 - 7.36782 J/cm @Temperature -40.0 - 149 °C	2.06 - 13.8029 ft-lb/in @Temperature -40.0 - 300 °F	Average value: 3.97 J/cm Grade Count:2
Izod Impact, Unnotched	9.61 - 70.0 J/cm	18.0 - 131 ft-lb/in	Average value: 15.2 J/cm Grade Count:24
Izod Impact, Notched (ISO)	12.0 - 54.0 kJ/m ²	5.71 - 25.7 ft-lb/in ²	Average value: 17.4 kJ/m ² Grade Count:29
	11.0 - 47.0 kJ/m ² @Temperature -40.0 - - 20.0 °C	5.23 - 22.4 ft-lb/in ² @Temperature -40.0 - - 4.00 °F	Average value: 16.1 kJ/m ² Grade Count:13
Izod Impact, Unnotched (ISO)	80.0 - 103 kJ/m ²	38.1 - 49.0 ft-lb/in ²	Average value: 90.6 kJ/m ² Grade Count:5
	90.0 - 96.0 kJ/m ² @Temperature -30.0 - - 30.0 °C	42.8 - 45.7 ft-lb/in ² @Temperature -22.0 - - 22.0 °F	Average value: 92.0 kJ/m ² Grade Count:3
Charpy Impact Unnotched	4.50 J/cm ² - NB	21.4 ft-lb/in ² - NB	Average value: 9.06 J/cm ² Grade Count:71

Mechanical Properties	4.60 J/cm ² - NB Metric	21.9 ft-lb/in ² - NB English	Comments
	@Temperature -40.0 - 30.0 °C	@Temperature -40.0 - 86.0 °F	Average value: 8.46 J/cm ² Grade Count:40
Charpy Impact, Notched	0.500 - 4.70 J/cm ²	2.38 - 22.4 ft-lb/in ²	Average value: 1.83 J/cm ² Grade Count:72
	0.350 - 4.50 J/cm ² @Temperature -40.0 - 30.0 °C	1.67 - 21.4 ft-lb/in ² @Temperature -40.0 - 86.0 °F	Average value: 1.39 J/cm ² Grade Count:39
Dart Drop, Total Energy	9.99 - 23.5 J @Temperature -20.0 - - 20.0 °C	7.37 - 17.3 ft-lb @Temperature -4.00 - - 4.00 °F	Average value: 16.7 J Grade Count:1
	9.99 - 23.5 J @Thickness 3.18 - 3.18 mm	7.37 - 17.3 ft-lb @Thickness 0.125 - 0.125 in	Average value: 16.7 J Grade Count:1
Puncture Energy	2.80 - 2.80 J @Temperature -30.0 - - 30.0 °C	2.07 - 2.07 ft-lb @Temperature -22.0 - - 22.0 °F	Average value: 2.80 J Grade Count:1

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