

Overview of materials for Nylon 66, 20% Glass Fiber Filled

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, 20% Glass Fiber Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Nylon 66, 20% Glass Fiber Filled". Specific grades with glass content between 15% and 24% 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-66-20-Glass-Fiber-Filled.php

Physical Properties	Metric	English	Comments
Density	1.14 - 1.60 g/cc	0.0412 - 0.0578 lb/in ³	Average value: 1.28 g/cc Grade Count:250
	1.07 - 1.07 g/cc @Temperature 270 - 270 °C	0.0387 - 0.0387 lb/in ³ @Temperature 518 - 518 °F	Average value: 1.07 g/cc Grade Count:1
Filler Content	15.0 - 20.0 %	15.0 - 20.0 %	Average value: 17.4 % Grade Count:57
Water Absorption	0.200 - 7.30 %	0.200 - 7.30 %	Average value: 2.49 % Grade Count:111
	2.30 - 2.70 % @Temperature 70.0 - 70.0 °C	2.30 - 2.70 % @Temperature 158 - 158 °F	Average value: 2.53 % Grade Count:3
Moisture Absorption at Equilibrium	0.170 - 7.00 %	0.170 - 7.00 %	Average value: 2.16 % Grade Count:51
Water Absorption at Saturation	0.00900 - 8.00 %	0.00900 - 8.00 %	Average value: 6.25 % Grade Count:35
Additive Loading	20.0 - 40.0 %	20.0 - 40.0 %	Average value: 25.0 % Grade Count:4
Viscosity	200 - 330000 cP @Temperature 275 - 280 °C	200 - 330000 cP @Temperature 527 - 536 °F	Average value: 83300 cP Grade Count:2
	200 - 330000 cP @Shear Rate 10.0 - 1000 1/s	200 - 330000 cP @Shear Rate 10.0 - 1000 1/s	Average value: 83300 cP Grade Count:2
Viscosity Test	140 - 150 cm ³ /g	140 - 150 cm ³ /g	Average value: 147 cm ³ /g Grade Count:13
Linear Mold Shrinkage	0.000 - 0.0220 cm/cm	0.000 - 0.0220 in/in	Average value: 0.00607 cm/cm Grade Count:207
Linear Mold Shrinkage, Transverse	0.000 - 0.0150 cm/cm	0.000 - 0.0150 in/in	Average value: 0.0102 cm/cm Grade Count:77

Physical Properties	Metric	English	Comments
Melt Flow	1.00 - 157 g/10 min	1.00 - 157 g/10 min	Average value: 55.7 g/10 min Grade Count:40
Spiral Flow	95.0 - 117 cm	37.4 - 46.1 in	Average value: 99.2 cm Grade Count:9

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	71.0 - 102	71.0 - 102	Average value: 89.9 Grade Count:10
Hardness, Rockwell R	111 - 122	111 - 122	Average value: 118 Grade Count:60
Hardness, Shore D	74.0 - 85.0	74.0 - 85.0	Average value: 81.0 Grade Count:5
Ball Indentation Hardness	90.0 - 225 MPa	13100 - 32600 psi	Average value: 173 MPa Grade Count:16
Tensile Strength, Ultimate	25.9 - 180 MPa	3760 - 26100 psi	Average value: 114 MPa Grade Count:183
	30.0 - 160 MPa @Temperature -40.0 - 150 °C	4350 - 23200 psi @Temperature -40.0 - 302 °F	Average value: 66.6 MPa Grade Count:7
	70.0 - 80.0 MPa @Temperature 130 - 175 °C	10200 - 11600 psi @Temperature 266 - 347 °F	Average value: 66.6 MPa Grade Count:2
	70.0 - 80.0 MPa @Time 1.80e+7 - 7.20e+7 sec	10200 - 11600 psi @Time 5000 - 20000 hour	Average value: 66.6 MPa Grade Count:2
	5.00 - 163 MPa @Strain 0.270 - 12.0 %	725 - 23600 psi @Strain 0.270 - 12.0 %	Average value: 66.6 MPa Grade Count:2
	5.00 - 163 MPa @Temperature -40.0 - 230 °C	725 - 23600 psi @Temperature -40.0 - 446 °F	Average value: 66.6 MPa Grade Count:2
Tensile Strength, Yield	40.0 - 157 MPa	5800 - 22800 psi	Average value: 111 MPa Grade Count:78
	74.0 - 74.0 MPa @Temperature 80.0 - 80.0 °C	10700 - 10700 psi @Temperature 176 - 176 °F	Average value: 74.0 MPa Grade Count:1
Elongation at Break	1.00 - 21.0 %	1.00 - 21.0 %	Average value: 4.39 % Grade Count:211
	2.60 - 9.50 % @Temperature -40.0 - 150 °C	2.60 - 9.50 % @Temperature -40.0 - 302 °F	Average value: 5.77 % Grade Count:5
Elongation at Yield	2.00 - 13.0 %	2.00 - 13.0 %	Average value: 4.90 % Grade Count:31

Mechanical Properties	Metric 3.00 - 7.40 %	English 3.00 - 7.40 %	Comments
	@Temperature 60.0 - 150 °C	@Temperature 140 - 302 °F	Average value: 5.51 % Grade Count:3
Modulus of Elasticity	2.90 - 12.0 GPa	421 - 1740 ksi	Average value: 6.04 GPa Grade Count:155
	1.456 - 9.10 GPa @Temperature -20.0 - 220 °C	211.2 - 1320 ksi @Temperature -4.00 - 428 °F	Average value: 3.88 GPa Grade Count:5
Flexural Yield Strength	11.5 - 260 MPa	1670 - 37700 psi	Average value: 172 MPa Grade Count:193
	75.0 - 200 MPa @Temperature -40.0 - 90.0 °C	10900 - 29000 psi @Temperature -40.0 - 194 °F	Average value: 136 MPa Grade Count:3
Flexural Modulus	2.50 - 12.8 GPa	363 - 1850 ksi	Average value: 5.56 GPa Grade Count:213
	2.10 - 6.20 GPa @Temperature -40.0 - 120 °C	305 - 899 ksi @Temperature -40.0 - 248 °F	Average value: 3.79 GPa Grade Count:5
Compressive Yield Strength	103 - 207 MPa	15000 - 30000 psi	Average value: 157 MPa Grade Count:13
Poissons Ratio	0.350 - 0.400	0.350 - 0.400	Average value: 0.383 Grade Count:3
Shear Modulus	0.333 - 1.745 GPa @Temperature -50.0 - 250 °C	48.3 - 253.1 ksi @Temperature -58.0 - 482 °F	Average value: 1.00 GPa Grade Count:2
Izod Impact, Notched	0.300 - 2.16 J/cm	0.562 - 4.04 ft-lb/in	Average value: 0.799 J/cm Grade Count:119
	0.500 - 0.950 J/cm @Temperature -40.0 - - 20.0 °C	0.937 - 1.78 ft-lb/in @Temperature -40.0 - - 4.00 °F	Average value: 0.850 J/cm Grade Count:4
	1.0678 - 1.0678 J/cm @Temperature -40.0 - - 40.0 °C	2.0004 - 2.0004 ft-lb/in @Temperature -40.0 - - 40.0 °F	Average value: 0.850 J/cm Grade Count:2
	1.0678 - 1.0678 J/cm @Thickness 3.17 - 3.17 mm	2.0004 - 2.0004 ft-lb/in @Thickness 0.125 - 0.125 in	Average value: 0.850 J/cm Grade Count:2
Izod Impact, Unnotched	3.20 - 60.0 J/cm	6.00 - 112 ft-lb/in	Average value: 8.89 J/cm Grade Count:34
Izod Impact, Notched (ISO)	3.50 - 16.0 kJ/m ²	1.67 - 7.61 ft-lb/in ²	Average value: 8.10 kJ/m ² Grade Count:55

Mechanical Properties	Metric 21.0 kJ/m²	English 99 ft-lb/in²	Comments
	@Temperature -40.0 - - 30.0 °C	@Temperature -40.0 - - 22.0 °F	Average value: 7.14 kJ/m ² Grade Count:22
Izod Impact, Unnotched (ISO)	30.0 - 90.0 kJ/m ²	14.3 - 42.8 ft-lb/in ²	Average value: 56.8 kJ/m ² Grade Count:12
	30.0 - 75.0 kJ/m ² @Temperature -40.0 - - 30.0 °C	14.3 - 35.7 ft-lb/in ² @Temperature -40.0 - - 22.0 °F	Average value: 43.6 kJ/m ² Grade Count:9
Charpy Impact Unnotched	2.00 J/cm ² - NB	9.52 ft-lb/in ² - NB	Average value: 5.55 J/cm ² Grade Count:117
	2.00 - 8.00 J/cm ² @Temperature -40.0 - - 20.0 °C	9.52 - 38.1 ft-lb/in ² @Temperature -40.0 - - 4.00 °F	Average value: 4.27 J/cm ² Grade Count:65
Charpy Impact, Notched	0.300 - 2.40 J/cm ²	1.43 - 11.4 ft-lb/in ²	Average value: 0.904 J/cm ² Grade Count:112

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