

Overview of materials for Nylon 6, 30% Glass Fiber Filled

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6, 30% Glass Fiber Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Nylon 6, 30% Glass Fiber Filled". Specific grades with glass content between 25% and 34% 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-6-30-Glass-Fiber-Filled.php

Physical Properties	Metric	English	Comments
Density	1.14 - 1.67 g/cc	0.0410 - 0.0603 lb/in ³	Average value: 1.36 g/cc Grade Count:665
	1.20 - 1.31 g/cc @Temperature 250 - 270 °C	0.0434 - 0.0473 lb/in ³ @Temperature 482 - 518 °F	Average value: 1.27 g/cc Grade Count:3
Filler Content	25.0 - 35.0 %	25.0 - 35.0 %	Average value: 29.8 % Grade Count:126
Water Absorption	0.130 - 9.00 %	0.130 - 9.00 %	Average value: 3.19 % Grade Count:327
	1.60 - 2.50 % @Temperature 70.0 - 70.0 °C	1.60 - 2.50 % @Temperature 158 - 158 °F	Average value: 1.95 % Grade Count:8
Moisture Absorption at Equilibrium	0.170 - 7.10 %	0.170 - 7.10 %	Average value: 1.85 % Grade Count:250
	0.550 - 1.55 % @Temperature 70.0 - 70.0 °C	0.550 - 1.55 % @Temperature 158 - 158 °F	Average value: 1.17 % Grade Count:1
	0.550 - 1.55 % @Time 180000 - 1.44e+6 sec	0.550 - 1.55 % @Time 50.0 - 400 hour	Average value: 1.17 % Grade Count:1
Water Absorption at Saturation	4.50 - 8.20 %	4.50 - 8.20 %	Average value: 6.64 % Grade Count:62
Viscosity	2.60 - 50.0 cP	2.60 - 50.0 cP	Average value: 9.37 cP Grade Count:7
	30.0 - 500 cP @Temperature 230 - 270 °C	30.0 - 500 cP @Temperature 446 - 518 °F	Average value: 188 cP Grade Count:2
	30.0 - 500 cP	30.0 - 500 cP	

Physical Properties	Metric @ Shear Rate 100 - 10000 1/s	English @ Shear Rate 100 - 10000 1/s	Comments Average value: 188 cP Grade Count:2
Viscosity Test	104 - 195 cm ² /g	104 - 195 cm ² /g	Average value: 143 cm ² /g Grade Count:30
Maximum Moisture Content	0.100	0.100	Average value: 0.100 Grade Count:42
Linear Mold Shrinkage	0.000300 - 0.0350 cm/cm	0.000300 - 0.0350 in/in	Average value: 0.00417 cm/cm Grade Count:497
	0.00280 - 0.00400 cm/cm @Temperature 80.0 - 80.0 °C	0.00280 - 0.00400 in/in @Temperature 176 - 176 °F	Average value: 0.00304 cm/cm Grade Count:20
Linear Mold Shrinkage, Transverse	0.000900 - 0.0170 cm/cm	0.000900 - 0.0170 in/in	Average value: 0.00846 cm/cm Grade Count:200
	0.00600 - 0.00800 cm/cm @Temperature 80.0 - 80.0 °C	0.00600 - 0.00800 in/in @Temperature 176 - 176 °F	Average value: 0.00695 cm/cm Grade Count:20
Melt Flow	1.00 - 101 g/10 min	1.00 - 101 g/10 min	Average value: 30.6 g/10 min Grade Count:88
Spiral Flow	50.0 - 715 cm	19.7 - 281 in	Average value: 102 cm Grade Count:20
Ash	30.0 - 33.1 %	30.0 - 33.1 %	Average value: 31.2 % Grade Count:5

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell L	111 - 115	111 - 115	Average value: 113 Grade Count:10
Hardness, Rockwell M	95.0 - 100	95.0 - 100	Average value: 97.2 Grade Count:5
Hardness, Rockwell R	90.0 - 122	90.0 - 122	Average value: 119 Grade Count:124
Hardness, Shore D	67.0 - 94.0	67.0 - 94.0	Average value: 85.0 Grade Count:31
Ball Indentation Hardness	70.0 - 230 MPa	10200 - 33400 psi	Average value: 169 MPa Grade Count:52
Tensile Strength, Ultimate	28.0 - 203 MPa	4060 - 29500 psi	Average value: 140 MPa Grade Count:477
	20.0 - 283 MPa @Temperature -40.0 - 150 °C	2900 - 41000 psi @Temperature -40.0 - 302 °F	Average value: 104 MPa Grade Count:19
	80.0 - 150 MPa @Temperature 70.0 - 175 °C	11600 - 21800 psi @Temperature 158 - 347 °F	Average value: 104 MPa Grade Count:3

Mechanical Properties	Metric 80.0 - 150 MPa	English 11500 - 21800 psi	Comments Average value: 104 MPa Grade
	@Time 180000 - 7.20e+7 sec	@Time 50.0 - 20000 hour	Count:3
	30.0 - 170 MPa	4350 - 24700 psi	Average value: 104 MPa Grade
	@Strain 1.00 - 2.00 %	@Strain 1.00 - 2.00 %	Count:1
	30.0 - 170 MPa	4350 - 24700 psi	Average value: 104 MPa Grade
	@Temperature -20.0 - 150 °C	@Temperature -4.00 - 302 °F	Count:1
Tensile Strength, Yield	40.0 - 193 MPa	5800 - 28000 psi	Average value: 149 MPa Grade
			Count:190
	111 - 214 MPa	16100 - 31000 psi	Average value: 176 MPa Grade
	@Temperature -40.0 - 80.0 °C	@Temperature -40.0 - 176 °F	Count:2
Elongation at Break	1.00 - 142 %	1.00 - 142 %	Average value: 4.42 % Grade
			Count:565
	2.50 - 12.0 %	2.50 - 12.0 %	Average value: 5.91 % Grade
	@Temperature -40.0 - 150 °C	@Temperature -40.0 - 302 °F	Count:12
Elongation at Yield	2.00 - 22.0 %	2.00 - 22.0 %	Average value: 4.17 % Grade
			Count:93
	4.60 - 7.60 %	4.60 - 7.60 %	Average value: 5.99 % Grade
	@Temperature 60.0 - 150 °C	@Temperature 140 - 302 °F	Count:2
Modulus of Elasticity	1.00 - 15.0 GPa	145 - 2180 ksi	Average value: 7.98 GPa Grade
			Count:413
	2.50 - 11.87 GPa	363 - 1722 ksi	Average value: 5.80 GPa Grade
	@Temperature -40.0 - 150 °C	@Temperature -40.0 - 302 °F	Count:16
	7.00 - 9.00 GPa	1020 - 1310 ksi	Average value: 5.80 GPa Grade
	@Temperature 70.0 - 70.0 °C	@Temperature 158 - 158 °F	Count:1
	7.00 - 9.00 GPa	1020 - 1310 ksi	Average value: 5.80 GPa Grade
	@Time 180000 - 1.44e+6 sec	@Time 50.0 - 400 hour	Count:1
Flexural Yield Strength	46.0 - 301 MPa	6670 - 43600 psi	Average value: 216 MPa Grade
			Count:455
	89.0 - 380 MPa	12900 - 55100 psi	Average value: 186 MPa Grade
	@Temperature -40.0 - 121 °C	@Temperature -40.0 - 250 °F	Count:9

Mechanical Properties	Metric	English	Comments
	0.724 - 14.3 GPa	105 - 2070 ksi	Average value: 7.53 GPa Grade Count:10
	2.97 - 12.5 GPa	431 - 1810 ksi	Average value: 5.07 GPa Grade Count:10
	@Temperature -40.0 - 121 °C	@Temperature -40.0 - 250 °F	
Compressive Yield Strength	140 - 222 MPa	20300 - 32200 psi	Average value: 166 MPa Grade Count:11
Poissons Ratio	0.350	0.350	Average value: 0.350 Grade Count:8
Fatigue Strength	>= 54.0 MPa	>= 7830 psi	Average value: 61.7 MPa Grade Count:1
	@Temperature 80.0 - 120 °C	@Temperature 176 - 248 °F	
	>= 54.0 MPa	>= 7830 psi	Average value: 61.7 MPa Grade Count:1
	@Time 0.000 - 374000 sec	@Time 0.000 - 104 hour	
Shear Modulus	1.32 - 4.10 GPa	191 - 595 ksi	Average value: 2.61 GPa Grade Count:8
	>= 0.383 GPa	>= 55.6 ksi	Average value: 1.13 GPa Grade Count:4
	@Temperature -50.0 - 200 °C	@Temperature -58.0 - 392 °F	
Izod Impact, Notched	0.400 - 3.36 J/cm	0.749 - 6.30 ft-lb/in	Average value: 1.27 J/cm Grade Count:254
	0.700 - 3.84408 J/cm	1.31 - 7.20154 ft-lb/in	Average value: 1.20 J/cm Grade Count:8
	@Temperature -40.0 - 121 °C	@Temperature -40.0 - 250 °F	
	1.01441 - 1.33475 J/cm	1.90041 - 2.50053 ft-lb/in	Average value: 1.20 J/cm Grade Count:7
	@Temperature -40.0 - - 40.0 °C	@Temperature -40.0 - - 40.0 °F	

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