

Overview of materials for Nylon 66, Glass Fiber Filled, Flame Retardant

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, Glass Fiber Filled, Flame Retardant

Material Notes:

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

Physical Properties	Metric	English	Comments
Density	1.15 - 1.82 g/cc	0.0415 - 0.0658 lb/in ³	Average value: 1.46 g/cc Grade Count:172
Filler Content	10.0 - 35.0 %	10.0 - 35.0 %	Average value: 24.9 % Grade Count:17
Water Absorption	0.300 - 7.00 %	0.300 - 7.00 %	Average value: 2.15 % Grade Count:60
Moisture Absorption at Equilibrium	0.170 - 2.20 %	0.170 - 2.20 %	Average value: 1.43 % Grade Count:35
Water Absorption at Saturation	3.90 - 7.00 %	3.90 - 7.00 %	Average value: 4.91 % Grade Count:12
Additive Loading	20.0 - 35.0 %	20.0 - 35.0 %	Average value: 26.6 % Grade Count:8
Viscosity Test	127 - 150 cm ³ /g	127 - 150 cm ³ /g	Average value: 141 cm ³ /g Grade Count:9
Linear Mold Shrinkage	0.00100 - 0.0200 cm/cm	0.00100 - 0.0200 in/in	Average value: 0.00494 cm/cm Grade Count:152
Linear Mold Shrinkage, Transverse	0.00530 - 0.105 cm/cm	0.00530 - 0.105 in/in	Average value: 0.00969 cm/cm Grade Count:54
Melt Flow	1.00 - 53.6 g/10 min	1.00 - 53.6 g/10 min	Average value: 13.8 g/10 min Grade Count:20

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	55.0 - 100	55.0 - 100	Average value: 87.2 Grade Count:10
Hardness, Rockwell R	101 - 122	101 - 122	Average value: 118 Grade Count:32
Hardness, Shore D	82.0 - 90.0	82.0 - 90.0	Average value: 87.0 Grade Count:3
Tensile Strength, Ultimate	50.0 - 200 MPa	7250 - 29000 psi	Average value: 132 MPa Grade Count:127
	30.0 - 145 MPa @Temperature 60.0 - 150 °C	4350 - 21000 psi @Temperature 140 - 302 °F	Average value: 78.6 MPa Grade Count:14

Mechanical Properties	Metric 58.9 - 180 MPa	English 8410 - 26100 psi	Average value: 125 MPa Grade Count:14
Elongation at Break	1.00 - 13.2 %	1.00 - 13.2 %	Average value: 2.85 % Grade Count:143
	2.40 - 20.0 % @Temperature 60.0 - 150 °C	2.40 - 20.0 % @Temperature 140 - 302 °F	Average value: 4.89 % Grade Count:14
Elongation at Yield	1.40 - 7.80 %	1.40 - 7.80 %	Average value: 3.14 % Grade Count:14
	3.00 - 10.0 % @Temperature 60.0 - 150 °C	3.00 - 10.0 % @Temperature 140 - 302 °F	Average value: 4.84 % Grade Count:6
Modulus of Elasticity	3.90 - 17.0 GPa	566 - 2470 ksi	Average value: 9.07 GPa Grade Count:100
	0.220 - 11.5 GPa @Temperature 60.0 - 150 °C	31.9 - 1670 ksi @Temperature 140 - 302 °F	Average value: 5.24 GPa Grade Count:14
Flexural Yield Strength	90.0 - 283 MPa	13100 - 41000 psi	Average value: 190 MPa Grade Count:133
Flexural Modulus	3.70 - 12.4 GPa	537 - 1800 ksi	Average value: 7.80 GPa Grade Count:122
Compressive Yield Strength	103 - 128 MPa	15000 - 18500 psi	Average value: 117 MPa Grade Count:3
Izod Impact, Notched	0.270 - 1.33 J/cm	0.506 - 2.50 ft-lb/in	Average value: 0.776 J/cm Grade Count:80
	0.69407 - 0.69407 J/cm @Temperature -40.0 - - 40.0 °C	1.3003 - 1.3003 ft-lb/in @Temperature -40.0 - - 40.0 °F	Average value: 0.694 J/cm Grade Count:1
Izod Impact, Unnotched	3.20 - 9.61 J/cm	6.00 - 18.0 ft-lb/in	Average value: 6.80 J/cm Grade Count:26
Izod Impact, Notched (ISO)	3.00 - 20.0 kJ/m ²	1.43 - 9.52 ft-lb/in ²	Average value: 8.40 kJ/m ² Grade Count:37
	2.00 - 11.0 kJ/m ² @Temperature -40.0 - - 20.0 °C	0.952 - 5.23 ft-lb/in ² @Temperature -40.0 - - 4.00 °F	Average value: 6.00 kJ/m ² Grade Count:17
Izod Impact, Unnotched (ISO)	30.0 - 60.0 kJ/m ²	14.3 - 28.6 ft-lb/in ²	Average value: 47.2 kJ/m ² Grade Count:10
	39.0 - 47.0 kJ/m ² @Temperature -30.0 - - 30.0 °C	18.6 - 22.4 ft-lb/in ² @Temperature -22.0 - - 22.0 °F	Average value: 42.7 kJ/m ² Grade Count:5

Charpy Impact Unnotched Mechanical Properties	2.00 J/cm ² - NB Metric	9.52 ft-lb/in ² - NB English	Average value: 5.63 J/cm ² Grade Count:10
	2.00 - 8.00 J/cm ²	9.52 - 38.1 ft-lb/in ²	Average value: 5.21 J/cm ² Grade Count:26
	@Temperature -30.0 - -20.0 °C	@Temperature -22.0 - -4.00 °F	
Charpy Impact, Notched	0.200 - 1.80 J/cm ²	0.952 - 8.57 ft-lb/in ²	Average value: 0.953 J/cm ² Grade Count:60
	0.200 - 10.0 J/cm ²	0.952 - 47.6 ft-lb/in ²	Average value: 1.17 J/cm ² Grade Count:23
	@Temperature -30.0 - -20.0 °C	@Temperature -22.0 - -4.00 °F	
Taber Abrasion, mg/1000 Cycles	24.0 - 29.0	24.0 - 29.0	Average value: 25.7 Grade Count:3

Thermal Properties	Metric	English	Comments
CTE, linear	15.0 - 71.0 µm/m-°C	8.33 - 39.4 µin/in-°F	Average value: 35.3 µm/m-°C Grade Count:29
CTE, linear, Transverse to Flow	39.0 - 92.0 µm/m-°C	21.7 - 51.1 µin/in-°F	Average value: 75.0 µm/m-°C Grade Count:10
Specific Heat Capacity	1.40 - 1.50 J/g-°C	0.335 - 0.359 BTU/lb-°F	Average value: 1.45 J/g-°C Grade Count:4
Thermal Conductivity	0.317 - 2.20 W/m-K	2.20 - 15.3 BTU-in/hr-ft ² -°F	Average value: 0.745 W/m-K Grade Count:9
Melting Point	255 - 263 °C	491 - 505 °F	Average value: 259 °C Grade Count:65
Maximum Service Temperature, Air	90.0 - 240 °C	194 - 464 °F	Average value: 154 °C Grade Count:36
Hot Ball Pressure Test	123 - 127 °C	253 - 261 °F	Average value: 125 °C Grade Count:3
Deflection Temperature at 0.46 MPa (66 psi)	177 - 265 °C	350 - 509 °F	Average value: 250 °C Grade Count:90
Deflection Temperature at 1.8 MPa (264 psi)	78.0 - 255 °C	172 - 491 °F	Average value: 228 °C Grade Count:137
Vicat Softening Point	215 - 258 °C	419 - 496 °F	Average value: 247 °C Grade Count:48
UL RTI, Electrical	65.0 °C	149 °F	Average value: 65.0 °C Grade Count:3
UL RTI, Mechanical with Impact	65.0 °C	149 °F	Average value: 65.0 °C Grade Count:3

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1000 - 1.00e+18 ohm-cm	1000 - 1.00e+18 ohm-cm	Average value: 3.64e+16 ohm-cm Grade Count:71
Surface Resistance	2500 - 4.00e+14 ohm	2500 - 4.00e+14 ohm	Average value: 2.37e+13 ohm Grade Count:46
Dielectric Constant	3.00 - 8.70	3.00 - 8.70	Average value: 3.91 Grade Count:37

Electrical Properties	Metric	English	Comments
	11 kV/mm	20 kV/in	ue: 50.0 kV/mm Grade Count:59
Dissipation Factor	0.00800 - 0.200	0.00800 - 0.200	Average value: 0.0372 Grade Count:18
Arc Resistance	130 sec	130 sec	Average value: 130 sec Grade Count:3
Comparative Tracking Index	225 - 600 V	225 - 600 V	Average value: 479 V Grade Count:68

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