

Overview of materials for Nylon 66, Glass Bead Filled

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, Glass Bead Filled

Material Notes:

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

Physical Properties	Metric	English	Comments
Density	0.890 - 1.75 g/cc	0.0322 - 0.0632 lb/in ³	Average value: 1.37 g/cc Grade Count:108
Filler Content	5.00 - 40.0 %	5.00 - 40.0 %	Average value: 21.4 % Grade Count:20
Water Absorption	0.0500 - 5.60 %	0.0500 - 5.60 %	Average value: 0.941 % Grade Count:44
Moisture Absorption at Equilibrium	0.250 - 4.40 %	0.250 - 4.40 %	Average value: 2.13 % Grade Count:14
Water Absorption at Saturation	4.50 - 9.45 %	4.50 - 9.45 %	Average value: 6.14 % Grade Count:4
Linear Mold Shrinkage	0.00150 - 0.0280 cm/cm	0.00150 - 0.0280 in/in	Average value: 0.0124 cm/cm Grade Count:100
Linear Mold Shrinkage, Transverse	0.00630 - 0.0170 cm/cm	0.00630 - 0.0170 in/in	Average value: 0.0114 cm/cm Grade Count:21
Melt Flow	1.00 - 3.00 g/10 min	1.00 - 3.00 g/10 min	Average value: 2.00 g/10 min Grade Count:8

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	98.0 - 122	98.0 - 122	Average value: 118 Grade Count:29
Tensile Strength, Ultimate	38.0 - 150 MPa	5510 - 21800 psi	Average value: 78.2 MPa Grade Count:87
	25.0 - 55.0 MPa @Temperature 60.0 - 150 °C	3630 - 7980 psi @Temperature 140 - 302 °F	Average value: 38.4 MPa Grade Count:2
Tensile Strength, Yield	50.0 - 131 MPa	7250 - 19000 psi	Average value: 87.4 MPa Grade Count:27
Elongation at Break	0.500 - 20.0 %	0.500 - 20.0 %	Average value: 4.68 % Grade Count:99
	15.0 - 45.0 % @Temperature 60.0 -	15.0 - 45.0 % @Temperature 140 -	Average value: 26.3 % Grade Count:1

Mechanical Properties	150 °C Metric	302 °F English	Comments
Elongation at Yield	2.40 - 11.0 %	2.40 - 11.0 %	Average value: 5.03 % Grade Count:10
	10.0 - 16.0 % @Temperature 60.0 - 150 °C	10.0 - 16.0 % @Temperature 140 - 302 °F	Average value: 13.8 % Grade Count:1
Modulus of Elasticity	1.70 - 10.0 GPa	247 - 1450 ksi	Average value: 4.74 GPa Grade Count:75
	0.640 - 2.20 GPa @Temperature 60.0 - 150 °C	92.8 - 319 ksi @Temperature 140 - 302 °F	Average value: 1.21 GPa Grade Count:1
Flexural Yield Strength	58.6 - 207 MPa	8500 - 30000 psi	Average value: 130 MPa Grade Count:89
Flexural Modulus	2.48 - 10.3 GPa	360 - 1500 ksi	Average value: 4.62 GPa Grade Count:97
	1.25 - 3.05 GPa @Temperature 60.0 - 120 °C	181 - 442 ksi @Temperature 140 - 248 °F	Average value: 1.97 GPa Grade Count:1
Compressive Yield Strength	31.0 - 68.9 MPa	4500 - 10000 psi	Average value: 49.6 MPa Grade Count:8
Izod Impact, Notched	0.214 - 0.694 J/cm	0.400 - 1.30 ft-lb/in	Average value: 0.409 J/cm Grade Count:59
	0.350 - 0.350 J/cm @Temperature -40.0 - - 20.0 °C	0.656 - 0.656 ft-lb/in @Temperature -40.0 - - 4.00 °F	Average value: 0.350 J/cm Grade Count:1
Izod Impact, Unnotched	1.01 - 6.41 J/cm	1.90 - 12.0 ft-lb/in	Average value: 3.16 J/cm Grade Count:40
Izod Impact, Notched (ISO)	1.50 - 8.00 kJ/m ²	0.714 - 3.81 ft-lb/in ²	Average value: 4.30 kJ/m ² Grade Count:30
	2.00 - 7.00 kJ/m ² @Temperature -40.0 - - 20.0 °C	0.952 - 3.33 ft-lb/in ² @Temperature -40.0 - - 4.00 °F	Average value: 3.71 kJ/m ² Grade Count:5
Izod Impact, Unnotched (ISO)	20.0 - 55.0 kJ/m ²	9.52 - 26.2 ft-lb/in ²	Average value: 28.3 kJ/m ² Grade Count:11
	18.0 - 50.0 kJ/m ² @Temperature -30.0 - - 30.0 °C	8.57 - 23.8 ft-lb/in ² @Temperature -22.0 - - 22.0 °F	Average value: 31.0 kJ/m ² Grade Count:3
Charpy Impact Unnotched	1.00 - 6.00 J/cm ²	4.76 - 28.6 ft-lb/in ²	Average value: 3.37 J/cm ² Grade Count:31
	1.00 - 4.50 J/cm ²	4.76 - 21.4 ft-lb/in ²	Average value: 2.58 J/cm ² Grade

Mechanical Properties	Metric @Temperature -40.0 - - 20.0 °C	English @Temperature -40.0 - - 4.0 °F	Count:12 Comments
Charpy Impact, Notched	0.200 - 1.80 J/cm ²	0.952 - 8.57 ft-lb/in ²	Average value: 0.617 J/cm ² Grade Count:27
	0.0800 - 0.800 J/cm ² @Temperature -30.0 - - 20.0 °C	0.381 - 3.81 ft-lb/in ² @Temperature -22.0 - - 4.00 °F	Average value: 0.478 J/cm ² Grade Count:10

Thermal Properties	Metric	English	Comments
CTE, linear	6.00 - 73.8 µm/m-°C	3.33 - 41.0 µin/in-°F	Average value: 50.9 µm/m-°C Grade Count:41
CTE, linear, Transverse to Flow	30.0 - 86.0 µm/m-°C	16.7 - 47.8 µin/in-°F	Average value: 54.6 µm/m-°C Grade Count:8
Thermal Conductivity	0.250 - 0.389 W/m-K	1.74 - 2.70 BTU-in/hr- ft ² -°F	Average value: 0.316 W/m-K Grade Count:12
Melting Point	254 - 265 °C	489 - 509 °F	Average value: 258 °C Grade Count:43
Maximum Service Temperature, Air	80.0 - 180 °C	176 - 356 °F	Average value: 126 °C Grade Count:4
Deflection Temperature at 0.46 MPa (66 psi)	190 - 260 °C	374 - 500 °F	Average value: 230 °C Grade Count:56
Deflection Temperature at 1.8 MPa (264 psi)	61.0 - 250 °C	142 - 482 °F	Average value: 156 °C Grade Count:95
Vicat Softening Point	225 - 255 °C	437 - 491 °F	Average value: 241 °C Grade Count:25
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:72
Oxygen Index	26.0 - 33.0 %	26.0 - 33.0 %	Average value: 27.7 % Grade Count:6
Glow Wire Test	650 °C	1200 °F	Average value: 650 °C Grade Count:12

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+12 - 1.00e+17 ohm-cm	1.00e+12 - 1.00e+17 ohm-cm	Average value: 3.65e+15 ohm-cm Grade Count:61
Surface Resistance	1.00e+10 - 1.00e+15 ohm	1.00e+10 - 1.00e+15 ohm	Average value: 1.59e+14 ohm Grade Count:24
Dielectric Constant	3.60 - 6.00	3.60 - 6.00	Average value: 4.23 Grade Count:22
Dielectric Strength	15.0 - 80.0 kV/mm	380 - 2030 kV/in	Average value: 28.9 kV/mm Grade Count:46
Dissipation Factor	0.0100 - 0.0200	0.0100 - 0.0200	Average value: 0.0159 Grade Count:11
Dielectric Loss Index	0.0150 - 0.150	0.0150 - 0.150	Average value: 0.0825 Grade Count:8
Comparative Tracking Index	250 - 600 V	250 - 600 V	Average value: 470 V Grade Count:24

Electrical Properties	Metric	English	Comments
Processing Properties	Metric	English	Comments
Processing Temperature	270 - 300 °C	518 - 572 °F	Average value: 284 °C Grade Count:25
Nozzle Temperature	250 - 304 °C	482 - 580 °F	Average value: 277 °C Grade Count:9
Melt Temperature	241 - 310 °C	465 - 590 °F	Average value: 281 °C Grade Count:55

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