

Overview of materials for Nylon 66, 40% Carbon Fiber Filled

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, 40% Carbon Fiber Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Nylon 66, 40% Carbon Fiber Filled". Specific grades with carbon fiber content between 35% and 44% 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-66-40-Carbon-Fiber-Filled.php

Physical Properties	Metric	English	Comments
Density	1.27 - 1.46 g/cc	0.0459 - 0.0527 lb/in ³	Average value: 1.32 g/cc Grade Count:15
Filler Content	35.0 - 40.0 %	35.0 - 40.0 %	Average value: 39.3 % Grade Count:7
Water Absorption	0.400 - 2.40 %	0.400 - 2.40 %	Average value: 0.871 % Grade Count:7
Linear Mold Shrinkage	0.000500 - 0.0150 cm/cm	0.000500 - 0.0150 in/in	Average value: 0.00314 cm/cm Grade Count:10

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	200 - 331 MPa	29000 - 48000 psi	Average value: 264 MPa Grade Count:14
	105 - 170 MPa @Temperature 60.0 - 150 °C	15200 - 24700 psi @Temperature 140 - 302 °F	Average value: 136 MPa Grade Count:1
Elongation at Break	1.00 - 3.00 %	1.00 - 3.00 %	Average value: 1.72 % Grade Count:14
	1.80 - 3.20 % @Temperature 60.0 - 150 °C	1.80 - 3.20 % @Temperature 140 - 302 °F	Average value: 2.67 % Grade Count:1
Modulus of Elasticity	17.5 - 42.7 GPa	2540 - 6200 ksi	Average value: 28.6 GPa Grade Count:13
	8.20 - 23.0 GPa @Temperature 60.0 - 150 °C	1190 - 3340 ksi @Temperature 140 - 302 °F	Average value: 14.6 GPa Grade Count:1
Flexural Yield Strength	303 - 483 MPa	44000 - 70100 psi	Average value: 402 MPa Grade Count:13
Flexural Modulus	14.8 - 33.1 GPa	2150 - 4800 ksi	Average value: 22.9 GPa Grade Count:12

Mechanical Properties	Metric 3.10 J/cm	English 81 ft-lb/in	Comments Average value: 1.78 J/cm Grade Count:1
Izod Impact, Unnotched	6.94 - 11.7 J/cm	13.0 - 22.0 ft-lb/in	Average value: 10.5 J/cm Grade Count:8
Charpy Impact Unnotched	1.80 - 9.50 J/cm ²	8.57 - 45.2 ft-lb/in ²	Average value: 4.38 J/cm ² Grade Count:4
	3.00 - 8.00 J/cm ² @Temperature -40.0 - - 20.0 °C	14.3 - 38.1 ft-lb/in ² @Temperature -40.0 - - 4.00 °F	Average value: 4.67 J/cm ² Grade Count:3
Charpy Impact, Notched	0.500 - 1.30 J/cm ²	2.38 - 6.19 ft-lb/in ²	Average value: 0.810 J/cm ² Grade Count:4
	0.700 - 1.20 J/cm ² @Temperature -30.0 - - 20.0 °C	3.33 - 5.71 ft-lb/in ² @Temperature -22.0 - - 4.00 °F	Average value: 0.950 J/cm ² Grade Count:2

Thermal Properties	Metric	English	Comments
CTE, linear	14.4 - 16.2 µm/m-°C	8.00 - 9.00 µin/in-°F	Average value: 14.8 µm/m-°C Grade Count:4
Melting Point	221 - 260 °C	430 - 500 °F	Average value: 246 °C Grade Count:3
Maximum Service Temperature, Air	130 - 140 °C	266 - 284 °F	Average value: 133 °C Grade Count:3
Deflection Temperature at 0.46 MPa (66 psi)	240 - 260 °C	464 - 500 °F	Average value: 255 °C Grade Count:6
Deflection Temperature at 1.8 MPa (264 psi)	230 - 260 °C	446 - 500 °F	Average value: 250 °C Grade Count:14
Flammability, UL94	HB	HB	Grade Count:4

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00 ohm-cm - 1e+05	1.00 ohm-cm - 1e+05	Average value: 118 ohm-cm Grade Count:9
Surface Resistance	10.0 - 100 ohm	10.0 - 100 ohm	Average value: 70.0 ohm Grade Count:3

Processing Properties	Metric	English	Comments
Processing Temperature	274 - 293 °C	525 - 560 °F	Average value: 284 °C Grade Count:3
Nozzle Temperature	271 - 304 °C	520 - 580 °F	Average value: 288 °C Grade Count:3
Melt Temperature	260 - 310 °C	500 - 590 °F	Average value: 288 °C Grade Count:6
Mold Temperature	65.6 - 107 °C	150 - 225 °F	Average value: 87.4 °C Grade Count:9
Drying Temperature	79.4 - 100 °C	175 - 212 °F	Average value: 84.9 °C Grade Count:6

Processing Properties	Metric 0.200 %	English 0.200 %	Comments
Injection Pressure	68.9 - 124 MPa	10000 - 18000 psi	Average value: 96.8 MPa Grade Count:6

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