

Overview of materials for Nylon 66, Aramid Fiber Filled

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, Aramid Fiber Filled

Material Notes:

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

Physical Properties	Metric	English	Comments
Density	1.14 - 1.39 g/cc	0.0412 - 0.0502 lb/in ³	Average value: 1.22 g/cc Grade Count:51
Filler Content	5.00 - 25.0 %	5.00 - 25.0 %	Average value: 15.0 % Grade Count:8
Water Absorption	0.500 - 6.80 %	0.500 - 6.80 %	Average value: 1.12 % Grade Count:26
Additive Loading	10.0 - 15.0 %	10.0 - 15.0 %	Average value: 11.4 % Grade Count:7
Linear Mold Shrinkage	0.00100 - 0.0300 cm/cm	0.00100 - 0.0300 in/in	Average value: 0.0118 cm/cm Grade Count:49
Linear Mold Shrinkage, Transverse	0.00500 - 0.0240 cm/cm	0.00500 - 0.0240 in/in	Average value: 0.0171 cm/cm Grade Count:8

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	100 - 120	100 - 120	Average value: 113 Grade Count:8
Tensile Strength, Ultimate	48.3 - 138 MPa	7000 - 20000 psi	Average value: 88.2 MPa Grade Count:45
Tensile Strength, Yield	81.4 - 110 MPa	11800 - 16000 psi	Average value: 94.0 MPa Grade Count:7
Elongation at Break	1.60 - 10.0 %	1.60 - 10.0 %	Average value: 5.59 % Grade Count:42
Elongation at Yield	3.50 - 8.40 %	3.50 - 8.40 %	Average value: 5.77 % Grade Count:10
Modulus of Elasticity	2.41 - 11.0 GPa	350 - 1600 ksi	Average value: 4.79 GPa Grade Count:42
Flexural Yield Strength	75.8 - 207 MPa	11000 - 30000 psi	Average value: 130 MPa Grade Count:47
Flexural Modulus	0.621 - 8.27 GPa	90.0 - 1200 ksi	Average value: 3.90 GPa Grade Count:47
Izod Impact, Notched	0.320 - 1.44 J/cm	0.599 - 2.70 ft-lb/in	Average value: 0.597 J/cm Grade Count:37

Izod Impact Unnotched Mechanical Properties	2.14 - 11.2 J/cm Metric	4.00 - 21.0 ft-lb/in English	Average value: 5.46 J/cm Grade Count:5
Izod Impact, Notched (ISO)	4.00 - 5.80 kJ/m ²	1.90 - 2.76 ft-lb/in ²	Average value: 4.96 kJ/m ² Grade Count:5
Izod Impact, Unnotched (ISO)	35.0 - 48.6 kJ/m ²	16.7 - 23.1 ft-lb/in ²	Average value: 39.4 kJ/m ² Grade Count:4
Charpy Impact Unnotched	2.00 - 6.50 J/cm ²	9.52 - 30.9 ft-lb/in ²	Average value: 4.05 J/cm ² Grade Count:12
Charpy Impact, Notched	0.200 - 1.50 J/cm ²	0.952 - 7.14 ft-lb/in ²	Average value: 0.533 J/cm ² Grade Count:11
Coefficient of Friction	0.130 - 0.550	0.130 - 0.550	Average value: 0.244 Grade Count:10
Coefficient of Friction, Static	0.110 - 0.570	0.110 - 0.570	Average value: 0.273 Grade Count:12
K (wear) Factor	7.50 - 46.3 x 10 ⁻⁸ mm ³ /N-M	3.72 - 23.0 x 10 ⁻¹⁰ in ³ - min/ft-lb-hr	Average value: 27.7 x 10 ⁻⁸ mm ³ /N-M Grade Count:5

Thermal Properties	Metric	English	Comments
CTE, linear	28.8 - 67.0 μm/m-°C	16.0 - 37.2 μin/in-°F	Average value: 54.8 μm/m-°C Grade Count:10
CTE, linear, Transverse to Flow	75.0 - 97.0 μm/m-°C	41.7 - 53.9 μin/in-°F	Average value: 89.7 μm/m-°C Grade Count:3
Melting Point	255 - 265 °C	491 - 509 °F	Average value: 259 °C Grade Count:7
Maximum Service Temperature, Air	90.0 - 160 °C	194 - 320 °F	Average value: 134 °C Grade Count:10
Deflection Temperature at 0.46 MPa (66 psi)	232 - 255 °C	450 - 491 °F	Average value: 241 °C Grade Count:19
Deflection Temperature at 1.8 MPa (264 psi)	70.0 - 246 °C	158 - 475 °F	Average value: 171 °C Grade Count:44
Vicat Softening Point	240 - 260 °C	464 - 500 °F	Average value: 254 °C Grade Count:9
Flammability, UL94	HB	HB	Grade Count:25

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1e+05 - 1.00e+17 ohm- cm	1e+05 - 1.00e+17 ohm- cm	Average value: 5.92e+15 ohm-cm Grade Count:23
Surface Resistance	1.00e+13 - 1.00e+15 ohm	1.00e+13 - 1.00e+15 ohm	Average value: 1.08e+14 ohm Grade Count:11
Insulation Resistance	1.00e+12 ohm	1.00e+12 ohm	Average value: 1.00e+12 ohm Grade Count:9
Dielectric Strength	17.7 - 23.0 kV/mm	450 - 584 kV/in	Average value: 19.2 kV/mm Grade Count:5

Processing Properties	Metric	English	Comments
Processing Temperature	80.0 - 300 °C	176 - 572 °F	Average value: 277 °C Grade Count:21
Nozzle Temperature	280 - 300 °C	536 - 572 °F	Average value: 290 °C Grade Count:9
Melt Temperature	70.0 - 315 °C	158 - 599 °F	Average value: 290 °C Grade Count:33
Mold Temperature	60.0 - 120 °C	140 - 248 °F	Average value: 90.6 °C Grade Count:43
Drying Temperature	70.0 - 105 °C	158 - 221 °F	Average value: 84.8 °C Grade Count:34
Moisture Content	0.150 - 0.250 %	0.150 - 0.250 %	Average value: 0.199 % Grade Count:23
Dew Point	-17.8 °C	0.000 °F	Average value: -17.8 °C Grade Count:14
Injection Pressure	68.9 - 124 MPa	10000 - 18000 psi	Average value: 100 MPa Grade Count:24

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