

Overview of materials for Nylon, Flexible Alloy

Category : Polymer , Thermoplastic , Nylon , Nylon, Flexible Alloy

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Nylon, Flexible Alloy". 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-Flexible-Alloy.php

Physical Properties	Metric	English	Comments
Density	1.01 - 1.14 g/cc	0.0365 - 0.0412 lb/in ³	Average value: 1.06 g/cc Grade Count:20
Water Absorption	1.60 - 6.40 %	1.60 - 6.40 %	Average value: 5.62 % Grade Count:18
Moisture Absorption at Equilibrium	1.10 - 2.70 %	1.10 - 2.70 %	Average value: 1.73 % Grade Count:17
Melt Flow	0.300 - 7.00 g/10 min	0.300 - 7.00 g/10 min	Average value: 2.70 g/10 min Grade Count:20

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	20.0 - 79.3 MPa	2900 - 11500 psi	Average value: 35.6 MPa Grade Count:21
	21.3737 - 125.485 MPa @Temperature -40.0 - 121 °C	3100.01 - 18200.0 psi @Temperature -40.0 - 250 °F	Average value: 73.4 MPa Grade Count:1
Elongation at Break	15.0 - 70.0 %	15.0 - 70.0 %	Average value: 48.4 % Grade Count:24
	8.00 - 8.00 % @Temperature -40.0 - 121 °C	8.00 - 8.00 % @Temperature -40.0 - 250 °F	Average value: 154 % Grade Count:1
Elongation at Yield	4.00 - 10.0 %	4.00 - 10.0 %	Average value: 6.68 % Grade Count:18
Modulus of Elasticity	0.200 - 2.20 GPa	29.0 - 319 ksi	Average value: 1.02 GPa Grade Count:20
Charpy Impact, Notched	1.25 J/cm ² - NB	5.95 ft-lb/in ² - NB	Average value: 4.72 J/cm ² Grade Count:3
	0.900 - 2.20 J/cm ² @Temperature -30.0 - - 30.0 °C	4.28 - 10.5 ft-lb/in ² @Temperature -22.0 - - 22.0 °F	Average value: 1.38 J/cm ² Grade Count:3
Tensile Creep Modulus, 1 hour	420 - 1520 MPa	60900 - 220000 psi	Average value: 938 MPa Grade Count:11

Mechanical Properties	Metric	English	Comments
Tensile Creep Modulus, 1000 hours	110 - 690 MPa	5000 - 100000 psi	Average value: 464 MPa Grade Count:11

Thermal Properties	Metric	English	Comments
CTE, linear	60.0 - 170 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	33.3 - 94.4 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	Average value: 104 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ Grade Count:3
Melting Point	216 - 220 $^{\circ}\text{C}$	420 - 428 $^{\circ}\text{F}$	Average value: 220 $^{\circ}\text{C}$ Grade Count:24
Deflection Temperature at 0.46 MPa (66 psi)	47.0 - 204 $^{\circ}\text{C}$	117 - 399 $^{\circ}\text{F}$	Average value: 156 $^{\circ}\text{C}$ Grade Count:4
Vicat Softening Point	97.0 - 99.0 $^{\circ}\text{C}$	207 - 210 $^{\circ}\text{F}$	Average value: 97.3 $^{\circ}\text{C}$ Grade Count:6
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:23

Electrical Properties	Metric	English	Comments
Electrical Resistivity	7.40e+13 - 2.00e+14 ohm-cm	7.40e+13 - 2.00e+14 ohm-cm	Average value: 1.00e+14 ohm-cm Grade Count:5
Surface Resistance	1.30e+13 - 1.00e+15 ohm	1.30e+13 - 1.00e+15 ohm	Average value: 8.03e+14 ohm Grade Count:5
Dielectric Constant	3.10 - 4.80	3.10 - 4.80	Average value: 3.79 Grade Count:5
Dielectric Strength	34.0 - 39.0 kV/mm	864 - 991 kV/in	Average value: 36.2 kV/mm Grade Count:5
Dissipation Factor	0.00600 - 0.130	0.00600 - 0.130	Average value: 0.0789 Grade Count:5
Comparative Tracking Index	600 V	600 V	Average value: 600 V Grade Count:23

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