Overview of materials for Nylon 66, 40% Mineral Filled

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, 40% Mineral Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Nylon 66, 40% Mineral Filled". Specific grades with primary filler 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-Mineral-Filled.php

Physical Properties	Metric	English	Comments
Density	1.41 - 1.67 g/cc	0.0509 - 0.0603 lb/in³	Average value: 1.50 g/cc Grade Count:104
	1.27 - 1.28 g/cc @Temperature 295 - 295 °C	0.0459 - 0.0462 lb/in³ @Temperature 563 - 563 °F	Average value: 1.27 g/cc Grade Count:2
Filler Content	40.0 %	40.0 %	Average value: 40.0 % Grade Count:20
Water Absorption	0.0700 - 6.20 %	0.0700 - 6.20 %	Average value: 2.19 % Grade Count:54
Moisture Absorption at Equilibrium	0.0900 - 2.00 %	0.0900 - 2.00 %	Average value: 1.49 % Grade Count:30
Water Absorption at Saturation	5.00 - 7.00 %	5.00 - 7.00 %	Average value: 5.26 % Grade Count:5
Linear Mold Shrinkage	0.00200 - 0.0170 cm/cm	0.00200 - 0.0170 in/in	Average value: 0.00930 cm/cm Grade Count:90
Linear Mold Shrinkage, Transverse	0.00600 - 0.0200 cm/cm	0.00600 - 0.0200 in/in	Average value: 0.0109 cm/cm Grade Count:33
Melt Flow	1.00 - 5.00 g/10 min	1.00 - 5.00 g/10 min	Average value: 3.00 g/10 min Grade Count:5

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	60.0 - 97.0	60.0 - 97.0	Average value: 89.5 Grade Count:9
Hardness, Rockwell R	105 - 122	105 - 122	Average value: 120 Grade Count:21
Tensile Strength, Ultimate	47.0 - 105 MPa	6820 - 15200 psi	Average value: 80.2 MPa Grade Count:72
	20.0 - 65.0 MPa @Temperature 60.0 - 150 °C	2900 - 9430 psi @Temperature 140 - 302 °F	Average value: 45.8 MPa Grade Count:4

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	67.0 - 128 MPa	9720 - 18500 psi	Average value: 90.0 MPa Grade Count:39
Elongation at Break	1.00 - 75.0 %	1.00 - 75.0 %	Average value: 8.38 % Grade Count:86
	2.50 - 25.0 % @Temperature 60.0 - 190 °C	2.50 - 25.0 % @Temperature 140 - 374 °F	Average value: 12.4 % Grade Count:1
Elongation at Yield	1.50 - 35.0 %	1.50 - 35.0 %	Average value: 7.49 % Grade Count:17
	6.00 - 10.0 % @Temperature 90.0 - 150 °C	6.00 - 10.0 % @Temperature 194 - 302 °F	Average value: 8.67 % Grade Count:1
Modulus of Elasticity	0.400 - 10.0 GPa	58.0 - 1450 ksi	Average value: 6.07 GPa Grade Count:53
	1.60 - 7.30 GPa @Temperature 60.0 - 150 °C	232 - 1060 ksi @Temperature 140 - 302 °F	Average value: 3.70 GPa Grade Count:1
Flexural Yield Strength	13.8 - 193 MPa	2000 - 28000 psi	Average value: 130 MPa Grade Count:68
Flexural Modulus	1.80 - 10.3 GPa	261 - 1500 ksi	Average value: 6.16 GPa Grade Count:86
	1.10 - 5.20 GPa @Temperature 60.0 - 120 °C	160 - 754 ksi @Temperature 140 - 248 °F	Average value: 2.43 GPa Grade Count:4
Poissons Ratio	0.350 - 0.400	0.350 - 0.400	Average value: 0.383 Grade Count:3
Shear Modulus	1.81 - 2.56 GPa	262 - 371 ksi	Average value: 2.20 GPa Grade Count:5
	>= 0.0210 GPa @Temperature -50.0 - 250 °C	>= 3.05 ksi @Temperature -58.0 - 482 °F	Average value: 1.00 GPa Grade Count:4
Izod Impact, Notched	0.250 - 1.30 J/cm	0.468 - 2.44 ft-lb/in	Average value: 0.478 J/cm Grade Count:50
	0.250 - 0.300 J/cm @Temperature -40.0 - -20.0 °C	0.468 - 0.562 ft-lb/in @Temperature -40.0 - -4.00 °F	Average value: 0.275 J/cm Grade Count:1
Izod Impact, Unnotched	0.374 - 7.47 J/cm	0.700 - 14.0 ft-lb/in	Average value: 3.28 J/cm Grade Count:13
Izod Impact, Notched (ISO)	1.60 - 16.0 kJ/m²	0.761 - 7.61 ft-lb/in²	Average value: 6.02 kJ/m² Grade Count:33
	0.700 - 7.00 kJ/m² @Temperature -40.0 - -	0.333 - 3.33 ft-lb/in² @Temperature -40.0 - -	Average value: 4.58 kJ/m² Grade

Mechanical Properties	Metric	English	Comments
	30.0 °C	22.0 °F	Count:12
Izod Impact, Unnotched (ISO)	25.0 - 330 kJ/m²	11.9 - 157 ft-lb/in²	Average value: 141 kJ/m² Grade Count:6
	18.0 - 100 kJ/m² @Temperature -30.0 - -30.0 °C	8.57 - 47.6 ft-lb/in² @Temperature -22.0 - -22.0 °F	Average value: 67.0 kJ/m² Grade Count:4
Charpy Impact Unnotched	1.50 J/cm² - NB	7.14 ft-lb/in² - NB	Average value: 7.98 J/cm² Grade Count:42
	1.10 - 13.0 J/cm² @Temperature -40.0 - 30.0 °C	5.24 - 61.9 ft-lb/in² @Temperature -40.0 - 86.0 °F	Average value: 4.94 J/cm² Grade Count:33
Charpy Impact, Notched	0.200 - 1.70 J/cm²	0.952 - 8.09 ft-lb/in²	Average value: 0.635 J/cm² Grade Count:40
	0.150 - 0.800 J/cm² @Temperature -40.0 - 30.0 °C	0.714 - 3.81 ft-lb/in² @Temperature -40.0 - 86.0 °F	Average value: 0.357 J/cm² Grade Count:32
Tensile Creep Modulus, 1 hour	2100 - 8500 MPa	305000 - 1.23e+6 psi	Average value: 4550 MPa Grade Count:6
Tensile Creep Modulus, 1000 hours	1300 - 2100 MPa	189000 - 305000 psi	Average value: 1600 MPa Grade Count:4

Thermal Properties	Metric	English	Comments
CTE, linear	6.00 - 85.0 µm/m-°C	3.33 - 47.2 µin/in-°F	Average value: 46.2 µm/m-°C Grade Count:33
CTE, linear, Transverse to Flow	6.30 - 90.0 µm/m-°C	3.50 - 50.0 µin/in-°F	Average value: 61.0 µm/m-°C Grade Count:16
Melting Point	221 - 325 °C	430 - 617 °F	Average value: 259 °C Grade Count:65
Maximum Service Temperature, Air	80.0 - 250 °C	176 - 482 °F	Average value: 140 °C Grade Count:6
Deflection Temperature at 0.46 MPa (66 psi)	124 - 260 °C	255 - 500 °F	Average value: 231 °C Grade Count:54
Deflection Temperature at 1.8 MPa (264 psi)	80.0 - 254 °C	176 - 490 °F	Average value: 169 °C Grade Count:95
Vicat Softening Point	200 - 265 °C	392 - 509 °F	Average value: 238 °C Grade Count:20
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:53
Oxygen Index	23.0 - 46.5 %	23.0 - 46.5 %	Average value: 28.0 % Grade Count:11

Electrical Properties	Metric	English	Comments
	1.00e+11 - 1.00e+17	1.00e+11 - 1.00e+17	Average value: 7.97e+15 ohm-cm

Electrical Properties	Metric	English	Comments
Electrical Resistivity	ohm-cm	ohm-cm	Grade Count:40
Surface Resistance	1.00e+10 - 1.00e+15 ohm	1.00e+10 - 1.00e+15 ohm	Average value: 1.79e+14 ohm Grade Count:19
Dielectric Constant	3.20 - 12.6	3.20 - 12.6	Average value: 5.15 Grade Count:16
Dielectric Strength	15.0 - 85.0 kV/mm	380 - 2160 kV/in	Average value: 29.9 kV/mm Grade Count:39
Dissipation Factor	0.00200 - 0.440	0.00200 - 0.440	Average value: 0.0746 Grade Count:13
Comparative Tracking Index	300 - 600 V	300 - 600 V	Average value: 524 V Grade Count:28

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