

## Overview of materials for Nylon 6, Nucleated

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6, Nucleated

### Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Nylon 6, Nucleated". 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-6-Nucleated.php](http://www.lookpolymers.com/polymer_Overview-of-materials-for-Nylon-6-Nucleated.php)

Physical Properties	Metric	English	Comments
Density	1.10 - 1.14 g/cc	0.0397 - 0.0412 lb/in <sup>3</sup>	Average value: 1.13 g/cc Grade Count:28
Water Absorption	1.50 - 8.00 %	1.50 - 8.00 %	Average value: 2.35 % Grade Count:23
Moisture Absorption at Equilibrium	0.250 - 2.60 %	0.250 - 2.60 %	Average value: 1.65 % Grade Count:3
Linear Mold Shrinkage	0.00130 - 0.0190 cm/cm	0.00130 - 0.0190 in/in	Average value: 0.0117 cm/cm Grade Count:23

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	100 - 120	100 - 120	Average value: 115 Grade Count:14
Tensile Strength, Ultimate	65.0 - 86.0 MPa	9430 - 12500 psi	Average value: 80.4 MPa Grade Count:7
Tensile Strength, Yield	43.4 - 90.3 MPa	6300 - 13100 psi	Average value: 75.3 MPa Grade Count:22
Elongation at Break	15.0 - 240 %	15.0 - 240 %	Average value: 70.9 % Grade Count:27
Elongation at Yield	2.50 - 5.00 %	2.50 - 5.00 %	Average value: 4.00 % Grade Count:5
Modulus of Elasticity	1.30 - 3.50 GPa	189 - 508 ksi	Average value: 2.72 GPa Grade Count:5
Flexural Yield Strength	9.65 - 124 MPa	1400 - 18000 psi	Average value: 95.2 MPa Grade Count:23
	30.0 - 30.0 MPa @Temperature 90.0 - 90.0 °C	4350 - 4350 psi @Temperature 194 - 194 °F	Average value: 30.0 MPa Grade Count:1
Flexural Modulus	0.945 - 3.10 GPa	137 - 450 ksi	Average value: 2.55 GPa Grade Count:25
	0.600 - 0.600 GPa @Temperature 90.0 - 90.0 °C	87.0 - 87.0 ksi @Temperature 194 - 194 °F	Average value: 0.600 GPa Grade Count:1

Mechanical Properties	Metric	English	Comments
Izod Impact, Notched	0.400 - 6.41 J/cm	0.749 - 12.0 ft-lb/in	Average value: 1.15 J/cm Grade Count:22
	3.2034 - 4.53815 J/cm @Temperature -40.0 - - 20.0 °C	6.0013 - 8.50182 ft-lb/in @Temperature -40.0 - - 4.00 °F	Average value: 3.87 J/cm Grade Count:2
	3.2034 - 4.53815 J/cm @Thickness 3.17 - 3.17 mm	6.0013 - 8.50182 ft-lb/in @Thickness 0.125 - 0.125 in	Average value: 3.87 J/cm Grade Count:2
Izod Impact, Notched (ISO)	3.00 - 100000 kJ/m <sup>2</sup>	1.43 - 47600 ft-lb/in <sup>2</sup>	Average value: 4.20 kJ/m <sup>2</sup> Grade Count:5
	3.00 - 4.00 kJ/m <sup>2</sup> @Temperature -40.0 - - 20.0 °C	1.43 - 1.90 ft-lb/in <sup>2</sup> @Temperature -40.0 - - 4.00 °F	Average value: 3.50 kJ/m <sup>2</sup> Grade Count:2
Charpy Impact Unnotched	27.0 J/cm <sup>2</sup> - NB	128 ft-lb/in <sup>2</sup> - NB	Average value: 27.0 J/cm <sup>2</sup> Grade Count:4
	>= 10.0 J/cm <sup>2</sup> @Temperature -30.0 - - 30.0 °C	>= 47.6 ft-lb/in <sup>2</sup> @Temperature -22.0 - - 22.0 °F	Average value: 17.5 J/cm <sup>2</sup> Grade Count:2
Charpy Impact, Notched	0.500 J/cm <sup>2</sup> - NB	2.38 ft-lb/in <sup>2</sup> - NB	Average value: 0.725 J/cm <sup>2</sup> Grade Count:5
	0.300 - 0.400 J/cm <sup>2</sup> @Temperature -30.0 - - 30.0 °C	1.43 - 1.90 ft-lb/in <sup>2</sup> @Temperature -22.0 - - 22.0 °F	Average value: 0.350 J/cm <sup>2</sup> Grade Count:2

Thermal Properties	Metric	English	Comments
CTE, linear	61.2 - 108 µm/m-°C	34.0 - 60.0 µin/in-°F	Average value: 84.7 µm/m-°C Grade Count:13
Melting Point	215 - 221 °C	419 - 430 °F	Average value: 218 °C Grade Count:8
Deflection Temperature at 0.46 MPa (66 psi)	160 - 191 °C	320 - 375 °F	Average value: 178 °C Grade Count:16
Deflection Temperature at 1.8 MPa (264 psi)	50.0 - 93.3 °C	122 - 200 °F	Average value: 68.4 °C Grade Count:24
Vicat Softening Point	196 - 215 °C	385 - 419 °F	Average value: 203 °C Grade Count:5
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:17
Oxygen Index	23.0 - 25.0 %	23.0 - 25.0 %	Average value: 24.0 % Grade Count:3

Electrical Properties	Metric	English	Comments
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Electrical Properties	Metric 1.00e+13 - 1.00e+16 ohm-cm	English 1.00e+13 - 1.00e+16 ohm-cm	Comments Average value: 1.08e+15 ohm-cm Grade Count:13
Dielectric Strength	14.2 - 30.0 kV/mm	360 - 762 kV/in	Average value: 18.5 kV/mm Grade Count:14
Comparative Tracking Index	550 - 600 V	550 - 600 V	Average value: 593 V Grade Count:5

Processing Properties	Metric	English	Comments
Processing Temperature	230 - 295 °C	446 - 563 °F	Average value: 265 °C Grade Count:4
Nozzle Temperature	227 - 293 °C	440 - 560 °F	Average value: 254 °C Grade Count:5
Melt Temperature	216 - 293 °C	420 - 560 °F	Average value: 247 °C Grade Count:9
Mold Temperature	21.1 - 120 °C	70.0 - 248 °F	Average value: 73.5 °C Grade Count:8
Drying Temperature	73.9 - 85.0 °C	165 - 185 °F	Average value: 78.6 °C Grade Count:9
Moisture Content	0.0500 - 0.200 %	0.0500 - 0.200 %	Average value: 0.177 % Grade Count:4
Injection Pressure	34.5 - 172 MPa	5000 - 25000 psi	Average value: 99.6 MPa Grade Count:3

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