

Overview of materials for Nylon 6, Cast

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6, Cast

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Nylon 6, Cast". 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-Cast.php

Physical Properties	Metric	English	Comments
Density	0.679 - 1.17 g/cc	0.0245 - 0.0423 lb/in ³	Average value: 1.14 g/cc Grade Count:63
Water Absorption	0.300 - 7.00 %	0.300 - 7.00 %	Average value: 1.37 % Grade Count:28
Moisture Absorption at Equilibrium	1.00 - 3.00 %	1.00 - 3.00 %	Average value: 2.05 % Grade Count:33
Water Absorption at Saturation	2.50 - 7.00 %	2.50 - 7.00 %	Average value: 5.75 % Grade Count:48

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	80.0 - 88.0	80.0 - 88.0	Average value: 84.9 Grade Count:16
Hardness, Rockwell R	100 - 120	100 - 120	Average value: 113 Grade Count:22
Hardness, Shore D	74.0 - 85.0	74.0 - 85.0	Average value: 80.2 Grade Count:28
Ball Indentation Hardness	70.0 - 175 MPa	10200 - 25400 psi	Average value: 140 MPa Grade Count:35
Tensile Strength, Ultimate	43.1 - 90.0 MPa	6250 - 13100 psi	Average value: 75.5 MPa Grade Count:38
Tensile Strength, Yield	40.0 - 100 MPa	5800 - 14500 psi	Average value: 70.8 MPa Grade Count:27
Elongation at Break	2.30 - 120 %	2.30 - 120 %	Average value: 36.4 % Grade Count:49
Elongation at Yield	5.00 %	5.00 %	Average value: 5.00 % Grade Count:5
Creep Strength	6.00 - 24.0 MPa	870 - 3480 psi	Average value: 15.6 MPa Grade Count:15
Modulus of Elasticity	1.30 - 4.20 GPa	189 - 609 ksi	Average value: 2.96 GPa Grade Count:64
	0.400 - 0.800 GPa @Temperature 100 - 100 °C	58.0 - 116 ksi @Temperature 212 - 212 °F	Average value: 0.600 GPa Grade Count:2

Mechanical Properties	Metric	English	Comments
Flexural Modulus	1.30 - 3.70 GPa	189 - 537 ksi	Average value: 2.81 GPa Grade Count:45
Compressive Yield Strength	6.00 - 162 MPa	870 - 23500 psi	Average value: 66.0 MPa Grade Count:42
Compressive Modulus	1.52 - 2.76 GPa	220 - 400 ksi	Average value: 2.28 GPa Grade Count:20
Shear Strength	44.8 - 75.8 MPa	6500 - 11000 psi	Average value: 66.3 MPa Grade Count:15
Izod Impact, Notched	0.160 - 0.961 J/cm	0.300 - 1.80 ft-lb/in	Average value: 0.484 J/cm Grade Count:22
Izod Impact, Notched (ISO)	2.50 - 100000 kJ/m ²	1.19 - 47600 ft-lb/in ²	Average value: 11.1 kJ/m ² Grade Count:19
Charpy Impact Unnotched	5.00 J/cm ² - NB	23.8 ft-lb/in ² - NB	Average value: 5.63 J/cm ² Grade Count:18
Charpy Impact, Notched	0.300 - 10.0 J/cm ²	1.43 - 47.6 ft-lb/in ²	Average value: 1.24 J/cm ² Grade Count:20
Tensile Impact Strength	72.0 kJ/m ²	34.3 ft-lb/in ²	Average value: 72.0 kJ/m ² Grade Count:3
Coefficient of Friction	0.0400 - 0.600	0.0400 - 0.600	Average value: 0.233 Grade Count:49
Coefficient of Friction, Static	0.200 - 0.350	0.200 - 0.350	Average value: 0.240 Grade Count:5
Tear Strength Test	0.150 - 1.80	0.150 - 1.80	Average value: 0.375 Grade Count:14
K Factor (Wear Factor)	4.00e-11 - 1.00e-10	4.00e-11 - 1.00e-10	Average value: 7.67e-11 Grade Count:12
K (wear) Factor	8.06 - 500 x 10 ⁻⁸ mm ³ /N-M	4.00 - 248 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr	Average value: 203 x 10 ⁻⁸ mm ³ /N-M Grade Count:12
Limiting Pressure Velocity	0.0800 - 1.33 MPa-m/sec	2280 - 38000 psi-ft/min	Average value: 0.412 MPa-m/sec Grade Count:12

Thermal Properties	Metric	English	Comments
CTE, linear	63.0 - 180 μm/m-°C	35.0 - 100 μin/in-°F	Average value: 81.9 μm/m-°C Grade Count:62
Specific Heat Capacity	1.67 - 1.67 J/g-°C	0.399 - 0.400 BTU/lb-°F	Average value: 1.67 J/g-°C Grade Count:17
Thermal Conductivity	0.0259 - 0.342 W/m-K	0.180 - 2.37 BTU-in/hr-ft ² -°F	Average value: 0.260 W/m-K Grade Count:41
Melting Point	190 - 238 °C	374 - 460 °F	Average value: 219 °C Grade Count:60
Maximum Service Temperature, Air	60.0 - 180 °C	140 - 356 °F	Average value: 131 °C Grade Count:61
Deflection Temperature at 0.46 MPa	160 - 221 °C	320 - 430 °F	

(55 psi) Thermal Properties	Metric	English	Average value: 203 °C Grade Count:30 Comments
Deflection Temperature at 1.8 MPa (264 psi)	75.0 - 204 °C	167 - 399 °F	Average value: 117 °C Grade Count:45
Minimum Service Temperature, Air	-100 - -20.0 °C	-148 - -4.00 °F	Average value: -45.1 °C Grade Count:34
Glass Transition Temp, Tg	5.00 - 50.0 °C	41.0 - 122 °F	Average value: 39.2 °C Grade Count:5
Flammability, UL94	HB - V-2	HB - V-2	Grade Count:32
Oxygen Index	25.0 %	25.0 %	Average value: 25.0 % Grade Count:6

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+12 - 1.00e+15 ohm-cm	1.00e+12 - 1.00e+15 ohm-cm	Average value: 3.61e+14 ohm-cm Grade Count:39
Surface Resistance	1.00e+10 - 1.00e+13 ohm	1.00e+10 - 1.00e+13 ohm	Average value: 4.31e+12 ohm Grade Count:35
Dielectric Constant	3.10 - 12.0	3.10 - 12.0	Average value: 3.94 Grade Count:51
Dielectric Strength	15.0 - 100 kV/mm	381 - 2540 kV/in	Average value: 27.8 kV/mm Grade Count:48
Dissipation Factor	0.00200 - 0.150	0.00200 - 0.150	Average value: 0.0239 Grade Count:16
Dielectric Loss Index	0.0120 - 0.140	0.0120 - 0.140	Average value: 0.0318 Grade Count:17
Comparative Tracking Index	600 V	600 V	Average value: 600 V Grade Count:12

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China