

Overview of materials for Nylon 46, Flame Retarded + Glass Fiber Reinforced

Category : Polymer , Thermoplastic , Nylon , Nylon 46 , Nylon 46, Flame Retarded + Glass Fiber Reinforced

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Nylon 46, Flame Retarded + Glass Fiber Reinforced". 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-46-Flame-Retarded-Glass-Fiber-Reinforced.php

Physical Properties	Metric	English	Comments
Density	1.47 - 1.87 g/cc	0.0531 - 0.0676 lb/in ³	Average value: 1.68 g/cc Grade Count:22
Filler Content	10.0 - 40.0 %	10.0 - 40.0 %	Average value: 25.0 % Grade Count:4
Water Absorption	0.850 - 2.00 %	0.850 - 2.00 %	Average value: 1.14 % Grade Count:9
Moisture Absorption at Equilibrium	1.10 - 2.10 %	1.10 - 2.10 %	Average value: 1.50 % Grade Count:10
Linear Mold Shrinkage	0.00250 - 0.0100 cm/cm	0.00250 - 0.0100 in/in	Average value: 0.00541 cm/cm Grade Count:13
Linear Mold Shrinkage, Transverse	0.00900 - 0.0170 cm/cm	0.00900 - 0.0170 in/in	Average value: 0.0117 cm/cm Grade Count:4

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	100 - 120	100 - 120	Average value: 113 Grade Count:6
Tensile Strength, Ultimate	100 - 200 MPa	14500 - 29000 psi	Average value: 150 MPa Grade Count:17
	90.0 - 110 MPa @Temperature 120 - 160 °C	13100 - 16000 psi @Temperature 248 - 320 °F	Average value: 100 MPa Grade Count:1
Tensile Strength, Yield	82.7 - 131 MPa	12000 - 19000 psi	Average value: 114 MPa Grade Count:5
Elongation at Break	1.00 - 5.50 %	1.00 - 5.50 %	Average value: 2.58 % Grade Count:19
	3.00 - 3.00 % @Temperature 120 - 160 °C	3.00 - 3.00 % @Temperature 248 - 320 °F	Average value: 3.00 % Grade Count:1
Elongation at Yield	3.00 - 3.80 %	3.00 - 3.80 %	Average value: 3.53 % Grade Count:3
Modulus of Elasticity	5.86 - 18.0 GPa	850 - 2610 ksi	Average value: 11.7 GPa Grade Count:17

Mechanical Properties	Metric	English	Comments
	9.50 GPa	130 ksi	Average value: 8.00 GPa Grade Count:1
	@Temperature 120 - 160 °C	@Temperature 248 - 320 °F	
Flexural Yield Strength	110 - 262 MPa	16000 - 38000 psi	Average value: 190 MPa Grade Count:9
Flexural Modulus	2.96 - 13.4 GPa	430 - 1950 ksi	Average value: 8.50 GPa Grade Count:13
	5.50 - 8.50 GPa	798 - 1230 ksi	Average value: 7.00 GPa Grade Count:1
	@Temperature 120 - 160 °C	@Temperature 248 - 320 °F	
Izod Impact, Notched	0.427 - 1.33 J/cm	0.800 - 2.50 ft-lb/in	Average value: 0.848 J/cm Grade Count:9
Izod Impact, Unnotched	4.27 - 7.47 J/cm	8.00 - 14.0 ft-lb/in	Average value: 5.87 J/cm Grade Count:4
Izod Impact, Notched (ISO)	12.0 - 12.0 kJ/m ²	5.71 - 5.71 ft-lb/in ²	Average value: 12.0 kJ/m ² Grade Count:1
	@Temperature -40.0 - -40.0 °C	@Temperature -40.0 - -40.0 °F	
Charpy Impact Unnotched	2.50 - 7.50 J/cm ²	11.9 - 35.7 ft-lb/in ²	Average value: 5.09 J/cm ² Grade Count:9
	5.00 - 5.00 J/cm ²	23.8 - 23.8 ft-lb/in ²	Average value: 5.00 J/cm ² Grade Count:4
	@Temperature -30.0 - -30.0 °C	@Temperature -22.0 - -22.0 °F	
Charpy Impact, Notched	0.400 - 1.50 J/cm ²	1.90 - 7.14 ft-lb/in ²	Average value: 1.07 J/cm ² Grade Count:11
	0.900 - 1.30 J/cm ²	4.28 - 6.19 ft-lb/in ²	Average value: 1.14 J/cm ² Grade Count:8
	@Temperature -30.0 - -30.0 °C	@Temperature -22.0 - -22.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	20.0 - 40.0 µm/m-°C	11.1 - 22.2 µin/in-°F	Average value: 27.7 µm/m-°C Grade Count:14
CTE, linear, Transverse to Flow	45.0 - 80.0 µm/m-°C	25.0 - 44.4 µin/in-°F	Average value: 65.5 µm/m-°C Grade Count:10
Melting Point	295 °C	563 °F	Average value: 295 °C Grade Count:13
Deflection Temperature at 1.8 MPa (264 psi)	123 - 290 °C	254 - 554 °F	Average value: 276 °C Grade Count:18
UL RTI, Electrical	130 - 140 °C	266 - 284 °F	Average value: 138 °C Grade Count:6
Flammability, UL94	V-0	V-0	Grade Count:18

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+8 - 1.00e+15 ohm-cm	1.00e+8 - 1.00e+15 ohm-cm	Average value: 3.02e+14 ohm-cm Grade Count:14
Dielectric Strength	20.0 - 30.0 kV/mm	508 - 762 kV/in	Average value: 25.0 kV/mm Grade Count:14
Comparative Tracking Index	225 - 425 V	225 - 425 V	Average value: 317 V Grade Count:9

Processing Properties	Metric	English	Comments
Processing Temperature	293 - 321 °C	560 - 610 °F	Average value: 307 °C Grade Count:4
Mold Temperature	79.4 - 149 °C	175 - 300 °F	Average value: 114 °C Grade Count:4
Injection Pressure	68.9 - 103 MPa	10000 - 15000 psi	Average value: 86.2 MPa Grade Count:4

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