

Overview of materials for Nylon 610, Carbon Fiber Filled

Category : Polymer , Thermoplastic , Nylon , Nylon 610 , Nylon 610, Carbon Fiber Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Nylon 610, Carbon Fiber Filled". 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-610-Carbon-Fiber-Filled.php

Physical Properties	Metric	English	Comments
Density	1.04 - 1.44 g/cc	0.0375 - 0.0520 lb/in ³	Average value: 1.24 g/cc Grade Count:15
Filler Content	15.0 - 40.0 %	15.0 - 40.0 %	Average value: 25.6 % Grade Count:8
Water Absorption	0.120 - 0.300 %	0.120 - 0.300 %	Average value: 0.192 % Grade Count:10
Linear Mold Shrinkage	0.00100 - 0.0160 cm/cm	0.00100 - 0.0160 in/in	Average value: 0.00409 cm/cm Grade Count:15

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	31.4 - 234 MPa	4560 - 34000 psi	Average value: 150 MPa Grade Count:15
Elongation at Break	1.50 - 10.0 %	1.50 - 10.0 %	Average value: 3.36 % Grade Count:12
Modulus of Elasticity	2.30 - 27.6 GPa	333 - 4000 ksi	Average value: 13.0 GPa Grade Count:13
Flexural Yield Strength	89.6 - 372 MPa	13000 - 54000 psi	Average value: 249 MPa Grade Count:13
Flexural Modulus	2.76 - 22.1 GPa	400 - 3200 ksi	Average value: 12.5 GPa Grade Count:13
Izod Impact, Notched	0.366 - 1.60 J/cm	0.685 - 3.00 ft-lb/in	Average value: 0.940 J/cm Grade Count:14
Izod Impact, Unnotched	3.79 - 10.7 J/cm	7.10 - 20.0 ft-lb/in	Average value: 7.37 J/cm Grade Count:10
Charpy Impact Unnotched	6.00 - 6.00 J/cm ² @Temperature -30.0 - - 30.0 °C	28.6 - 28.6 ft-lb/in ² @Temperature -22.0 - - 22.0 °F	Average value: 6.00 J/cm ² Grade Count:1
Charpy Impact, Notched	1.00 - 1.00 J/cm ² @Temperature -30.0 - - 30.0 °C	4.76 - 4.76 ft-lb/in ² @Temperature -22.0 - - 22.0 °F	Average value: 1.00 J/cm ² Grade Count:1

Thermal Properties	Metric	English	Comments
CTE, linear	14.4 - 16.2 $\mu\text{m}/\text{m}\cdot\text{°C}$	8.00 - 9.00 $\mu\text{in}/\text{in}\cdot\text{°F}$	Average value: 15.5 $\mu\text{m}/\text{m}\cdot\text{°C}$ Grade Count:3
Deflection Temperature at 0.46 MPa (66 psi)	216 - 232 °C	420 - 450 °F	Average value: 222 °C Grade Count:6
Deflection Temperature at 1.8 MPa (264 psi)	98.9 - 227 °C	210 - 440 °F	Average value: 201 °C Grade Count:13
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:10

Electrical Properties	Metric	English	Comments
Electrical Resistivity	5.00 - 1.00e+14 ohm-cm	5.00 - 1.00e+14 ohm-cm	Average value: 1.11e+13 ohm-cm Grade Count:10

Processing Properties	Metric	English	Comments
Processing Temperature	265 - 293 °C	509 - 560 °F	Average value: 282 °C Grade Count:9
Melt Temperature	240 - 299 °C	464 - 570 °F	Average value: 276 °C Grade Count:4
Mold Temperature	65.6 - 107 °C	150 - 225 °F	Average value: 87.6 °C Grade Count:12
Drying Temperature	75.0 - 105 °C	167 - 221 °F	Average value: 84.7 °C Grade Count:4
Moisture Content	0.170 - 1.20 %	0.170 - 1.20 %	Average value: 0.523 % Grade Count:3
Injection Pressure	68.9 - 124 MPa	10000 - 18000 psi	Average value: 96.5 MPa Grade Count:9

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