

Overview of materials for Nylon 610, Glass Reinforced

Category : Polymer , Thermoplastic , Nylon , Nylon 610 , Nylon 610, Glass Reinforced

Material Notes:

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

Physical Properties	Metric	English	Comments
Density	1.15 - 1.63 g/cc	0.0415 - 0.0589 lb/in ³	Average value: 1.36 g/cc Grade Count:85
Filler Content	10.0 - 50.0 %	10.0 - 50.0 %	Average value: 29.4 % Grade Count:43
Water Absorption	0.0900 - 4.00 %	0.0900 - 4.00 %	Average value: 0.946 % Grade Count:49
	0.900 - 1.50 % @Temperature 70.0 - 70.0 °C	0.900 - 1.50 % @Temperature 158 - 158 °F	Average value: 1.23 % Grade Count:8
Moisture Absorption at Equilibrium	0.0900 - 1.30 %	0.0900 - 1.30 %	Average value: 0.935 % Grade Count:14
Water Absorption at Saturation	0.400 - 1.20 % @Temperature 45.0 - 400 °C	0.400 - 1.20 % @Temperature 113 - 752 °F	Average value: 0.814 % Grade Count:2
	0.400 - 1.20 % @Treatment Temp. 70.0 - 70.0 °C	0.400 - 1.20 % @Treatment Temp. 158 - 158 °F	Average value: 0.814 % Grade Count:2
Linear Mold Shrinkage	0.00100 - 0.0100 cm/cm	0.00100 - 0.0100 in/in	Average value: 0.00356 cm/cm Grade Count:76
Linear Mold Shrinkage, Transverse	0.00330 - 0.0110 cm/cm	0.00330 - 0.0110 in/in	Average value: 0.00903 cm/cm Grade Count:37
Melt Flow	5.00 - 39.3 g/10 min	5.00 - 39.3 g/10 min	Average value: 31.5 g/10 min Grade Count:9
Spiral Flow	35.0 - 45.0 cm	13.8 - 17.7 in	Average value: 41.3 cm Grade Count:8

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	117 - 120	117 - 120	Average value: 119 Grade Count:15
Ball Indentation Hardness			Average value: 183 MPa Grade

Mechanical Properties	120 - 245 MPa Metric	17400 - 35500 psi English	Count:12 Comments
Tensile Strength, Ultimate	75.0 - 222 MPa	10900 - 32200 psi	Average value: 145 MPa Grade Count:80
	70.0 - 155 MPa @Temperature 60.0 - 150 °C	10200 - 22500 psi @Temperature 140 - 302 °F	Average value: 108 MPa Grade Count:2
Tensile Strength, Yield	140 - 230 MPa	20300 - 33400 psi	Average value: 170 MPa Grade Count:10
Elongation at Break	2.00 - 25.0 %	2.00 - 25.0 %	Average value: 4.95 % Grade Count:75
	3.30 - 6.10 % @Temperature 60.0 - 150 °C	3.30 - 6.10 % @Temperature 140 - 302 °F	Average value: 4.59 % Grade Count:2
Elongation at Yield	2.50 - 6.00 %	2.50 - 6.00 %	Average value: 3.79 % Grade Count:18
Modulus of Elasticity	3.50 - 19.0 GPa	508 - 2760 ksi	Average value: 9.24 GPa Grade Count:75
	3.00 - 9.80 GPa @Temperature 60.0 - 150 °C	435 - 1420 ksi @Temperature 140 - 302 °F	Average value: 5.86 GPa Grade Count:2
Flexural Yield Strength	121 - 355 MPa	17500 - 51500 psi	Average value: 222 MPa Grade Count:62
Flexural Modulus	3.45 - 17.0 GPa	500 - 2470 ksi	Average value: 8.25 GPa Grade Count:66
Compressive Yield Strength	100 - 179 MPa	14500 - 26000 psi	Average value: 150 MPa Grade Count:10
Izod Impact, Notched	0.534 - 1.87 J/cm	1.00 - 3.50 ft-lb/in	Average value: 1.25 J/cm Grade Count:44
Izod Impact, Unnotched	4.27 - 13.7 J/cm	8.00 - 25.7 ft-lb/in	Average value: 9.46 J/cm Grade Count:32
Izod Impact, Notched (ISO)	9.70 - 20.0 kJ/m ²	4.62 - 9.52 ft-lb/in ²	Average value: 15.6 kJ/m ² Grade Count:7
Izod Impact, Unnotched (ISO)	65.0 - 95.0 kJ/m ²	30.9 - 45.2 ft-lb/in ²	Average value: 82.2 kJ/m ² Grade Count:7
Charpy Impact Unnotched	7.50 - 11.0 J/cm ²	35.7 - 52.4 ft-lb/in ²	Average value: 9.17 J/cm ² Grade Count:39
	6.00 - 11.0 J/cm ² @Temperature -30.0 - 30.0 °C	28.6 - 52.4 ft-lb/in ² @Temperature -22.0 - 86.0 °F	Average value: 8.87 J/cm ² Grade Count:24
Charpy Impact, Notched	0.500 - 3.10 J/cm ²	2.38 - 14.8 ft-lb/in ²	Average value: 1.58 J/cm ² Grade Count:31
	0.500 - 1.80 J/cm ²	2.38 - 8.57 ft-lb/in ²	

Mechanical Properties	Metric @ Temperature -30.0 - 30.0 °C	English @ Temperature -22.0 - 86.0 °F	Comments Average value: 1.11 J/cm² Grade Count:24
Falling Dart Impact	8.50 - 11.8 J	6.27 - 8.70 ft-lb	Average value: 9.88 J Grade Count:4

Thermal Properties	Metric	English	Comments
CTE, linear	15.3 - 48.6 µm/m-°C	8.50 - 27.0 µin/in-°F	Average value: 28.0 µm/m-°C Grade Count:23
CTE, linear, Transverse to Flow	72.0 - 88.0 µm/m-°C	40.0 - 48.9 µin/in-°F	Average value: 80.0 µm/m-°C Grade Count:7
Thermal Conductivity	0.300 - 0.562 W/m-K	2.08 - 3.90 BTU-in/hr- ft²-°F	Average value: 0.467 W/m-K Grade Count:10
Melting Point	214 - 260 °C	418 - 500 °F	Average value: 222 °C Grade Count:41
Maximum Service Temperature, Air	90.0 - 160 °C	194 - 320 °F	Average value: 133 °C Grade Count:10
Deflection Temperature at 0.46 MPa (66 psi)	207 - 224 °C	405 - 435 °F	Average value: 220 °C Grade Count:32
Deflection Temperature at 1.8 MPa (264 psi)	190 - 218 °C	374 - 425 °F	Average value: 207 °C Grade Count:62
Deflection Temperature at 8.0 MPa	75.0 - 170 °C	167 - 338 °F	Average value: 133 °C Grade Count:16
Vicat Softening Point	217 - 220 °C	423 - 428 °F	Average value: 219 °C Grade Count:3
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:52

Electrical Properties	Metric	English	Comments
Electrical Resistivity	460 - 1.00e+16 ohm- cm	460 - 1.00e+16 ohm- cm	Average value: 8.77e+14 ohm-cm Grade Count:31
Surface Resistance	1.00e+11 ohm	1.00e+11 ohm	Average value: 1.00e+11 ohm Grade Count:7
Dielectric Constant	3.60 - 4.13	3.60 - 4.13	Average value: 3.78 Grade Count:11
Dielectric Strength	5.00 - 45.0 kV/mm	127 - 1140 kV/in	Average value: 30.6 kV/mm Grade Count:18
Dissipation Factor	0.0110 - 0.0160	0.0110 - 0.0160	Average value: 0.0133 Grade Count:10
Arc Resistance	120 - 130 sec	120 - 130 sec	Average value: 126 sec Grade Count:6
Comparative Tracking Index	600 V	600 V	Average value: 600 V Grade Count:8

Processing Properties	Metric	English	Comments
Processing Temperature	265 - 293 °C	509 - 560 °F	Average value: 283 °C Grade Count:18

Nozzle Temperature Processing Properties	240 - 295 °C Metric	464 - 563 °F English	Average value: 269 °C Grade Count:8 Comments
Melt Temperature	220 - 310 °C	428 - 590 °F	Average value: 271 °C Grade Count:37
Mold Temperature	60.0 - 120 °C	140 - 248 °F	Average value: 87.5 °C Grade Count:54

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