

Overview of materials for Nylon 66, 60% Glass Fiber Filled

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, 60% Glass Fiber Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Nylon 66, 60% Glass Fiber Filled". Specific grades with glass content between 55% and 64% are included. 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-66-60-Glass-Fiber-Filled.php

| Physical Properties | Metric | English | Comments |
|------------------------------------|---|---|---|
| Density | 1.60 - 1.85 g/cc | 0.0578 - 0.0668 lb/in ³ | Average value: 1.70 g/cc Grade Count:62 |
| Filler Content | 60.0 % | 60.0 % | Average value: 60.0 % Grade Count:19 |
| Water Absorption | 0.350 - 3.60 % | 0.350 - 3.60 % | Average value: 1.09 % Grade Count:27 |
| | 0.800 - 1.20 % @Temperature 70.0 - 70.0 °C | 0.800 - 1.20 % @Temperature 158 - 158 °F | Average value: 0.950 % Grade Count:4 |
| Moisture Absorption at Equilibrium | 0.700 - 1.20 % | 0.700 - 1.20 % | Average value: 1.01 % Grade Count:10 |
| Water Absorption at Saturation | 3.00 - 3.70 % | 3.00 - 3.70 % | Average value: 3.37 % Grade Count:11 |
| Linear Mold Shrinkage | 0.000500 - 0.0200 cm/cm | 0.000500 - 0.0200 in/in | Average value: 0.00262 cm/cm Grade Count:50 |
| Linear Mold Shrinkage, Transverse | 0.00100 - 0.00900 cm/cm | 0.00100 - 0.00900 in/in | Average value: 0.00580 cm/cm Grade Count:26 |
| Spiral Flow | 47.0 - 468 cm | 18.5 - 184 in | Average value: 135 cm Grade Count:5 |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|--|---|---------------------------------------|
| Hardness, Rockwell M | 88.0 - 98.0 | 88.0 - 98.0 | Average value: 92.8 Grade Count:3 |
| Hardness, Rockwell R | 115 - 122 | 115 - 122 | Average value: 120 Grade Count:17 |
| Ball Indentation Hardness | 330 - 420 MPa | 47900 - 60900 psi | Average value: 358 MPa Grade Count:9 |
| Tensile Strength, Ultimate | 165 - 318 MPa | 23900 - 46100 psi | Average value: 245 MPa Grade Count:40 |
| | 75.0 - 353.701 MPa @Temperature -40.0 - | 10900 - 51300.1 psi @Temperature -40.0 - | Average value: 147 MPa Grade Count:4 |

| Mechanical Properties | 150 °C Metric | 302 °F English | Comments |
|----------------------------|-------------------------------|-----------------------------------|---|
| | 130 - 130 MPa | 18900 - 18900 psi | Average value: 147 MPa Grade Count:1 |
| | @Temperature 130 - 175 °C | @Temperature 266 - 347 °F | |
| | 130 - 130 MPa | 18900 - 18900 psi | Average value: 147 MPa Grade Count:1 |
| | @Time 1.80e+7 - 7.20e+7 sec | @Time 5000 - 20000 hour | |
| Tensile Strength, Yield | 148 - 285 MPa | 21500 - 41300 psi | Average value: 223 MPa Grade Count:23 |
| | 144.79 - 144.79 MPa | 21000 - 21000 psi | Average value: 145 MPa Grade Count:1 |
| | @Temperature 93.3 - 93.3 °C | @Temperature 200 - 200 °F | |
| Elongation at Break | 1.00 - 4.00 % | 1.00 - 4.00 % | Average value: 1.94 % Grade Count:55 |
| | 1.80 - 7.50 % | 1.80 - 7.50 % | Average value: 3.89 % Grade Count:4 |
| | @Temperature 4.44 - 150 °C | @Temperature 40.0 - 302 °F | |
| Modulus of Elasticity | 10.3 - 28.0 GPa | 1500 - 4060 ksi | Average value: 20.3 GPa Grade Count:39 |
| | 5.80 - 20.8566 GPa | 841 - 3025.05 ksi | Average value: 11.8 GPa Grade Count:4 |
| | @Temperature -40.0 - 150 °C | @Temperature -40.0 - 302 °F | |
| Flexural Yield Strength | 234 - 461 MPa | 33900 - 66900 psi | Average value: 361 MPa Grade Count:47 |
| | 227.527 - 544.686 MPa | 33000.1 - 79000.1 psi | Average value: 344 MPa Grade Count:2 |
| | @Temperature -40.0 - 121 °C | @Temperature -40.0 - 250 °F | |
| Flexural Modulus | 11.7 - 22.8 GPa | 1700 - 3300 ksi | Average value: 18.1 GPa Grade Count:46 |
| | 10.2732 - 19.3053 GPa | 1490.02 - 2800.04 ksi | Average value: 14.4 GPa Grade Count:3 |
| | @Temperature -40.0 - 121 °C | @Temperature -40.0 - 250 °F | |
| Izod Impact, Notched | 0.950 - 7.00 J/cm | 1.78 - 13.1 ft-lb/in | Average value: 2.59 J/cm Grade Count:34 |
| | 7.21 - 7.68816 J/cm | 13.5 - 14.4031 ft-lb/in | Average value: 7.51 J/cm Grade Count:2 |
| | @Temperature -51.1 - 149 °C | @Temperature -60.0 - 300 °F | |
| Izod Impact, Unnotched | 10.7 - 5340 J/cm | 20.0 - 10000 ft-lb/in | Average value: 21.9 J/cm Grade Count:19 |
| Izod Impact, Notched (ISO) | 11.0 - 30.0 kJ/m ² | 5.23 - 14.3 ft-lb/in ² | Average value: 15.9 kJ/m ² Grade |

| Mechanical Properties | Metric | English | Comments |
|-------------------------|--|--|--|
| Charpy Impact Unnotched | 5.50 - 15.0 J/cm ² | 26.2 - 71.4 ft-lb/in ² | Count:5 Average value: 8.91 J/cm ² Grade Count:24 |
| | 6.00 - 9.70 J/cm ² @Temperature -30.0 - 30.0 °C | 28.6 - 46.2 ft-lb/in ² @Temperature -22.0 - 86.0 °F | Average value: 8.16 J/cm ² Grade Count:14 |
| Charpy Impact, Notched | 1.00 - 5.40 J/cm ² | 4.76 - 25.7 ft-lb/in ² | Average value: 1.83 J/cm ² Grade Count:25 |
| | 1.00 - 4.60 J/cm ² @Temperature -30.0 - 30.0 °C | 4.76 - 21.9 ft-lb/in ² @Temperature -22.0 - 86.0 °F | Average value: 1.45 J/cm ² Grade Count:14 |
| Dart Drop, Total Energy | 7.85 - 16.4 J | 5.79 - 12.1 ft-lb | Average value: 12.1 J Grade Count:1 |
| | @Temperature -20.0 - - 20.0 °C | @Temperature -4.00 - - 4.00 °F | |
| | 7.85 - 16.4 J @Thickness 3.18 - 3.18 mm | 5.79 - 12.1 ft-lb @Thickness 0.125 - 0.125 in | Average value: 12.1 J Grade Count:1 |

| Thermal Properties | Metric | English | Comments |
|--|---------------------|---|---|
| CTE, linear | 10.0 - 27.0 µm/m-°C | 5.56 - 15.0 µin/in-°F | Average value: 20.5 µm/m-°C Grade Count:25 |
| CTE, linear, Transverse to Flow | 40.0 - 55.0 µm/m-°C | 22.2 - 30.6 µin/in-°F | Average value: 44.3 µm/m-°C Grade Count:7 |
| Thermal Conductivity | 0.300 - 0.548 W/m-K | 2.08 - 3.80 BTU-in/hr- ft ² -°F | Average value: 0.424 W/m-K Grade Count:4 |
| Melting Point | 220 - 325 °C | 428 - 617 °F | Average value: 267 °C Grade Count:25 |
| Maximum Service Temperature, Air | 135 - 250 °C | 275 - 482 °F | Average value: 186 °C Grade Count:6 |
| Deflection Temperature at 0.46 MPa (66 psi) | 220 - 260 °C | 428 - 500 °F | Average value: 255 °C Grade Count:20 |
| Deflection Temperature at 1.8 MPa (264 psi) | 210 - 300 °C | 410 - 572 °F | Average value: 253 °C Grade Count:51 |
| Deflection Temperature at 8.0 MPa | 180 - 250 °C | 356 - 482 °F | Average value: 226 °C Grade Count:8 |
| Vicat Softening Point | 240 - 255 °C | 464 - 491 °F | Average value: 251 °C Grade Count:4 |
| Flammability, UL94 | HB | HB | Grade Count:24 |
| Glow Wire Test | 650 °C | 1200 °F | Average value: 650 °C Grade Count:3 |

| Electrical Properties | Metric | English | Comments |
|-----------------------|--------------------|--------------------|--------------------------------|
| | 1.00e+9 - 1.00e+16 | 1.00e+9 - 1.00e+16 | Average value: 4.47e+14 ohm-cm |

| Electrical Resistivity Electrical Properties | ohm-cm Metric | ohm-cm English | Grade Count:24 Comments |
|---|----------------------------|----------------------------|---|
| Surface Resistance | 1.00e+10 - 1.00e+16 ohm | 1.00e+10 - 1.00e+16 ohm | Average value: 5.11e+14 ohm Grade Count:20 |
| Dielectric Strength | 19.7 - 35.0 kV/mm | 500 - 889 kV/in | Average value: 24.6 kV/mm Grade Count:18 |
| Comparative Tracking Index | 600 V | 600 V | Average value: 600 V Grade Count:9 |

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