

## Overview of materials for Nylon 11 with 20% Glass Fiber Filler

Category : Polymer , Thermoplastic , Nylon , Nylon 11 , Nylon 11 with 20% Glass Fiber Filler

### Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Nylon 11 with 20% Glass Fiber Filler". Specific grades with glass content between 15% and 24% 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-11-with-20-Glass-Fiber-Filler.php](http://www.lookpolymers.com/polymer_Overview-of-materials-for-Nylon-11-with-20-Glass-Fiber-Filler.php)

| Physical Properties   | Metric                  | English                            | Comments                                    |
|-----------------------|-------------------------|------------------------------------|---|
| Density               | 1.13 - 1.50 g/cc        | 0.0408 - 0.0542 lb/in <sup>3</sup> | Average value: 1.30 g/cc Grade Count:12     |
| Filler Content        | 15.0 - 20.0 %           | 15.0 - 20.0 %                      | Average value: 18.0 % Grade Count:5         |
| Water Absorption      | 0.160 - 1.20 %          | 0.160 - 1.20 %                     | Average value: 0.388 % Grade Count:5        |
| Additive Loading      | 15.0 - 20.0 %           | 15.0 - 20.0 %                      | Average value: 18.0 % Grade Count:5         |
| Linear Mold Shrinkage | 0.00200 - 0.00600 cm/cm | 0.00200 - 0.00600 in/in            | Average value: 0.00400 cm/cm Grade Count:10 |

| Mechanical Properties      | Metric   | English  | Comments  |
|----------------------------|--|--|---|
| Hardness, Rockwell R       | 108 - 109  | 108 - 109  | Average value: 108 Grade Count:4                    |
| Tensile Strength, Ultimate | 68.9 - 110 MPa   | 10000 - 16000 psi  | Average value: 81.7 MPa Grade Count:12              |
| Elongation at Break        | 2.00 - 5.00 %  | 2.00 - 5.00 %  | Average value: 3.42 % Grade Count:12                |
| Modulus of Elasticity      | 3.79 - 7.69 GPa  | 550 - 1120 ksi   | Average value: 5.39 GPa Grade Count:12              |
| Flexural Yield Strength    | 96.5 - 117 MPa   | 14000 - 17000 psi  | Average value: 107 MPa Grade Count:10               |
| Flexural Modulus           | 3.03 - 5.52 GPa  | 440 - 800 ksi  | Average value: 4.39 GPa Grade Count:10              |
| Izod Impact, Notched       | 0.534 - 1.07 J/cm  | 1.00 - 2.00 ft-lb/in   | Average value: 0.849 J/cm Grade Count:10            |
| Izod Impact, Unnotched     | 4.27 - 6.41 J/cm   | 8.00 - 12.0 ft-lb/in   | Average value: 5.29 J/cm Grade Count:10             |
| Charpy Impact Unnotched    | 8.29 - 8.49 J/cm <sup>2</sup><br>@Temperature -30.0 - -30.0 °C | 39.5 - 40.4 ft-lb/in <sup>2</sup><br>@Temperature -22.0 - -22.0 °F | Average value: 8.39 J/cm <sup>2</sup> Grade Count:2 |

| Mechanical Properties  | Metric   | English   | Comments  |
|------------------------|--|---|---|
| Charpy Impact, Notched | 0.990 J/cm <sup>2</sup><br>@Temperature -30.0 - -<br>30.0 °C | 71 ft-lb/in <sup>2</sup><br>@Temperature -22.0 - -<br>22.0 °F | Average value: 0.965 J/cm <sup>2</sup> Grade<br>Count:2 |

| Thermal Properties                             | Metric              | English               | Comments                                     |
|--|---------------------|-----------------------|--|
| CTE, linear                                    | 50.0 - 72.0 µm/m-°C | 27.8 - 40.0 µin/in-°F | Average value: 63.5 µm/m-°C Grade<br>Count:3 |
| Deflection Temperature at 0.46 MPa<br>(66 psi) | 171 - 179 °C        | 340 - 355 °F          | Average value: 177 °C Grade Count:5          |
| Deflection Temperature at 1.8 MPa<br>(264 psi) | 163 - 174 °C        | 325 - 345 °F          | Average value: 169 °C Grade Count:6          |
| Flammability, UL94                             | HB - V-0            | HB - V-0              | Grade Count:12                               |

| Electrical Properties  | Metric                        | English                       | Comments  |
|------------------------|-------------------------------|-------------------------------|---|
| Electrical Resistivity | 1.00e+13 - 2.00e+13<br>ohm-cm | 1.00e+13 - 2.00e+13<br>ohm-cm | Average value: 1.20e+13 ohm-cm<br>Grade Count:5 |
| Dielectric Strength    | 19.7 - 22.0 kV/mm             | 500 - 559 kV/in               | Average value: 20.5 kV/mm Grade<br>Count:3      |
| Dissipation Factor     | 0.000460 - 0.0150             | 0.000460 - 0.0150             | Average value: 0.00649 Grade<br>Count:3         |

| Processing Properties  | Metric         | English           | Comments                                  |
|------------------------|----------------|-------------------|---|
| Processing Temperature | 216 - 282 °C   | 420 - 540 °F      | Average value: 249 °C Grade Count:5       |
| Melt Temperature       | 224 - 288 °C   | 435 - 550 °F      | Average value: 256 °C Grade Count:5       |
| Mold Temperature       | 37.8 - 65.6 °C | 100 - 150 °F      | Average value: 51.7 °C Grade<br>Count:10  |
| Drying Temperature     | 79.4 °C        | 175 °F            | Average value: 79.4 °C Grade Count:5      |
| Moisture Content       | 0.200 %        | 0.200 %           | Average value: 0.200 % Grade Count:5      |
| Dew Point              | -17.8 °C       | 0.000 °F          | Average value: -17.8 °C Grade<br>Count:5  |
| Injection Pressure     | 68.9 - 103 MPa | 10000 - 15000 psi | Average value: 86.2 MPa Grade<br>Count:10 |

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