

## Overview of materials for Acrylonitrile Butadiene Styrene (ABS)/Nylon Blend, Glass Reinforced

Category : Polymer , Thermoplastic , ABS Polymer , Acrylonitrile Butadiene Styrene (ABS)/Nylon Blend, Glass Reinforced , Nylon

### Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Acrylonitrile Butadiene Styrene (ABS)/Nylon Blend, 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-Acrylonitrile-Butadiene-Styrene-ABS-Nylon-Blend-Glass-Reinforced.php](http://www.lookpolymers.com/polymer_Overview-of-materials-for-Acrylonitrile-Butadiene-Styrene-ABS-Nylon-Blend-Glass-Reinforced.php)

| Physical Properties                | Metric                  | English                            | Comments                                    |
|------------------------------------|-------------------------|------------------------------------|---|
| Density                            | 1.09 - 1.53 g/cc        | 0.0394 - 0.0553 lb/in <sup>3</sup> | Average value: 1.23 g/cc Grade Count:23     |
| Water Absorption                   | 0.700 - 3.40 %          | 0.700 - 3.40 %                     | Average value: 1.18 % Grade Count:13        |
| Moisture Absorption at Equilibrium | 0.700 - 1.30 %          | 0.700 - 1.30 %                     | Average value: 1.12 % Grade Count:12        |
| Linear Mold Shrinkage              | 0.00100 - 0.00800 cm/cm | 0.00100 - 0.00800 in/in            | Average value: 0.00436 cm/cm Grade Count:14 |
| Melt Flow                          | 6.00 - 44.8 g/10 min    | 6.00 - 44.8 g/10 min               | Average value: 20.2 g/10 min Grade Count:9  |

| Mechanical Properties      | Metric   | English  | Comments                               |
|----------------------------|--|--|--|
| Hardness, Rockwell R       | 105 - 116                                      | 105 - 116  | Average value: 112 Grade Count:9       |
| Ball Indentation Hardness  | 62.0 - 99.0 MPa                                | 8990 - 14400 psi                                   | Average value: 85.3 MPa Grade Count:3  |
| Tensile Strength, Ultimate | 31.0 - 128 MPa                                 | 4500 - 18500 psi                                   | Average value: 79.1 MPa Grade Count:17 |
|                            | 115 - 115 MPa<br>@Temperature -40.0 - -40.0 °C | 16700 - 16700 psi<br>@Temperature -40.0 - -40.0 °F | Average value: 115 MPa Grade Count:1   |
| Tensile Strength, Yield    | 39.0 - 96.5 MPa                                | 5660 - 14000 psi                                   | Average value: 59.3 MPa Grade Count:10 |
|                            | 37.0 - 37.0 MPa<br>@Temperature 80.0 - 80.0 °C | 5370 - 5370 psi<br>@Temperature 176 - 176 °F       | Average value: 37.0 MPa Grade Count:1  |
| Elongation at Break        | 3.00 - 110 %                                   | 3.00 - 110 %                                       | Average value: 9.62 % Grade Count:18   |
|                            | 3.30 - 3.30 %                                  | 3.30 - 3.30 %                                      |  |

| Mechanical Properties      | Metric<br>@Temperature -40.0 - -<br>40.0 °C                          | English<br>@Temperature -40.0 - -<br>40.0 °F                           | Comments<br>Average value: 3.30 % Grade Count:1         |
|----------------------------|--|--|---|
| Elongation at Yield        | 3.00 - 4.00 %  | 3.00 - 4.00 %  | Average value: 3.33 % Grade Count:3                     |
|                            | 5.90 - 5.90 %<br>@Temperature 80.0 -<br>80.0 °C                      | 5.90 - 5.90 %<br>@Temperature 176 -<br>176 °F                          | Average value: 5.90 % Grade Count: 1                    |
| Modulus of Elasticity      | 2.21 - 7.50 GPa  | 321 - 1090 ksi   | Average value: 3.99 GPa Grade<br>Count:9                |
| Flexural Yield Strength    | 72.4 - 179 MPa   | 10500 - 26000 psi  | Average value: 120 MPa Grade<br>Count:20                |
| Flexural Modulus           | 0.597 - 8.13 GPa   | 86.6 - 1180 ksi  | Average value: 4.49 GPa Grade<br>Count:20               |
| Izod Impact, Notched       | 0.883 - 1.87 J/cm  | 1.65 - 3.50 ft-lb/in   | Average value: 1.38 J/cm Grade<br>Count:14              |
| Izod Impact, Unnotched     | 9.08 - 5340 J/cm   | 17.0 - 10000 ft-lb/in  | Average value: 9.08 J/cm Grade<br>Count:3               |
| Izod Impact, Notched (ISO) | 6.00 - 25.0 kJ/m <sup>2</sup>  | 2.86 - 11.9 ft-lb/in <sup>2</sup>                                      | Average value: 12.8 kJ/m <sup>2</sup> Grade<br>Count:6  |
|                            | 3.00 - 6.00 kJ/m <sup>2</sup><br>@Temperature -30.0 - -<br>30.0 °C   | 1.43 - 2.86 ft-lb/in <sup>2</sup><br>@Temperature -22.0 - -<br>22.0 °F | Average value: 4.67 kJ/m <sup>2</sup> Grade<br>Count:3  |
| Charpy Impact Unnotched    | 3.50 - 8.00 J/cm <sup>2</sup>  | 16.7 - 38.1 ft-lb/in <sup>2</sup>                                      | Average value: 5.17 J/cm <sup>2</sup> Grade<br>Count:6  |
|                            | 2.50 - 4.50 J/cm <sup>2</sup><br>@Temperature -30.0 - -<br>30.0 °C   | 11.9 - 21.4 ft-lb/in <sup>2</sup><br>@Temperature -22.0 - -<br>22.0 °F | Average value: 3.75 J/cm <sup>2</sup> Grade<br>Count:6  |
| Charpy Impact, Notched     | 0.800 - 2.50 J/cm <sup>2</sup>                                       | 3.81 - 11.9 ft-lb/in <sup>2</sup>                                      | Average value: 1.40 J/cm <sup>2</sup> Grade<br>Count:6  |
|                            | 0.300 - 0.700 J/cm <sup>2</sup><br>@Temperature -30.0 - -<br>30.0 °C | 1.43 - 3.33 ft-lb/in <sup>2</sup><br>@Temperature -22.0 - -<br>22.0 °F | Average value: 0.583 J/cm <sup>2</sup> Grade<br>Count:6 |

| Thermal Properties                             | Metric              | English               | Comments                                     |
|--|---------------------|-----------------------|--|
| CTE, linear                                    | 40.0 - 99.0 µm/m-°C | 22.2 - 55.0 µin/in-°F | Average value: 57.4 µm/m-°C Grade<br>Count:7 |
| Deflection Temperature at 0.46 MPa<br>(66 psi) | 105 - 215 °C        | 221 - 419 °F          | Average value: 166 °C Grade Count:11         |
| Deflection Temperature at 1.8 MPa<br>(264 psi) | 51.7 - 196 °C       | 125 - 385 °F          | Average value: 132 °C Grade Count:19         |
| Vicat Softening Point                          | 108 - 200 °C        | 226 - 392 °F          | Average value: 140 °C Grade Count:6          |

| Flammability: UL 94<br>Thermal Properties | HB<br>Metric               | HB<br>English              | Grade Count:18<br>Comments                       |
|---|----------------------------|----------------------------|--|
| <b>Electrical Properties</b>              | <b>Metric</b>              | <b>English</b>             | <b>Comments</b>                                  |
| Electrical Resistivity                    | 1.00e+11 - 1.00e+15 ohm-cm | 1.00e+11 - 1.00e+15 ohm-cm | Average value: 9.17e+13 ohm-cm<br>Grade Count:12 |
| Surface Resistance                        | 1.00e+14 ohm               | 1.00e+14 ohm               | Average value: 1.00e+14 ohm<br>Grade Count:5     |
| Dielectric Constant                       | 2.90 - 5.00                | 2.90 - 5.00                | Average value: 3.48<br>Grade Count:9             |
| Dielectric Strength                       | 16.5 - 40.0 kV/mm          | 420 - 1020 kV/in           | Average value: 27.6 kV/mm<br>Grade Count:6       |
| Dissipation Factor                        | 0.0130 - 0.0900            | 0.0130 - 0.0900            | Average value: 0.0344<br>Grade Count:9           |
| Comparative Tracking Index                | 550 - 600 V                | 550 - 600 V                | Average value: 575 V<br>Grade Count:4            |
| <b>Processing Properties</b>              | <b>Metric</b>              | <b>English</b>             | <b>Comments</b>                                  |
| Melt Temperature                          | 220 - 270 °C               | 428 - 518 °F               | Average value: 254 °C<br>Grade Count:11          |
| Mold Temperature                          | 40.0 - 90.0 °C             | 104 - 194 °F               | Average value: 68.0 °C<br>Grade Count:5          |
| Injection Velocity                        | 65.0 mm/sec                | 2.56 in/sec                | Average value: 65.0 mm/sec<br>Grade Count:6      |

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