

## Overview of materials for PBT + ASA Blend, Glass Fiber Reinforced

Category : Polymer , Thermoplastic , ASA Polymer , Polyester, TP , Polybutylene Terephthalate (PBT) , PBT + ASA Blend, Glass Fiber Reinforced

### Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "PBT + ASA Blend, Glass Fiber 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-PBT-ASA-Blend-Glass-Fiber-Reinforced.php](http://www.lookpolymers.com/polymer_Overview-of-materials-for-PBT-ASA-Blend-Glass-Fiber-Reinforced.php)

| Physical Properties                | Metric                    | English                            | Comments                                    |
|------------------------------------|---------------------------|------------------------------------|---------------------------------------------|
| Density                            | 1.27 - 1.57 g/cc          | 0.0459 - 0.0567 lb/in <sup>3</sup> | Average value: 1.40 g/cc Grade Count:31     |
|                                    | 1.19 - 1.42 g/cc          | 0.0430 - 0.0513 lb/in <sup>3</sup> | Average value: 1.31 g/cc Grade Count:4      |
|                                    | @Temperature 250 - 250 °C | @Temperature 482 - 482 °F          |                                             |
| Filler Content                     | 10.0 - 30.0 %             | 10.0 - 30.0 %                      | Average value: 20.0 % Grade Count:4         |
| Water Absorption                   | 0.400 - 0.780 %           | 0.400 - 0.780 %                    | Average value: 0.500 % Grade Count:14       |
| Moisture Absorption at Equilibrium | 0.0400 - 0.300 %          | 0.0400 - 0.300 %                   | Average value: 0.177 % Grade Count:18       |
| Linear Mold Shrinkage              | 0.00100 - 0.0130 cm/cm    | 0.00100 - 0.0130 in/in             | Average value: 0.00408 cm/cm Grade Count:26 |
| Linear Mold Shrinkage, Transverse  | 0.00200 - 0.0100 cm/cm    | 0.00200 - 0.0100 in/in             | Average value: 0.00740 cm/cm Grade Count:20 |
| Melt Flow                          | 9.59 - 76.0 g/10 min      | 9.59 - 76.0 g/10 min               | Average value: 30.0 g/10 min Grade Count:21 |

| Mechanical Properties      | Metric                      | English                     | Comments                               |
|----------------------------|-----------------------------|-----------------------------|----------------------------------------|
| Tensile Strength, Ultimate | 57.0 - 130 MPa              | 8270 - 18900 psi            | Average value: 104 MPa Grade Count:23  |
|                            | 35.0 - 115 MPa              | 5080 - 16700 psi            | Average value: 70.0 MPa Grade Count:1  |
|                            | @Temperature -40.0 - 100 °C | @Temperature -40.0 - 212 °F |                                        |
| Tensile Strength, Yield    | 63.0 - 132 MPa              | 9140 - 19200 psi            | Average value: 95.2 MPa Grade Count:12 |
| Elongation at Break        | 1.70 - 9.00 %               | 1.70 - 9.00 %               | Average value: 3.26 % Grade Count:25   |
| Elongation at Yield        | 2.00 - 8.00 %               | 2.00 - 8.00 %               | Average value: 3.33 % Grade Count:9    |

| Mechanical Properties        | Metric                         | English                        | Comments                                  |
|------------------------------|--------------------------------|--------------------------------|-------------------------------------------|
|                              | 0.954 - 11.24 GPa              | 138 - 1630 ksi                 | Average value: 5.81 GPa Grade Count:3     |
|                              | @Temperature -50.0 - 200 °C    | @Temperature -58.0 - 392 °F    |                                           |
| Flexural Yield Strength      | 98.0 - 190 MPa                 | 14200 - 27600 psi              | Average value: 149 MPa Grade Count:25     |
| Flexural Modulus             | 3.40 - 9.32 GPa                | 493 - 1350 ksi                 | Average value: 6.32 GPa Grade Count:16    |
| Shear Modulus                | >= 0.147 GPa                   | >= 21.3 ksi                    | Average value: 1.10 GPa Grade Count:1     |
|                              | @Temperature -50.0 - 200 °C    | @Temperature -58.0 - 392 °F    |                                           |
| Izod Impact, Notched         | 0.550 - 0.834 J/cm             | 1.03 - 1.56 ft-lb/in           | Average value: 0.714 J/cm Grade Count:3   |
|                              | 0.450 - 0.500 J/cm             | 0.843 - 0.937 ft-lb/in         | Average value: 0.475 J/cm Grade Count:1   |
|                              | @Temperature -30.0 - 0.000 °C  | @Temperature -22.0 - 32.0 °F   |                                           |
| Izod Impact, Unnotched       | 3.40 - 3.40 J/cm               | 6.37 - 6.37 ft-lb/in           | Average value: 3.40 J/cm Grade Count:1    |
|                              | @Temperature -30.0 - - 30.0 °C | @Temperature -22.0 - - 22.0 °F |                                           |
| Izod Impact, Notched (ISO)   | 5.00 - 45.0 kJ/m²              | 2.38 - 21.4 ft-lb/in²          | Average value: 10.0 kJ/m² Grade Count:16  |
|                              | 4.00 - 10.0 kJ/m²              | 1.90 - 4.76 ft-lb/in²          | Average value: 6.80 kJ/m² Grade Count:9   |
|                              | @Temperature -30.0 - 0.000 °C  | @Temperature -22.0 - 32.0 °F   |                                           |
| Izod Impact, Unnotched (ISO) | 30.0 - 50.0 kJ/m²              | 14.3 - 23.8 ft-lb/in²          | Average value: 43.1 kJ/m² Grade Count:9   |
|                              | 25.0 - 50.0 kJ/m²              | 11.9 - 23.8 ft-lb/in²          | Average value: 41.0 kJ/m² Grade Count:8   |
|                              | @Temperature -30.0 - - 30.0 °C | @Temperature -22.0 - - 22.0 °F |                                           |
| Charpy Impact Unnotched      | 3.50 - 6.40 J/cm²              | 16.7 - 30.5 ft-lb/in²          | Average value: 4.79 J/cm² Grade Count:23  |
|                              | 2.00 - 6.50 J/cm²              | 9.52 - 30.9 ft-lb/in²          | Average value: 4.16 J/cm² Grade Count:14  |
|                              | @Temperature -30.0 - - 30.0 °C | @Temperature -22.0 - - 22.0 °F |                                           |
| Charpy Impact, Notched       | 0.400 - 1.00 J/cm²             | 1.90 - 4.76 ft-lb/in²          | Average value: 0.739 J/cm² Grade Count:21 |
|                              | 0.500 - 1.00 J/cm²             | 2.38 - 4.76 ft-lb/in²          | Average value: 0.717 J/cm² Grade Count:9  |
|                              | @Temperature -30.0 - - 20.0 °C | @Temperature -22.0 - - 4.00 °F |                                           |

| Mechanical Properties             | Metric          | English              | Comments                              |
|-----------------------------------|-----------------|----------------------|---------------------------------------|
| Tensile Creep Modulus, 1 hour     | 9500 MPa        | 1.38e+6 psi          | Average value: 8130 MPa Grade Count:4 |
| Tensile Creep Modulus, 1000 hours | 3300 - 7400 MPa | 479000 - 1.07e+6 psi | Average value: 5760 MPa Grade Count:5 |

| Thermal Properties                          | Metric                                       | English                                            | Comments                                                            |
|---------------------------------------------|----------------------------------------------|----------------------------------------------------|---------------------------------------------------------------------|
| CTE, linear                                 | 5.00 - 52.0 $\mu\text{m/m-}^{\circ}\text{C}$ | 2.78 - 28.9 $\mu\text{in/in-}^{\circ}\text{F}$     | Average value: 30.6 $\mu\text{m/m-}^{\circ}\text{C}$ Grade Count:13 |
| CTE, linear, Transverse to Flow             | 80.0 - 196 $\mu\text{m/m-}^{\circ}\text{C}$  | 44.4 - 109 $\mu\text{in/in-}^{\circ}\text{F}$      | Average value: 107 $\mu\text{m/m-}^{\circ}\text{C}$ Grade Count:8   |
| Specific Heat Capacity                      | 1.50 - 1.90 J/g- $^{\circ}\text{C}$          | 0.359 - 0.454 BTU/lb- $^{\circ}\text{F}$           | Average value: 1.80 J/g- $^{\circ}\text{C}$ Grade Count:5           |
| Thermal Conductivity                        | 0.250 - 0.270 W/m-K                          | 1.74 - 1.87 BTU-in/hr-ft $^2$ - $^{\circ}\text{F}$ | Average value: 0.258 W/m-K Grade Count:5                            |
| Melting Point                               | 220 - 260 $^{\circ}\text{C}$                 | 428 - 500 $^{\circ}\text{F}$                       | Average value: 226 $^{\circ}\text{C}$ Grade Count:25                |
| Maximum Service Temperature, Air            | 110 - 170 $^{\circ}\text{C}$                 | 230 - 338 $^{\circ}\text{F}$                       | Average value: 159 $^{\circ}\text{C}$ Grade Count:6                 |
| Deflection Temperature at 0.46 MPa (66 psi) | 135 - 220 $^{\circ}\text{C}$                 | 275 - 428 $^{\circ}\text{F}$                       | Average value: 207 $^{\circ}\text{C}$ Grade Count:26                |
| Deflection Temperature at 1.8 MPa (264 psi) | 105 - 205 $^{\circ}\text{C}$                 | 221 - 401 $^{\circ}\text{F}$                       | Average value: 163 $^{\circ}\text{C}$ Grade Count:30                |
| Vicat Softening Point                       | 130 - 218 $^{\circ}\text{C}$                 | 266 - 424 $^{\circ}\text{F}$                       | Average value: 166 $^{\circ}\text{C}$ Grade Count:10                |
| Flammability, UL94                          | HB - 5VA                                     | HB - 5VA                                           | Grade Count:21                                                      |
| Flame Spread                                | 0.000 - 42.0 mm/min                          | 0.000 - 1.65 in/min                                | Average value: 16.4 mm/min Grade Count:8                            |
| Oxygen Index                                | 19.0 - 27.0 %                                | 19.0 - 27.0 %                                      | Average value: 22.4 % Grade Count:5                                 |

| Electrical Properties      | Metric                     | English                    | Comments                                      |
|----------------------------|----------------------------|----------------------------|-----------------------------------------------|
| Electrical Resistivity     | 1.00e+15 - 1.00e+16 ohm-cm | 1.00e+15 - 1.00e+16 ohm-cm | Average value: 2.90e+15 ohm-cm Grade Count:10 |
| Surface Resistance         | 1.00e+12 - 1.00e+16 ohm    | 1.00e+12 - 1.00e+16 ohm    | Average value: 1.66e+15 ohm Grade Count:10    |
| Dielectric Constant        | 3.40 - 4.10                | 3.40 - 4.10                | Average value: 3.63 Grade Count:11            |
| Dielectric Strength        | 20.0 - 117 kV/mm           | 508 - 2970 kV/in           | Average value: 34.1 kV/mm Grade Count:7       |
| Dissipation Factor         | 0.00300 - 0.0280           | 0.00300 - 0.0280           | Average value: 0.0129 Grade Count:9           |
| Comparative Tracking Index | 125 - 550 V                | 125 - 550 V                | Average value: 337 V Grade Count:12           |

| Processing Properties  | Metric        | English      | Comments                             |
|------------------------|---------------|--------------|--------------------------------------|
| Processing Temperature | 80.0 - 270 °C | 176 - 518 °F | Average value: 151 °C Grade Count:5  |
| Melt Temperature       | 240 - 280 °C  | 464 - 536 °F | Average value: 260 °C Grade Count:21 |

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