

## Bedford Plastics Glass Reinforced Polyester Structural Fiberglass Profiles

Category : Polymer , Thermoset , Filled/Reinforced Thermoset , Polyester, TS , Thermoset Polyester Glass SMC

### Material Notes:

Pultrusion results in the production and supply of one of the worlds strongest and most durable products available today. The pultruded products feature: High Strength Corrosion Resistant to many chemicals Light Weight- Weighs nearly 80% less than a steel profile of similar dimension Electrically Non-Conductive Non-Metallic Lower Life Cycle Cost Non-Leaching. Environmentally Friendly Dimensional Stability Information provided by Bedford Plastics.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Bedford-Plastics-Glass-Reinforced-Polyester-Structural-Fiberglass-Profiles.php](http://www.lookpolymers.com/polymer_Bedford-Plastics-Glass-Reinforced-Polyester-Structural-Fiberglass-Profiles.php)

| Physical Properties | Metric           | English                            | Comments          |
|---------------------|------------------|------------------------------------|-------------------|
| Density             | 1.72 - 1.94 g/cc | 0.0620 - 0.0700 lb/in <sup>3</sup> | ASTM D792         |
| Water Absorption    | <= 0.45 %        | <= 0.45 %                          | 24 hrs; ASTM D570 |

| Mechanical Properties      | Metric   | English   | Comments                     |
|----------------------------|----------|-----------|------------------------------|
| Hardness, Barcol           | 45       | 45        | ASTM D2583                   |
| Tensile Strength, Ultimate | 48.3 MPa | 7000 psi  | Crosswise; ASTM D638         |
|                            | 207 MPa  | 30000 psi | Lengthwise; ASTM D638        |
| Tensile Modulus            | 5.52 GPa | 800 ksi   | Crosswise; ASTM D638         |
|                            | 17.2 GPa | 2500 ksi  | Lengthwise; ASTM D638        |
| Flexural Strength          | 68.9 MPa | 10000 psi | Crosswise; ASTM D790         |
|                            | 207 MPa  | 30000 psi | Lengthwise; ASTM D790        |
| Flexural Modulus           | 5.52 GPa | 800 ksi   | Crosswise; ASTM D790         |
|                            | 12.4 GPa | 1800 ksi  | Lengthwise; ASTM D790        |
| Compressive Strength       | 103 MPa  | 15000 psi | Crosswise; ASTM D635         |
|                            | 207 MPa  | 30000 psi | Lengthwise; ASTM D635        |
| Compressive Modulus        | 6.89 GPa | 1000 ksi  | Crosswise; ASTM D635         |
|                            | 17.2 GPa | 2500 ksi  | Lengthwise; ASTM D635        |
| Shear Modulus              | 3.10 GPa | 450 ksi   |                              |
| Shear Strength             | 31.0 MPa | 4500 psi  | Short Beam Shear; ASTM D2344 |
|                            | 68.9 MPa | 10000 psi | Punch Shear; ASTM D732       |

| Impact, Notched<br>Mechanical Properties | 2.14 J/cm<br>Metric | 4.00 ft-lb/in<br>English | Crosswise; ASTM D256<br>Comments |
|--|---------------------|--------------------------|----------------------------------|
|  | 13.3 J/cm           | 25.0 ft-lb/in            | Lengthwise; ASTM D256            |

| Thermal Properties | Metric   | English  | Comments              |
|--------------------|--|--|-----------------------|
| CTE, linear        | 8.00 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ | 4.44 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ | Lengthwise; ASTM D696 |
|                    | @Temperature 20.0 $^{\circ}\text{C}$             | @Temperature 68.0 $^{\circ}\text{F}$               |                       |

| Electrical Properties | Metric           | English          | Comments                                     |
|-----------------------|------------------|------------------|--|
| Dielectric Constant   | 5.0              | 5.0              | Perpendicular to Laminate Face;<br>ASTM D150 |
|                       | @Frequency 60 Hz | @Frequency 60 Hz |  |
| Dielectric Strength   | 1.38 kV/mm       | 35.0 kV/in       | Lengthwise; ASTM D149                        |
|                       | 7.87 kV/mm       | 200 kV/in        | Perpendicular to Laminate Face;<br>ASTM D149 |
| Arc Resistance        | 120 sec          | 120 sec          | Lengthwise; ASTM D495                        |

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