**T1100G**

**INTERMEDIATE MODULUS CARBON FIBER**

Next-generation intermediate modulus fiber with excellent processability in traditional manufacturing methods (weaving, prepreg, etc). Manufactured in the U.S.

### PRODUCT DESIGNATION

<table>
<thead>
<tr>
<th>T1100G</th>
<th>C</th>
<th>12,000</th>
<th>7</th>
<th>1</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiber Type</td>
<td>Twist</td>
<td>Filament Count</td>
<td>Sizing Type</td>
<td>Surface Treatment</td>
<td>Sizing Amount</td>
</tr>
</tbody>
</table>

*Twisted: T1100G-Twisted

### FIBER PROPERTIES

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>ENGLISH</th>
<th>METRIC</th>
<th>METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile Strength</td>
<td>1,017 kpsi</td>
<td>7,000 MPa</td>
<td>TY-030B-01</td>
</tr>
<tr>
<td>Tensile Modulus</td>
<td>47.0 Mpsi</td>
<td>324 GPa</td>
<td>TY-030B-01</td>
</tr>
<tr>
<td>Strain at Failure</td>
<td>2.0%</td>
<td></td>
<td>TY-030B-01</td>
</tr>
<tr>
<td>Density</td>
<td>1.79 g/cm³</td>
<td></td>
<td>TY-030B-02</td>
</tr>
<tr>
<td>Filament Diameter</td>
<td>5 μm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yield</td>
<td>12K</td>
<td>505 g/1000m</td>
<td>TY-030B-03</td>
</tr>
<tr>
<td></td>
<td>24K</td>
<td>1,010 g/1000m</td>
<td>TY-030B-03</td>
</tr>
</tbody>
</table>

### FUNCTIONAL PROPERTIES

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTE</td>
<td>-0.5 α ·10^{-6} /°C</td>
</tr>
<tr>
<td>Specific Heat</td>
<td>0.748 J/g ·°C</td>
</tr>
<tr>
<td>Thermal Conductivity</td>
<td>0.130 J/cm ·s·°C</td>
</tr>
<tr>
<td>Electric Resistivity</td>
<td>1.4 x 10^{-7} Ω·cm</td>
</tr>
<tr>
<td>Chemical Composition: Carbon</td>
<td>&gt;96%</td>
</tr>
<tr>
<td>Na + K</td>
<td>&lt;50 ppm</td>
</tr>
</tbody>
</table>

### RESIN SYSTEM COMPATIBILITY

<table>
<thead>
<tr>
<th>SIZING TYPE &amp; AMOUNT</th>
<th>RESIN SYSTEM COMPATIBILITY</th>
<th>METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>71E (0.6%)</td>
<td>Epoxy, phenolic, polyester, vinyl ester</td>
<td>TY-030B-05</td>
</tr>
</tbody>
</table>

### COMPOSITE PROPERTIES

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>ENGLISH</th>
<th>METRIC</th>
<th>METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile Strength*</td>
<td>502 Ksi</td>
<td>3,460 MPa</td>
<td>ASTM D-3039</td>
</tr>
<tr>
<td>Tensile Modulus*</td>
<td>27 Msi</td>
<td>185 GPa</td>
<td>ASTM D-3039</td>
</tr>
<tr>
<td>Tensile Strain</td>
<td>1.82%</td>
<td></td>
<td>ASTM D-3039</td>
</tr>
<tr>
<td>Compressive Strength*</td>
<td>271 Ksi</td>
<td>1,870 MPa</td>
<td>SACMASRM1R-94</td>
</tr>
<tr>
<td>Flexural Strength*</td>
<td>278 Ksi</td>
<td>1,920 MPa</td>
<td>ASTM D-790</td>
</tr>
<tr>
<td>Flexural Modulus*</td>
<td>23 Msi</td>
<td>159 GPa</td>
<td>ASTM D-790</td>
</tr>
<tr>
<td>ILSS</td>
<td>15 Ksi</td>
<td>104.5 MPa</td>
<td>SACMASRM1R-94</td>
</tr>
<tr>
<td>In Plain Shear Strength</td>
<td>23 Ksi</td>
<td>160 MPa</td>
<td>ASTM D-3518</td>
</tr>
<tr>
<td>90° Tensile Strength</td>
<td>12 Ksi</td>
<td>80 MPa</td>
<td>ASTM D-3039</td>
</tr>
</tbody>
</table>

*Normalized to 60% fiber volume. Cured with #2574 epoxy at 130 °C.
PACKAGING

The table below summarizes the tow sizes, twists, sizing types, and packaging available for standard material. Other bobbin sizes may be available on a limited basis.

<table>
<thead>
<tr>
<th>TOW SIZES</th>
<th>BOBBIN NET WEIGHT (kg)</th>
<th>BOBBIN TYPE</th>
<th>BOBBIN SIZE (mm)</th>
<th>SPOOL PER CASE</th>
<th>CASE NET WEIGHT (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12K</td>
<td>2.0</td>
<td>III</td>
<td>76.5</td>
<td>82.5, 280, 125, 252</td>
<td>12</td>
</tr>
<tr>
<td>24K</td>
<td>4.0</td>
<td>III</td>
<td>76.5</td>
<td>82.5, 280, 160, 252</td>
<td>6</td>
</tr>
</tbody>
</table>

Bobbin Type:

Type III

Please refer to SDS for handling and disposal.