HMT317

250-300°F (121-149°C) Cure Hot-melt Towpreg

Typical applications
- Marine
- Medical
- Industrial
- Sporting goods

Out life
- 21 days at 70°F (21°C)

Shelf life
- 3 months at 40°F (4°C)
- 6 months at 0°F (-18°C)

Description
HMT317 is a 250*-300°F (121*-149°C) cure, hot melt towpreg, utilizing a semi-toughened, controlled flow epoxy resin matrix. Versatile processing, excellent mechanical properties, and long out time make HMT317 suitable for a variety of applications.

Benefits/features
- Environmentally friendly (solvent free, no release paper nor cover film)
- Consistent resin content, +/-3%
- Stable band width
- Easy de-spooling
- High tack (adjustable)
- Excellent mechanical properties
- Available on a wide range of standard, intermediate, and high modulus carbon fibers
- Compatible with many of our 250°F (121°C) to 300°F (149°C) cure epoxy systems

Application
Superior quality and general purpose applications make HMT317 well suited for filament winding process and/or fiber placement process in variety of structural applications in sporting goods, marine, medical, and industrial markets.

Recommended processing conditions
HMT317 can be cured at temperatures from 250*-300°F (121*-149°C) depending on part size and complexity. Low, medium, and high pressure molding techniques may be used to cure HMT317 resin. Recommended cure cycle is 50–100 psi (345–690 kPa), 3°F/min (1.7°C/min) ramp to 275°F (135°C), hold for 60-90 minutes, cool to <140°F (60°C).
Neat resin [values are average and do not constitute a specification]

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gel time @ 275°F (135°C), minutes</td>
<td>4 - 6</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.22</td>
</tr>
<tr>
<td>T_&lt;sub&gt;g&lt;/sub&gt; (DMA, E'), °C (°F)</td>
<td>125 (257)</td>
</tr>
</tbody>
</table>

Mechanical data [values are average and do not constitute a specification]

34-700 33% RC, press cured, 25psi, 60 minutes at 275°F, as tested

<table>
<thead>
<tr>
<th>Property</th>
<th>Test method</th>
<th>RT</th>
<th>200°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>0° Tensile strength, ksi (MPa)</td>
<td>ASTM D3039</td>
<td>300 (2070)</td>
<td>257 (1770)</td>
</tr>
<tr>
<td>0° Tensile modulus, Msi (GPa)</td>
<td></td>
<td>16 (110)</td>
<td>--</td>
</tr>
<tr>
<td>0° Compressive strength, ksi (MPa)</td>
<td>ASTM D695mod</td>
<td>138 (951)</td>
<td>135 (931)</td>
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<tr>
<td>0° Compressive modulus, Msi (GPa)</td>
<td></td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>0° Flexural strength, ksi (MPa)</td>
<td>ASTM D790</td>
<td>238 (1640)</td>
<td>160 (1100)</td>
</tr>
<tr>
<td>0° Flexural modulus, Msi (GPa)</td>
<td></td>
<td>17.7 (122)</td>
<td>17.1 (118)</td>
</tr>
<tr>
<td>0° Short beam shear strength, ksi (MPa)</td>
<td>ASTM D2344</td>
<td>11.0 (75.8)</td>
<td>7.0 (48.3)</td>
</tr>
</tbody>
</table>

Gel curve

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