UF3352 is a solvent-free, controlled flow epoxy based resin that is designed to deliver performance similar to TCR’s UF3325 prepreg resin, but with lower tack and flow for unidirectional tape and fabric. This prepreg system has a one-year room temperature shelf life. It is optimally suited for cure processes using a press or autoclave, but it may also be cured via oven/vacuum bag method.

**Available Prepreg Product Formats**
- Woven form/fabric
- Unidirectional tape

**Typical Applications**
- Sporting goods
- Commercial products
- Hydraulic press cure
- Autoclave cure

**Shelf Life**
- 30 months at -18°C (0°F)
- 12 months at 24°C (75°F)
- 6 months at 32°C (90°F)

**Benefits/Features**
- Long room-temperature shelf life
- Tailored flow and tack levels
- Low resin flow during cure

**Cure Conditions**
Curing cycle for composite parts <6.35 mm or 0.25 inches in thickness
- Ramp ≤ 2.78°C/min to 154°C (310°F)
- Hold 1 hour at 154°C
- Ramp ≤ 2.78°C/min to ≤ 66°C (150°F)

Thick composite parts (>6.35 mm or 0.25 inches) will require a modified cure cycle. Please contact TCR Composites for more information.

**Resin Cure Viscosity**
Parallel-plate rheometer

**Properties**
- **Density**: 1.22 g/cc
  - Metric: 0.0441 bs/in³
  - Test Method: ASTM D 792
- **Tensile Strength**: 76.5 MPa
  - English: 11.1 kpsi
  - Test Method: ASTM D 638
- **Tensile Modulus**: 2.94 GPa
  - English: 427 kpsi
  - Test Method: ASTM D 638
- **Strain (% Elongation)**: 3.75%
  - Test Method: ASTM D 638

**DMA – Dry Glass Transition**
- **Glass Transition – E' Peak**: 132°C
  - Test Method: ASTM E 1640
- **Glass Transition – E' Onset**: 130°C
  - Test Method: ASTM E 1640
- **Glass Transition – Tan δ Peak**: 146°C
  - Test Method: ASTM E 1640

**DMA – Wet Glass Transition**
- **Glass Transition – E' Peak**: 86°C
  - Test Method: ASTM E 1640
- **Glass Transition – E' Onset**: 81°C
  - Test Method: ASTM E 1640
- **Glass Transition – Tan δ Peak**: 98°C
  - Test Method: ASTM E 1640

**Water Absorption**
- 3.8%
  - Test Method: ASTM D 570

* Cure cycle: 1 hour at 154°C
** DMA wet glass transition and water absorption measured after 24-hour water boil
**Composite Properties**

Reinforcement: T300-3K 2x2 twill 50° carbon fiber fabric.

Composite properties are express to two significant figures.

Cure cycle: 4 hours at 132°C (270°F), via vacuum bag oven cure, tests conducted at 22°C (72°F)

<table>
<thead>
<tr>
<th>Properties</th>
<th>Metric</th>
<th>English</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>0° Tensile Strength</td>
<td>0.75 GPa</td>
<td>110 kpsi</td>
<td>ASTM D3039</td>
</tr>
<tr>
<td>0° Tensile Modulus</td>
<td>76 GPa</td>
<td>11 Mpsi</td>
<td>ASTM D3039</td>
</tr>
<tr>
<td>0° Tensile Percent Strain</td>
<td>1.0%</td>
<td></td>
<td>ASTM D3039</td>
</tr>
<tr>
<td>0° Tensile Poisson’s Ratio</td>
<td>0.20</td>
<td></td>
<td>ASTM D3039</td>
</tr>
<tr>
<td>0° Compressive Strength</td>
<td>0.62 GPa</td>
<td>9.0x10¹ kpsi</td>
<td>SACMA SRM 1R-94</td>
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<tr>
<td>0° Compression Modulus</td>
<td>52 GPa</td>
<td>7.5 Mpsi</td>
<td>SACMA SRM 1R-94</td>
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<tr>
<td>Short Beam Strength</td>
<td>63 MPa</td>
<td>9.1 kpsi</td>
<td>ASTM D2344</td>
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<tr>
<td>Flexural Strength</td>
<td>0.74 GPa</td>
<td>108 kpsi</td>
<td>ASTM D790</td>
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</table>
Cure Profiles

<table>
<thead>
<tr>
<th>Option</th>
<th>Ramp Up</th>
<th>Hold Temperature</th>
<th>Hold Time (hours)</th>
<th>Ramp Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>≤2.78°C/min (5°F/min)</td>
<td>154°C (310°F)</td>
<td>1</td>
<td>≤2.78°C/min (5°F/min) to 66°C (150°F) or less</td>
</tr>
<tr>
<td>2</td>
<td>143°C (290°F)</td>
<td>132°C (270°F)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>143°C (290°F)</td>
<td>132°C (270°F)</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

All values presented within this technical data sheet are expected ranges based on actual test data. Since values are dependent on specimen preparation and test method, TCR Composites cannot guarantee that these properties will be obtained in all cases. Data should be used only as an indication, since part or component properties are highly dependent on user process and design. It is recommended that end users determine the suitability of this material for each application through their own testing and evaluation.