Epoxy tooling prepreg system

RP800
50°C Cure

Applications
• Composite tooling

TDS0002
Description

RP800 is an epoxy tooling prepreg system capable of withstanding temperatures up to 190°C after full post cure.

RP800 is available in carbon and glass woven fabrics from 200 - 800 g/m² impregnated with epoxy resin. RP800 prepreg allows high quality tooling laminates to be produced directly from a low temperature master model permitting a wide choice of master model materials. Using a low temperature vacuum bag and autoclave process for initial cure, the tool laminate can then be demoulded for freestanding post cure.

Key Features & Benefits

- Initial cure from 50°C
- Post cure: 170°C
- Autoclave processing
- Excellent surface finish

Shelf life

<table>
<thead>
<tr>
<th>Storage Temperature</th>
<th>Shelf life</th>
</tr>
</thead>
<tbody>
<tr>
<td>-18°C</td>
<td>12 months</td>
</tr>
<tr>
<td>20°C</td>
<td>Tack life: 4 days</td>
</tr>
<tr>
<td></td>
<td>Out life: 5 days</td>
</tr>
</tbody>
</table>

Material Types

<table>
<thead>
<tr>
<th>Fibre Type</th>
<th>Weave Style</th>
<th>Weight</th>
<th>Thickness/Ply</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon</td>
<td>Twill 2/2</td>
<td>200 g/m²</td>
<td>0.23 mm</td>
<td>1250 mm</td>
</tr>
<tr>
<td>Carbon</td>
<td>Twill 2/2</td>
<td>645 g/m²</td>
<td>0.72 mm</td>
<td>1250 mm</td>
</tr>
<tr>
<td>Glass</td>
<td>8HS</td>
<td>300 g/m²</td>
<td>0.25 mm</td>
<td>1250 mm</td>
</tr>
<tr>
<td>Glass</td>
<td>Twill 2/2</td>
<td>800 g/m²</td>
<td>0.70 mm</td>
<td>1250 mm</td>
</tr>
</tbody>
</table>

Other fabric styles available
Cure Cycle

Heat ramp up rate: 1.0 - 2.0°C/minute up to temperature, under 6-7 bar pressure and >0.9 bar vacuum.

Preferred initial cure can be either of the following:
50°C for 8 hours
60°C for 4 hours

Ensure even heat in the autoclave and make sure that temperature does not exceed over 5°C of the component initial cure temperature.

When the entire component has reached the initial curing temperature, hold for the specified time.

Cool the laminate under pressure to room temperature (or <30°C) at 3°C per minute (max). Tooling can be demoulded from the master after this cure.

For post cure, the tool must rest on a level surface to prevent possible deformation. The recommended post cure cycle is as follows:

• From initial cure temperature, ramp up at 1°C per minute up to 170°C and cure for >2.5 hours, then cool naturally. This will provide a Tg >170°C (DSC).
• Post cure > 4h @ 170°C provides a Tg of 190°C (DSC).

The maximum heat ramp up rate at each stage is 1°C/minute.

Health and Safety: Refer to the Material Safety Datasheet before use.
Find out what PRF can do for your business

Make an enquiry today at:
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Plastic Reinforcement Fabrics Ltd