3500FR

250-300°F (120-150°C) Cure High Performance
Epoxy Resin Adhesive

Typical applications
Aerospace
Military

Description
3500FR is a 250°F (120°C) to 300°F (150°C) cure, high performance, flame retardant, epoxy film adhesive designed for bonding metallic and honeycomb core materials in applications ranging from -67° (-55°C) to 180°F (82°C).

Benefits/features
• Flame retardant
• Meets FAR 25.853 Appendix F, Part I, (a)(1)(i) flammability requirements
• Meets: MMM-A-132B, Type I, Class 2, Group 3
• Meets MIL-A-25463B, Type I, Class 2, Group 3
• High peel and shear strength properties
• Exceptional metal-to-metal and honeycomb bonds
• Co-curable with most 250°F (120°C) cure prepreg
• Controlled flow

Application
3500FR is suited for structural and secondary bonding applications in aerospace and military where both flame retardancy and exceptional bond strength is required.

3500FR is supplied in standard film weights from 0.030 to 0.090 psf (150-450 gsm), and a variety of commercially available carriers, including:

• Non-woven polyester carrier (HC)
• Nylon mesh (N) and tricot (TR)
• Unsupported (U)

Recommended processing conditions
3500FR can be cured at temperatures from 250°F to 300°F (120°C -150°C) depending on part size and complexity. Low, medium and high pressure molding techniques may be used for curing. Recommended cure cycle is 35 psi (241 kPa); 3°F (1.7°C)/min ramp to 275°F (135°C); hold for 60 minutes, cool to <140°F (60°C).

Contact your account manager or MCCFC technical support to discuss specific applications.
Neat resin (values are average and do not constitute a specification)

<table>
<thead>
<tr>
<th>Property</th>
<th>Measured value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gel time @ 275°F (135°C), minutes</td>
<td>3 – 5</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.22</td>
</tr>
<tr>
<td>T&lt;sub&gt;g&lt;/sub&gt; (DMA, E'), °F (°C)</td>
<td>239 (115)</td>
</tr>
</tbody>
</table>

Mechanical data (values are average and do not constitute a specification)

TB3500 HC 0.060
Press cured, 25 psi, 60 minutes at 275°F

<table>
<thead>
<tr>
<th>Property</th>
<th>Test method</th>
<th>-67°F (-55°C)</th>
<th>RT</th>
<th>180°F (82°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile shear strength, psi (Mpa)*</td>
<td>ASTM D1002</td>
<td>3880 (26.7)</td>
<td>5300 (36.5)</td>
<td>3190 (21.9)</td>
</tr>
<tr>
<td>T peel strength, lbs/in (N/mm)*</td>
<td>ASTM D1876</td>
<td>22.6 (3.96)</td>
<td>29.9 (5.24)</td>
<td>45.7 (8.11)</td>
</tr>
<tr>
<td>Climbing drum peel strength, in-lbs/in (Nm/m)**</td>
<td>ASTM D1781</td>
<td>16.3 (72.5)</td>
<td>18.3 (81.4)</td>
<td>19.0 (84.5)</td>
</tr>
</tbody>
</table>

*MMM-A-132B, Type I, Class 2  **MIL-A-25463B, Type I, Class 1

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