102

250-300°F (120-150°C) Cure Epoxy Film Adhesive

Typical applications
Aerospace
Sporting goods
Marine
Wind energy
Industrial

Out life
30 days at 70°F (21°C)

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

Description
102 is a 250°F (120°C) to 300°F (150°C) cure, long out time, general purpose epoxy film adhesive designed for bonding applications requiring high strengths from -67°F (-55°C) to 180°F (82°C).

Benefits/features
• High toughness
• High strength sandwich panel bonds
• Co-curable with most 250°F (120°C) curing prepregs

Application
102 is suited for structural and secondary bonding applications in aerospace, sporting goods, marine, wind energy, and industrial manufacturing. High shear and peel strengths make 102 ideal for metal-to-metal bonding and sandwich panel manufacturing.

102 is supplied in standard film weights from 0.030 - 0.090psf (150 - 450gsm), either unsupported or on a variety of commercially available reinforcements, including:

Non-woven polyester mat (HC)
Nylon mesh (N), and tricot (TR)
Unsupported (U)
Metal meshes for electrical management

Recommended processing conditions
102 can be cured at temperatures from 250°F (120°C) to 300°F (150°C), depending on part size and complexity. Low, medium, and high pressure molding techniques may be used to cure 102. Recommended cure cycle is 25 psi (172kPa), 3°F (1.7°C)/min ramp to 285°F (141°C), hold for 45 minutes, cool to <140°F (60°C).

Please 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>4 – 7</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.20</td>
</tr>
<tr>
<td>T&lt;sub&gt;g&lt;/sub&gt; (DMA, E'), °F (°C)</td>
<td>230 (110)</td>
</tr>
</tbody>
</table>

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

Metal to metal tests MMM-A-132, Sandwich tests MIL-A-25463 NB102HC @ 0.060 psf, press cured, 25 psi, 45 min at 285°F

<table>
<thead>
<tr>
<th>Property</th>
<th>Test method</th>
<th>-67°F</th>
<th>RT</th>
<th>180°F</th>
<th>220°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile shear strength, psi (MPa)</td>
<td>ASTM D1002</td>
<td>4100 (28)</td>
<td>4500 (31)</td>
<td>3000 (21)</td>
<td>2300 (16)</td>
</tr>
<tr>
<td>Climbing drum peel strength, in-lbs/in (m-N.m)</td>
<td>ASTM D1781</td>
<td>11 (49)</td>
<td>16 (71)</td>
<td>12 (53)</td>
<td>--</td>
</tr>
<tr>
<td>Flatwise tensile strength, psi (Mpa)</td>
<td>ASTM C297</td>
<td>1000 (6.9)</td>
<td>1100 (7.6)</td>
<td>800 (5.5)</td>
<td>--</td>
</tr>
<tr>
<td>Flexural strength, lbs (kN)</td>
<td>ASTM C393</td>
<td>2800 (12)</td>
<td>2900 (13)</td>
<td>2400 (11)</td>
<td>--</td>
</tr>
</tbody>
</table>
The information contained herein has been obtained under controlled laboratory conditions and are typical or average values and do not constitute a specification, guarantee, or warranty. Results may vary under different processing conditions or in combination with other materials. The data is believed to be reliable but all suggestions or recommendations for use are made without guarantee. You should thoroughly and independently evaluate materials for your planned application and determine suitability under your own processing conditions before commercialization. Furthermore, no suggestions for use or material supplied shall be considered a recommendation or inducement to violate any law or infringe any patent.