Starting Formulation

SF 7003
Rapid Curing Potting Compound
EPON™ Resin 828 / HELOXY™ Modifier 62 / EPIKURE™ Curing Agent 3271

Introduction
This thermal shock resistant, epoxy compound is designed for potting preheated assemblies. It cures to handling strength in 2 to 3 minute cycles. Maximum properties, including 150 °C heat resistance, are achieved following a post cure of 60 minutes at 125 °C.

Formula

<table>
<thead>
<tr>
<th>Material</th>
<th>Supplier</th>
<th>Pounds</th>
<th>Gallons</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Resin Portion</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPON Resin 828</td>
<td>Hexion</td>
<td>83</td>
<td>8.60</td>
</tr>
<tr>
<td>HELOXY Modifier 62</td>
<td>Hexion</td>
<td>17</td>
<td>1.87</td>
</tr>
<tr>
<td>DC-200 Fluid, 100 centistroke grade</td>
<td>Dow-Corning Corp.</td>
<td>0.007</td>
<td>0.0001</td>
</tr>
<tr>
<td>Novacite 325 Silica</td>
<td>Malvern Minerals</td>
<td>130</td>
<td>5.89</td>
</tr>
<tr>
<td>1/16-inch Milled Glass with epoxy compatible finish</td>
<td>Owens-Corning Fiberglass</td>
<td>4</td>
<td>0.19</td>
</tr>
<tr>
<td><strong>Converter Portion</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPIKURE Curing Agent 3271</td>
<td>Hexion</td>
<td>11.4</td>
<td>1.33</td>
</tr>
<tr>
<td>Aromatic Amine Eutectic ¹</td>
<td></td>
<td>7.6</td>
<td>0.81</td>
</tr>
<tr>
<td></td>
<td></td>
<td>19.0</td>
<td>2.14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>234.007</td>
<td>16.551</td>
</tr>
</tbody>
</table>

¹ A 60/40 blend of para, para’-diaminodiphenylmethane and metaphenylenediamine.

Compounding

Resin Portion – Blend EPON Resin 828, HELOXY Modifier 62, and DC-200 air release agent to a homogeneous liquid under moderate speed agitation. Add the Novacite filler and milled glass and disperse thoroughly under high shear agitation.

Converter Portion – Preheat the aromatic amine eutectic to between 50 and 60 °C and agitate in the original container to redissolve any crystallized portion and restore the mixture to a homogeneous state. Combine with EPIKURE 3271 Curing Agent, blending under moderate speed agitation to a uniform composition. Store in tightly sealed metal or polyolefin plastic containers.

Potting Procedure
Preheat the resin portion to 55 °C or higher for convenient pumping and handling. Proportion and mix the resin and converter in mechanical metering and dispensing equipment. The resin/converter ratio is 12.3:1 by weight and 7.7:1 by volume.

Preheat the mold cavity to 125 °C and fill with the mixed compound. Maintain the temperature for 2 to 3 minutes, then grind off any overfill. Post cure the units for 60 minutes at 125°C to develop maximum thermal and physical strength properties.

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