Starting Formulation

SF 7007

Rapid Curing Potting Compound for Clutch Coils

EPON™ Resin 813 and 828 / EPIKURE™ Curing Agent 3271

Introduction

This formulation is designed for use as a thermal shock resistant, epoxy compound for potting preheated clutch coils. It cures to handling strength in 2 to 3 minute cycles. Maximum properties, including 150 °C heat resistance, are achieved with a post cure of 60 minutes at 120 °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 813</td>
<td>Hexion</td>
<td>63</td>
<td>6.64</td>
</tr>
<tr>
<td>EPON Resin 828</td>
<td>Hexion</td>
<td>37</td>
<td>3.83</td>
</tr>
<tr>
<td>DC-200 Fluid, 100 centistoke</td>
<td>Dow-Corning Corp.</td>
<td>0.007</td>
<td>0.001</td>
</tr>
<tr>
<td>grade</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Novacite 325 Silica</td>
<td>Malvern Minerals Co.</td>
<td>130</td>
<td>5.89</td>
</tr>
<tr>
<td>1/16-inch Milled Glass ¹</td>
<td></td>
<td>4</td>
<td>0.19</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>234.007</td>
<td>16.551</td>
</tr>
</tbody>
</table>

| **Converter Portion**           |                  |        |         |
| EPIKURE Curing Agent 3271       | Hexion           | 11.4   | 1.33    |
| Aromatic Amine Eutectic ²       |                  | 7.6    | 0.81    |
|                                 |                  | 19.0   | 2.14    |

¹ Epoxy compatible finish (Owens-Corning Fiberglas Co.)

² A 60/40 blend of para, para’-diaminodiphenylmethane and meta-phenylenediamine.

Compounding

Resin Portion – Blend the epoxy resins 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 52 to 66 °C and agitate in the original container to redissolve any crystallized portion and restore the mixture to a homogeneous state. Combine the aromatic amine eutectic and EPIKURE 3271 Curing Agent, blending under moderate speed agitation to a uniform composition. Package in tightly sealed metal or polyolefin plastic containers.

Potting Procedure

Preheat the resin portion to 54 °C or higher for convenient pumping and handling. Proportion and mix the resin and converter portions in mechanical metering and dispensing equipment. The ratio of resin portion to converter should be 12.3:1 by weight or 7.7:1 by volume.

Prepare the clutch coil unit to 120 °C and fill with the mixed compound. Maintain the temperature for 2 to 3 minutes, then grind off any overfill if necessary. Postcure the units.

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temperature for 2 to 3 minutes, then grind off any overfill if necessary. Postcure the units for 60 minutes at 120 °C to develop maximum thermal and physical strength properties.

Storage
Recommendations regarding storage conditions can be obtained by visiting our web site at www.hexion.com

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