Starting Formulation

SF 6019

Chemical Resistant Epoxy Clear Coating

EPON™ Resin 828 / EPIKURE™ Curing Agent 3251

Introduction

This epoxy formulation is designed for those applications that require a chemically resistant clear coating that cures at low temperatures (40-50 °F). This formulation offers high solids sprayability and resistance to a broad spectrum of chemicals, such as alkalis, dilute acids, aliphatic hydrocarbon solvents, salt solutions, sugar solutions, and greases.

Formula

<table>
<thead>
<tr>
<th>Material</th>
<th>Supplier</th>
<th>Pounds</th>
<th>Gallons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resin Portion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPON Resin 828</td>
<td>Hexion</td>
<td>100</td>
<td>10.31</td>
</tr>
<tr>
<td>Converter Portion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPIKURE Curing Agent 3251</td>
<td>Hexion</td>
<td>40</td>
<td>4.82</td>
</tr>
</tbody>
</table>

Compounding

Blend resin portion into the converter portion and blend to a homogeneous state using proper agitation equipment. Avoid entrainment of excessive air in the blend during high speed agitation, but mix thoroughly by agitating at low or moderate speeds for 3 to 5 minutes. An induction time is not necessary for this formulation. Due to its limited pot life, apply this system immediately after mixing.

Remove surface contaminants such as dust, dirt, grease and weakened concrete laitance. For optimum performance and cure response, this system should be applied to substrates with surface temperatures above 5 °C (40 °F).

Compounding and Application

This coating can be applied easily by spray, brush, paint roller, or squeegee. Coverage rates depend on the application technique, substrate porosity, and intended function, but for most applications and average thickness of 5 to 15 mils (320 to 110 square feet/gallon) is typical. Film weights at the low end of the range are for sealer applications and higher film weights are for finish coat applications. Cure for 12 to 16 hours at normal room temperature before opening to light traffic; a 2 to 3 day cure period should precede exposure to heavy traffic or corrosive chemicals.

Typical Handling Properties

Table 1 / Handling Properties

<table>
<thead>
<tr>
<th>Units</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPON Resin 828</td>
<td>100</td>
</tr>
<tr>
<td>EPIKURE Curing Agent 3383</td>
<td>40</td>
</tr>
<tr>
<td>Pot life @ 25°C, 100g mass</td>
<td>min. 16</td>
</tr>
<tr>
<td>Viscosity 25 °C, of mix</td>
<td>cP 2,300</td>
</tr>
<tr>
<td>Cure Schedule</td>
<td>7 days at 25 °C</td>
</tr>
</tbody>
</table>

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## Typical Performance Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Unit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry film thickness</td>
<td>mils</td>
<td>2.4</td>
</tr>
<tr>
<td>Impact, forward/reverse</td>
<td>in-lbs</td>
<td>40/40</td>
</tr>
<tr>
<td>Pencil hardness</td>
<td></td>
<td>H</td>
</tr>
<tr>
<td>MEK double rub</td>
<td></td>
<td>54</td>
</tr>
<tr>
<td>Gloss 85°</td>
<td>%</td>
<td>94</td>
</tr>
</tbody>
</table>

### Chemical Resistance

<table>
<thead>
<tr>
<th>Substance</th>
<th>Duration</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>5% Acetic Acid</td>
<td>1 day</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>7 days</td>
<td>0.3</td>
</tr>
<tr>
<td></td>
<td>30 days</td>
<td>1.0</td>
</tr>
<tr>
<td>Deionized Water</td>
<td>1 day</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>7 days</td>
<td>0.2</td>
</tr>
<tr>
<td></td>
<td>30 days</td>
<td>0.6</td>
</tr>
<tr>
<td>50/50 IPA/Xylene</td>
<td>1 day</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>7 days</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>30 days</td>
<td>N/R</td>
</tr>
<tr>
<td>10% NaOH</td>
<td>1 day</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>7 days</td>
<td>0.2</td>
</tr>
<tr>
<td></td>
<td>30 days</td>
<td>0.5</td>
</tr>
</tbody>
</table>

¹ ASTM D 543-6, wt % gain

### General Information

These are starting formulations and are not proven in the user’s particular application but are simply meant to demonstrate the efficacy of the products and to assist in the development of the user’s own formulation. It is the user’s responsibility to fully test and qualify the formulation, along with the ingredients, methods, applications or equipment identified herein ("Information"), by the user’s knowledgeable formulator or scientist, and to determine the appropriate use conditions and legal restrictions, prior to use of any Information.

### Safety, Storage & Handling

Please refer to the MSDS for the most current Safety and Handling information.

Exposure to these materials should be minimized and avoided, if feasible, through the observance of proper precautions, use of appropriate engineering controls and proper personal protective clothing and equipment, and adherence to proper handling procedures. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheet (MSDS) for these and all other products being used are understood by all persons who will work with them. Questions and requests for...
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