50-3150 FR
FLAME RETARDANT THERMALLY CONDUCTIVE EPOXY RESIN; UL94 V-0 LISTED

DESCRIPTION:
50-3150 FR has been formulated to meet the stringent non-burning requirements of UL94 V-0. 50-3150 FR Black Epoxy with Catalyst 190 and Catalyst 30 are listed with Underwriter’s Laboratory for passing UL94 V-0. This system offers excellent heat transfer, low shrinkage, and outstanding insulation properties.

50-3150FR with Catalyst 30 has a UL (746B) Relative Temperature Index (RTI) rating of 130°C.

50-3150FR Black with Catalyst 190 passes NASA’s outgassing requirements per ASTM E595-07.

Typical applications for 50-3150 FR include potting and encapsulating power supplies, transformers, electric motors, capacitors, batteries, coils, insulators, sensors, devices for intrinsic safety, etc... This system is an excellent choice for applications requiring high thermal conductivity and flame retardancy.

TYPICAL SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity @ 25°C, cps, Resin</td>
<td>60,000</td>
</tr>
<tr>
<td>Mixed with Cat. 190</td>
<td>28,000</td>
</tr>
<tr>
<td>Mixed with Cat. 30</td>
<td>17,000</td>
</tr>
<tr>
<td>Mixed with Cat. 12</td>
<td>2,000</td>
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<tr>
<td>Mixed with Cat. 150</td>
<td>1,500</td>
</tr>
<tr>
<td>Specific Gravity, 25°C</td>
<td>1.6</td>
</tr>
<tr>
<td>Hardness, Shore D</td>
<td>90</td>
</tr>
<tr>
<td>Color</td>
<td>Black</td>
</tr>
<tr>
<td>Tensile Strength, psi</td>
<td>9,850</td>
</tr>
<tr>
<td>Linear Shrinkage, in/in</td>
<td>.002</td>
</tr>
<tr>
<td>Operating Temp. Range, °C</td>
<td>-60 to +200</td>
</tr>
<tr>
<td>Dielectric Strength, V/mil</td>
<td>485</td>
</tr>
<tr>
<td>Dielectric Constant at 60 Hz</td>
<td>5.6</td>
</tr>
<tr>
<td>Volume Resistivity, ohm-cm, 25°C</td>
<td>1.5 x 10^{15}</td>
</tr>
<tr>
<td>Dissipation Factor, 60 Hz</td>
<td>.015</td>
</tr>
<tr>
<td>Thermal Conductivity, W/m- °K</td>
<td>2.16</td>
</tr>
<tr>
<td>Compressive Strength, psi</td>
<td>15,000</td>
</tr>
<tr>
<td>Coefficient of Expansion, in/in °F</td>
<td>1.4 x 10^{-5}</td>
</tr>
</tbody>
</table>

Continued
Heat Distortion, °C  155
Outgassing (with Cat. 190)
  %TML   .50
  %CVCM  .01

INSTRUCTIONS FOR USE:
A. With Catalyst 190 listed with UL 94 V-0 and passes NASA outgassing (room temperature curing):
   1. By weight, thoroughly mix 5 parts Catalyst 190 to 100 parts 50-3150 FR resin.
   2. Degas and pour. Cure at room temperature for 12-24 hours at 25°C ambient.

B. With Catalyst 30 listed with UL 94 V-0 and RTI Rating of 130°C (Heat curing - Recommended for higher operating temperature and physical property applications):
   1. By weight, thoroughly mix 10 parts Catalyst 30 to 100 parts 50-3150 FR resin.
   2. Pour and cure according to one of the following recommended cure schedules:
      a) 85°C (185°F)    3-4 hours
      b) 100°C (212°F)   2-3 hours
      For optimum performance, an additional 2 hours @ 365°F (185°C) is recommended.

C. With Catalyst 12 (room temperature curing – recommended for very large castings and very low exotherm):
   1. By weight, thoroughly mix 12 parts Catalyst 12 to 100 parts 50-3150 FR resin.
   2. Pot life will be at least 4 hours.
   3. Cure 24 to 48 hours at room temperature or 4-6 hours at 65°C.

D. With Catalyst 150 (room temperature/heat curing—recommended for low mixed viscosity):
   1. By weight, thoroughly mix 17 parts Catalyst 150 to 100 parts 50-3150 FR resin.
   2. Degas and pour. Cure at room temperature for 24 hours or for 2-3 hours at 35-40°C.

IMPORTANT:
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