**STYCAST 1264 A/B**

**Low Viscosity, Transparent, Epoxy Encapsulant**

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**Key Feature:**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low exotherm</td>
<td>Results in low embedment stress</td>
</tr>
<tr>
<td>Low viscosity</td>
<td>Ease of dispensing and use</td>
</tr>
<tr>
<td>Good thermal shock resistance</td>
<td>Finished parts withstand harsh environmental conditions</td>
</tr>
</tbody>
</table>

**Product Description:**

STYCAST 1264 A/B is a two component, room temperature curable, transparent epoxy casting resin. It offers outstanding toughness, impact strength and resistance to thermal shock. STYCAST 1264 A/B cures slightly flexible and virtually stress free. Some darkening of the cured material will occur after long exposure to temperatures above 65°C or after prolonged exposure to sunlight.

**Applications:**

STYCAST 1264 A/B is designed for laminating sheets of glass for implosion resistant safety shields for cathode ray tubes and vacuum viewing ports.

**Instructions For Use:**

Thoroughly read the information concerning health and safety contained in this bulletin before using. Observe all precautionary statements that appear on the product label and/or contained in individual Material Safety Data Sheets (MSDS).

To ensure the long term performance of the potted or encapsulated electrical/electronic assembly, complete cleaning of components and substrates should be performed to remove contamination such as dust, moisture, salt, and oils which can cause electrical failure, poor adhesion or corrosion in an embedded part. Accurately weigh resin and hardener into a clean container in the recommended ratio. Weighing apparatus having an accuracy in proportion to the amounts being weighed should be used.

Blend components by hand, using a kneading motion, for 2-3 minutes. Scrape the bottom and sides of the mixing container frequently to produce a uniform mixture. If possible, power mix for an additional 2-3 minutes. Avoid high mixing speeds which could entrap excessive amounts of air or cause overheating of the mixture resulting in reduced working life.

To ensure a void-free embedment, vacuum deairing should be used to remove any entrapped air introduced during the mixing operation. Vacuum deair mixture at 1-5 mm mercury. The foam will rise several times the liquid height and then subside. Continue vacuum deairing until most of the bubbling has ceased. This usually requires 3-10 minutes.

To facilitate deairing in difficult to deair materials, add 1-3 drops of an air release agent, such as ANTIFOAM 88, into 100 grams of mixture. Gentle warming will also help, but working life will be shortened.

Pour mixture into cavity or mold. Gentle warming of the mold or assembly reduces the viscosity. This improves the flow of the material into the unit having intricate shapes or tightly packed coils or components. Further vacuum deairing in the mold may be required for critical applications.

**Properties of Material As Supplied:**

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>Unit</th>
<th>Value - Part A</th>
<th>Value - Part B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Type</td>
<td></td>
<td>Epoxy</td>
<td></td>
<td>Amine</td>
</tr>
<tr>
<td>Appearance</td>
<td>Visual</td>
<td>Light yellow, clear liquid</td>
<td>Light yellow, clear liquid</td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td>ASTM-D-792</td>
<td>g/cm³</td>
<td>1.21</td>
<td>1.00</td>
</tr>
<tr>
<td>Brookfield Viscosity</td>
<td>ASTM-D-2393</td>
<td>Pa.s</td>
<td>8.5</td>
<td>0.035</td>
</tr>
<tr>
<td></td>
<td></td>
<td>cP</td>
<td>8,500</td>
<td>35</td>
</tr>
</tbody>
</table>

**Properties of Material As Mixed:**

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>Unit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mix Ratio - Amount of Part B per 100 parts of Part A</td>
<td>By Weight</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td></td>
<td>By Volume</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Working Life (100 g @ 25°C)</td>
<td>ERF 13-70</td>
<td>hours</td>
<td>3</td>
</tr>
<tr>
<td>Density</td>
<td>ASTM-D-792</td>
<td>g/cm³</td>
<td>1.10</td>
</tr>
<tr>
<td>Brookfield Viscosity</td>
<td>ASTM-D-2393</td>
<td>Pa.s</td>
<td>0.6</td>
</tr>
<tr>
<td></td>
<td>10 rpm # 1</td>
<td>cP</td>
<td>600</td>
</tr>
</tbody>
</table>

*Our service engineers are available to help purchasers obtain best results from our products, and recommendations are based on tests and information believed to be reliable. However, we have no control over the conditions under which our products are transported to, stored, handled, or used by purchasers and, in any event, all recommendations and sales are made on condition that we will not be held liable for any damages resulting from their use. No representative of ours has any authority to waive or change this provision. We also expect purchasers to use our products in accordance with the guiding principles of the Chemical Manufacturers Association’s Responsible Care® program.*
**Cure Schedule:**
Cure at any one of the recommended cure schedules. This product may generate excessive heat if cured rapidly in thicknesses greater than 1” (25 mm) at temperatures above 25°C.

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Cure Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>°C</td>
<td>Time (hours)</td>
</tr>
<tr>
<td>25</td>
<td>48</td>
</tr>
<tr>
<td>45</td>
<td>8</td>
</tr>
<tr>
<td>65</td>
<td>3</td>
</tr>
</tbody>
</table>

**Properties of Material After Application: (cured 3 hours at 65°C)**

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>Unit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardness</td>
<td>ASTM-D-2240</td>
<td>Shore D</td>
<td>78</td>
</tr>
<tr>
<td>Flexural Strength</td>
<td>ASTM-D-790</td>
<td>mPa</td>
<td>82.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>psi</td>
<td>12,000</td>
</tr>
<tr>
<td>Compressive Strength</td>
<td>ASTM-D-695</td>
<td>mPa</td>
<td>75.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>psi</td>
<td>11,000</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>ASTM-D-412</td>
<td>mPa</td>
<td>65.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>psi</td>
<td>9,500</td>
</tr>
<tr>
<td>Water Absorption</td>
<td>ASTM-D-570</td>
<td>%</td>
<td>0.8</td>
</tr>
<tr>
<td>Coefficient of Thermal Expansion</td>
<td>ASTM-D-3386</td>
<td>10^-6/°C</td>
<td>126</td>
</tr>
<tr>
<td>Temperature Range of Use</td>
<td></td>
<td>°C</td>
<td>-65 to +105</td>
</tr>
<tr>
<td>Dielectric Constant @ 60 Hz</td>
<td>ASTM-D-150</td>
<td>-</td>
<td>3.7</td>
</tr>
<tr>
<td>@ 1 mHz</td>
<td></td>
<td>-</td>
<td>3.3</td>
</tr>
<tr>
<td>Dissipation Factor @ 60 Hz</td>
<td>ASTM-D-150</td>
<td>-</td>
<td>0.008</td>
</tr>
<tr>
<td>@ 1 mHz</td>
<td></td>
<td>-</td>
<td>0.030</td>
</tr>
<tr>
<td>Volume Resistivity @ 25°C</td>
<td>ASTM-D-257</td>
<td>Ohm-cm</td>
<td>1 X 10^15</td>
</tr>
<tr>
<td>Dielectric Strength</td>
<td>ASTM-D-150</td>
<td></td>
<td>400 volts/mil</td>
</tr>
<tr>
<td>Refractive Index</td>
<td></td>
<td></td>
<td>1.54</td>
</tr>
</tbody>
</table>

**Storage and Handling:**
The shelf life of STYCAST 1264 Part A & Part B are 12 months at 25°C. For best results, store in original, tightly covered containers. Storage in cool, clean and dry areas is recommended. Usable shelf life may vary depending on method of application and storage conditions.

Certain resins and hardeners are prone to crystallization. If crystallization does occur, warm the contents of the shipping container to 50-60°C until all crystals have dissolved. Be sure the shipping container is loosely covered during the warming stage to prevent any pressure build-up. Allow contents to cool to room temperature before continuing.

Good industrial hygiene and safety practices must be used when handling this product. Proper eye protection and appropriate chemical resistant clothing must be worn to prevent contact and possible skin absorption. Consult the Material Safety Data Sheet (MSDS) for detailed recommendations on the use of engineering controls, personal protective equipment and first aid procedures.

**Health and Safety:**
The STYCAST 1264 Part A, like most epoxy compounds, possesses the ability to cause skin and eye irritation upon contact. Certain individuals may also develop an allergic reaction after exposure (skin contact, inhalation of vapours, etc.) which may manifest itself in a number of ways including skin rashes and an itching sensation. Handling this product at elevated temperatures may also generate vapours irritating to the respiratory system.

The STYCAST 1264 Part B is classified as a corrosive material. Direct contact with unprotected eyes or skin can cause severe burns. Certain individuals may also develop an allergic skin or respiratory reaction after exposure (skin contact, skin absorption, inhalation of vapors, etc.). These reactions may manifest themselves in a number of ways including skin rashes, and itching sensations. Handling this product at elevated temperatures may also generate vapours irritating to the respiratory system.

**Not for product specifications**
The technical data contained herein are intended as reference only. Please contact HITEK for assistance and recommendations on specifications for this product.