

STYCAST[®] 1266 A/B

Two Component, Low Viscosity, Epoxy Encapsulant

Internet Address:
www.emersoncuming.com

| Key Feature: | Benefit: |
|--|---|
| <ul style="list-style-type: none"> Optical clarity | <ul style="list-style-type: none"> Facilitates visual inspection of protected components |
| <ul style="list-style-type: none"> Low viscosity | <ul style="list-style-type: none"> Excellent wicking and flow around parts in tight clearance applications |
| <ul style="list-style-type: none"> High impact strength | <ul style="list-style-type: none"> Enhance long term durability of assembly |

Product Description:

STYCAST 1266 A/B is a clear, low viscosity, room temperature curable, epoxy encapsulant and impregnant. It has good moisture resistance, good electrical properties, and good impact strength. STYCAST 1266 A/B adheres well to metals, glass, and plastics.

Applications:

STYCAST 1266 A./B is designed to readily impregnate windings, to bond lenses and sheets of glass for good visibility, or for display embedments.

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.

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:

| Property | Test Method | Unit | Value - Part A | Value - Part B |
|----------------------|-------------|-------------------|---------------------|----------------------|
| Chemical Type | | | Epoxy | Amine |
| Appearance | Visual | | Clear, amber liquid | Clear, yellow liquid |
| Density | ASTM-D-792 | g/cm ³ | 1.16 | 1.00 |
| Brookfield Viscosity | ASTM-D-2393 | Pa.s cP | 8.5 8,500 | 0.035 35 |

Properties of Material As Mixed:

| Property | Test Method | Unit | Value |
|--|-------------|-------------------|-------------|
| Mix Ratio - Amount of Part B per 100 parts of Part A | | By Weight | 28 |
| | | By Volume | 33 |
| Working Life (100 g @ 25°C) | ERF 13-70 | minutes | 30 |
| Density | ASTM-D-792 | g/cm ³ | 1.12 |
| Brookfield Viscosity | ASTM-D-2393 | Pa.s cP | 0.65 650 |

Cure Schedule:

Cure at any one of the recommended cure schedules. For optimum performance, follow the initial cure with a post cure of 2 hours at 100°C. Alternate cure schedules may also be possible. Contact your Emerson & Cuming Technical Representative for further information. This product generates moderate heat during cure. No adverse exotherm effects are obtained when cured at 65°C in masses up to approximately 100 grams.

Applications requiring more than 100 grams of material should be cured at the lowest recommended temperature to prevent the possibility of adverse exotherm effects.

| Temperature | Cure Time |
|-------------|--------------|
| °C | Time (hours) |
| 25 | 8 – 16 |
| 65 | 1 - 2 |

Properties of Material After Application:

| Property | Test Method | Unit | Value |
|-----------------------------|-------------|----------------|----------------------|
| Hardness | ASTM-D-2240 | Shore D | 75 |
| Flexural Strength | ASTM-D-790 | mPa psi | 138 20,000 |
| Compressive Strength | ASTM-D-695 | mPa psi | 69 10,000 |
| Tensile Strength | ASTM-D-412 | mPa psi | 41 6,000 |
| Temperature Range of Use | | °C | -65 to +105 |
| Dielectric Strength | ASTM-D-149 | kV/mm V/mil | 15.7 400 |
| Dielectric Constant @ 60 Hz | ASTM-D-150 | - | 3 |
| Dissipation Factor @ 60 Hz | ASTM-D-150 | - | 0.02 |
| Volume Resistivity @ 25°C | ASTM-D-257 | Ohm-cm | 6 X 10 ¹⁴ |

Storage and Handling:

The shelf life of STYCAST 1266 Parts A and 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.

or skin can cause severe burns. Certain individuals may also develop an allergic skin or respiratory reaction after exposure. These reactions may manifest themselves in a number of ways including skin rashes, itching sensation and breathing difficulties. Handling this product may also generate vapors irritating to the respiratory system.

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. 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 1266 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 vapors, 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 vapors irritating to the respiratory system.

This information is only a brief summary of the available safety and health data. Thoroughly review the MSDS for more complete information before using this product.

Attention Specification Writers:

The values contained herein are considered typical properties only and are not intended to be used as specification limits. For assistance in preparing specifications, please contact Emerson & Cuming Quality Assurance for further details.

The STYCAST 1266 Part B is classified as a corrosive material. Direct contact with unprotected eyes

- Underfills Solder Alternatives C.O.B. Materials
- Film Adhesives Thermal Interfaces



- Encapsulants Coatings Adhesives
- Electrically Conductive Coatings and Adhesives

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