

# LOCTITE STYCAST 2075

August 2018

## PRODUCT DESCRIPTION

LOCTITE STYCAST 2075 provides the following product characteristics:

|                                     |   |
|-------------------------------------|---|
| <b>Technology (Part A)</b>          | Epoxy   |
| <b>Technology (Part B)</b>          | Amine   |
| Components                          | Two components - requires mixing  |
| Appearance, Resin (Part A)          | Black liquid  |
| Appearance, Hardener (Part B)       | Amber liquid  |
| Mix Ratio by weight: Part A: Part B | 100 : 6.5 to 7.0  |
| Mix Ratio by volume: Part A: Part B | 100 : 11 to 12  |
| Product Benefits                    | <ul style="list-style-type: none"> <li>• Low viscosity</li> <li>• High gloss</li> <li>• Non-abrasive filler</li> <li>• Good air release properties</li> </ul> |
| <b>Cure</b>                         | Room temperature and Heat cure  |
| <b>Application</b>                  | Encapsulation, Potting  |
| Operating Temperature               | -40 to 130°C  |

LOCTITE STYCAST 2075 is a general purpose encapsulant is formulated using non-abrasive fillers that is ideal for automatic meter/mix equipment dispensing.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

### Part A Properties

|   |        |
|---|--------|
| Viscosity, Brookfield , 25 °C, mPa·s (cP) | 22,500 |
| Density, g/cm <sup>3</sup>                | 1.7    |
| Shelf Life @ 25°C, days                   | 365    |

### Part B Properties

|   |      |
|---|------|
| Viscosity, Brookfield , 25 °C, mPa·s (cP) | 75   |
| Density, g/cm <sup>3</sup>                | 0.97 |
| Shelf Life @ 25°C, days                   | 365  |

### Mixed Properties

|   |       |
|---|-------|
| Viscosity, Brookfield , 25 °C, mPa·s (cP) | 6,800 |
| Density, g/cm <sup>3</sup>                | 1.62  |
| Work Life (100 g mass) @ 25 °C, minutes   | 45    |
| Shelf Life @ 25°C, days                   | 365   |
| Flash Point - See SDS                     |       |

## TYPICAL CURING PERFORMANCE

### Cure Schedule

|                      |
|----------------------|
| 24 hours @ 25°C      |
| 8 to 16 hours @ 45°C |
| 2 to 4 hours @ 65°C  |

The above cure profiles are guideline recommendations. Cure conditions (time and temperature) may vary based on customers' experience and their application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

## TYPICAL PROPERTIES OF CURED MATERIAL

### Physical Properties

|  |       |
|--|-------|
| Hardness, Shore D  | 81    |
| Thermal Conductivity, W/(m-K)                                      | 0.62  |
| Coefficient of Linear Thermal Expansion , TMA 10 <sup>-6</sup> /°C | 70    |
| Linear Shrinkage, cm/cm  | 0.004 |

### Electrical Properties

|                                   |                   |
|-----------------------------------|-------------------|
| Volume Resistivity @ 25°C, ohm-cm | >10 <sup>15</sup> |
| Dielectric Constant @ 1mHz        | 5.0               |
| Dissipation Factor @ 1mHz         | 0.025             |
| Dielectric Strength, V/mil        | 400               |

## TYPICAL PERFORMANCE OF CURED MATERIAL

### Miscellaneous:

|                      |                       |                |
|----------------------|-----------------------|----------------|
| Flexural Strength    | N/mm <sup>2</sup> 62  | (psi) (9,000)  |
| Compressive Strength | N/mm <sup>2</sup> 103 | (psi) (15,000) |
| Tensile Strength     | N/mm <sup>2</sup> 41  | (psi) (6,000)  |

## GENERAL INFORMATION

For safe handling information on this product, consult the Safety Data Sheet, (SDS).

**DIRECTIONS FOR USE**

1. To ensure the long term performance of the potted or encapsulated electrical / electronic assembly, complete cleaning of the 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.
2. Some filler settling is common during shipping and storage. For this reason, it is recommended that the contents of the shipping container be thoroughly mixed prior to use. Power mixing is preferred to ensure homogeneous product.
3. 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.
4. Blend components by hand, using a kneading motion, for 2 to 3 minutes. Scrape the bottom and sides of the mixing container frequently to produce a uniform mixture. If possible, power mix to an additional 2 to 3 minutes. Avoid high mixing speeds which could entrap excessive amounts of air or cause overheating of the mixture resulting in reduced working life.
5. To ensure a void-free embedment, vacuum deairing or degassing should be performed to remove any entrapped air introduced during the mixing operation.
6. Pump-down or pull vacuum on the mixture to achieve an ultimate vacuum or absolute pressure of 1 to 5 torr or mm Hg. The foam will rise several times in the liquid height and then subside.
7. Continue vacuum deairing until most of the bubbling has ceased. This usually takes 3 to 10 minutes.
8. To facilitate deairing in difficult to deair materials, add 1 to 3 drops of an air release agent, such as ANTIFOAM 88 into 100 grams of mixture.
9. Gentle warming will also help, but working life will be shortened.
10. 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.

**STORAGE:**

Store in original, tightly covered containers in clean, dry areas. Storage information may be indicated on the product container labeling.

**Optimal Storage: 25°C. Storage below 25°C or greater than 25°C can adversely affect product properties.**

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Technical Service Center or Customer Service Representative.

**Conversions**

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$   
 $\text{kV/mm} \times 25.4 = \text{V/mil}$   
 $\text{mm} / 25.4 = \text{inches}$

$\text{N} \times 0.225 = \text{lb}$   
 $\text{N/mm} \times 5.71 = \text{lb/in}$   
 $\text{psi} \times 145 = \text{N/mm}^2$   
 $\text{MPa} = \text{N/mm}^2$   
 $\text{N} \cdot \text{m} \times 8.851 = \text{lb} \cdot \text{in}$   
 $\text{N} \cdot \text{m} \times 0.738 = \text{lb} \cdot \text{ft}$   
 $\text{N} \cdot \text{mm} \times 0.142 = \text{oz} \cdot \text{in}$   
 $\text{mPa} \cdot \text{s} = \text{cP}$

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The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

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