

# LOCTITE STYCAST US 2650

September 2012

**PRODUCT DESCRIPTION**

LOCTITE STYCAST US 2650 provides the following product characteristics:

|                                                  |                                 |
|--------------------------------------------------|---------------------------------|
| <b>Technology</b>                                | Urethane                        |
| Appearance, Resin (Component A)                  | Amber                           |
| Appearance, Hardener (Component B)               | white                           |
| Appearance (cured)                               | Tan                             |
| Components                                       | Two component - requires mixing |
| Mix Ratio, by volume - Part A: Part B            | 1 : 4                           |
| Mixing Ratio, by weight Component A: Component B | 21.1 : 100                      |
| <b>Cure</b>                                      | Room temperature cure           |
| <b>Application</b>                               | Potting and Encapsulating       |

LOCTITE STYCAST US 2650 is an inexpensive, low viscosity, flexible, flame retardant, castor oil/MDI based urethane potting/encapsulating compound. This material was designed for potting indoor and outdoor telephone connector blocks. It is suitable for potting and encapsulating other electronic or electrical devices or assemblies. LOCTITE STYCAST US 2650 exhibits exceptional adhesion to thermoplastic and thermoset materials including ABS. This material can be utilized in a variety of applications due to its good thermal conductivity and flame retardancy.

**TYPICAL PROPERTIES OF UNCURED MATERIAL****Part A Properties**

|                                                             |      |
|-------------------------------------------------------------|------|
| Density, 25 °C, g/cm <sup>3</sup>                           | 1.24 |
| Viscosity, Brookfield - RVF, cP:<br>Spindle 2, speed 20 rpm | 200  |

**Part B Properties**

|                                                             |       |
|-------------------------------------------------------------|-------|
| Density, 25 °C, g/cm <sup>3</sup>                           | 1.47  |
| Viscosity, Brookfield - RVF, cP:<br>Spindle 4, speed 12 rpm | 7,500 |

**Mixed Properties**

|                                                             |          |
|-------------------------------------------------------------|----------|
| Density, 25 °C, g/cm <sup>3</sup>                           | 1.38     |
| Drystick Gel, 300 gm mass, minutes                          | 15 to 30 |
| Working Time, 300 gm mass, minutes                          | 5 to 10  |
| Pot Life, 300 gm mass, @ 23 °C, minutes                     | 19.5     |
| Viscosity, Brookfield - RVF, cP:<br>Spindle 6, speed 10 rpm | 3,500    |

**TYPICAL CURING PERFORMANCE****Recommended Curing Conditions**

- 16 hours @ 25 °C (Recommended cure)
- 1 to 3 hours @ 60 to 85 °C (Alternate cure)

**TYPICAL PROPERTIES OF CURED MATERIAL****Physical Properties :**

|                                                                       |      |
|-----------------------------------------------------------------------|------|
| Shore Hardness , Durometer A                                          | 83   |
| 24 Hour Water Moisture Absorption, %                                  | 0.01 |
| Tensile Strength, psi                                                 | 321  |
| Elongation ,%                                                         | 39   |
| Glass Transition Temperature, °C                                      | 0    |
| Coefficient of Thermal Expansion, ppm/°C:<br>Below Tg (-40 to -20 °C) | 109  |
| Above Tg (20 to 40°C)                                                 | 153  |
| Coefficient of Thermal Conductivity, W/(m-K)                          | 0.47 |
| Weight Loss after 168hrs @ 125°C, %                                   | 1.96 |

**Electrical Properties:**

|                                                            |                       |
|------------------------------------------------------------|-----------------------|
| Dielectric Strength, 20 mil thickness, volts/mil           | 941.8                 |
| Surface Resistivity, ohms @ 25°C                           | 8.5×10 <sup>13</sup>  |
| Volume Resistivity, ohm-cm                                 | 1.05×10 <sup>14</sup> |
| Dielectric Constant / Dissipation Factor @ 25°C:<br>100 Hz | 6.854 / 0.09          |
| 1 kHz                                                      | 5.956 / 0.1277        |
| 100 kHz                                                    | 4.198 / 0.084         |

**GENERAL INFORMATION**

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

**Directions for use**

1. LOCTITE STYCAST US 2650 will settle upon storage, especially at temperatures exceeding 27 °C. Refrigerated storage will minimize filler settling. Each container must be thoroughly mixed before combining Part A and Part B. For ease of mixing, store containers upside down. After warming to room temperature, approximately 10 minutes on a standard paint shaker will normally ensure complete dispersion of the filler.

**Not for product specifications**

The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

**Storage**

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

**Liquid Storage - Liquids should be stored at 25°C or below, in closed containers. If stored below 25°C, the material MUST be allowed to come to room temperature, in the sealed container, to avoid moisture contamination.**

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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