

# LOCTITE STYCAST US 2651

December 2014

## PRODUCT DESCRIPTION

LOCTITE STYCAST US 2651 provides the following product characteristics:

|                                       |                                 |
|---------------------------------------|---------------------------------|
| <b>Technology</b>                     | Urethane                        |
| Appearance, Resin (Component A)       | Clear brown                     |
| Appearance, Hardener (Component B)    | Clear white                     |
| Appearance (cured)                    | Clear amber                     |
| Components                            | Two component - requires mixing |
| Mix Ratio, by volume - Part A: Part B | 1 : 1                           |
| Mix Ratio, by weight - Part A: Part B | 52.3 : 47.7                     |
| <b>Cure</b>                           | Room temperature cure           |
| <b>Application</b>                    | PottingEncapsulating            |

LOCTITE STYCAST US 2651 is an unfilled, low viscosity, reenterable potting and encapsulation compound. It can be used to encapsulate electronics for automotive applications including under-the-hood. The low glass transition temperature means that sensitive components are not damaged during low temperature exposure.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

### Part A Properties

|                                         |     |
|-----------------------------------------|-----|
| Density, @ 25 °C, g/cm <sup>3</sup>     | 1.0 |
| Viscosity, Brookfield - RVF, 23 °C, cP: |     |
| Spindle 2, speed 20 rpm                 | 130 |

### Part B Properties

|                                         |       |
|-----------------------------------------|-------|
| Density, @ 25 °C, g/cm <sup>3</sup>     | 0.92  |
| Viscosity, Brookfield - RVF, 25 °C, cP: |       |
| Spindle 2, speed 20 rpm                 | 3,200 |

### Mixed Properties

|                                            |       |
|--------------------------------------------|-------|
| Density, @ 25 °C, g/cm <sup>3</sup>        | 0.97  |
| Working Time, 100 g mass, @ 23 °C, minutes | 10    |
| Gel Time, 100 gm mass @ @ 23 °C, minutes   | 25    |
| Viscosity, Brookfield - RVF, 25 °C, cP:    |       |
| Spindle 2, speed 20 rpm                    | 1,000 |

## TYPICAL CURING PERFORMANCE

### Recommended Cure Schedule

16 hours @ 23°C

### Alternate Cure Schedule

1 to 2 hours @ 65 to 85°C

The above cure profile is a guideline recommendation. 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 :

|                                                  |      |
|--------------------------------------------------|------|
| Glass Transition Temperature, °C                 | -60  |
| Coefficient of Linear Thermal Expansion, ppm/°C: |      |
| Above Tg (-40 to 125°C)                          | 197  |
| Shore Hardness , Durometer OO                    | 60   |
| Shore Hardness , Durometer A                     | 15   |
| 24 Hour Water Moisture Absorption, %             | 0.22 |
| Weight Loss after 168hrs @ 105°C, %              | 0.47 |

### Electrical Properties:

|                                                  |                      |
|--------------------------------------------------|----------------------|
| Dielectric Strength, 20 mil thickness, volts/mil | 1,050                |
| Volume Resistivity, ohms-cm                      | 5.3×10 <sup>11</sup> |
| Surface Resistivity, ohms                        | 4.3×10 <sup>12</sup> |
| Dielectric Constant / Dissipation Factor @ 23°C: |                      |
| 1 kHz                                            | 4.7 / 0.009          |
| 100 kHz                                          | 4.5 / 0.022          |

**REGULATORY NOTICE:** This product is regulated by the United State Department of Commerce and may not be exported without license from that Organization. See Material Safety Data Sheet for details

## GENERAL INFORMATION

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

### 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.

**Note:** Before using this product please purge approximately 30 ml. of material prior to application. Discard purged material in accordance with the Material Safety Data Sheet. A video instruction is available upon request.

## DIRECTIONS FOR USE

1. This material is susceptible to moisture contamination. After opening a container, a nitrogen blanket should be applied over the material and the container should be resealed immediately after use to help minimize the chance of water ingress.

**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**

$$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$$

$$\text{kV/mm} \times 25.4 = \text{V/mil}$$

$$\text{mm} / 25.4 = \text{inches}$$

$$\text{N} \times 0.225 = \text{lb}$$

$$\text{N/mm} \times 5.71 = \text{lb/in}$$

$$\text{N/mm}^2 \times 145 = \text{psi}$$

$$\text{MPa} = \text{N/mm}^2$$

$$\text{MPa} \times 145 = \text{psi}$$

$$\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$$

$$\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$$

$$\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$$

$$\text{mPa}\cdot\text{s} = \text{cP}$$

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Americas  
+1.888.943.6535

Europe  
+32.1457.5611

Asia  
+86.21.3898.4800

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