

LOCTITE STYCAST ES 1902

November 2016

PRODUCT DESCRIPTION

LOCTITE STYCAST ES 1902 provides the following product characteristics:

| | |
|--|----------------------------------|
| Technology | Epoxy |
| Appearance (cured) | Water white |
| Components | Two components - requires mixing |
| Mix Ratio, by volume - Part A: Part B | 2 : 1 |
| Mixing Ratio, by weight Component A: Component B | 100 : 41.7 |
| Cure | Room temperature cure |
| Application | Potting and Encapsulating |

LOCTITE STYCAST ES 1902 UV epoxy is a transparent, low viscosity epoxy resin formulation recommended for potting and laminating applications where low color and excellent electrical and mechanical properties are required. This two-part adhesive exhibits a fast UV gelation, a room temperature cure and develops strong, low shrinkage, bonds to most metals and many rigid plastics. It has excellent dimensional stability over a wide temperature range.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties

| | |
|--|-------------|
| Color | Water white |
| Solids Content, % | 100 |
| Filler Content, % | 0 |
| Density, @ 25 °C, g/cm ³ | 1.15 |
| Viscosity, Brookfield - RVF, 25 °C, cP: Spindle 4, speed 20 rpm | 4,700 |

Part B Properties

| | |
|--|-------------|
| Color | Light Amber |
| Solids Content, % | 100 |
| Filler Content, % | 0 |
| Density, @ 25 °C, g/cm ³ | 0.96 |
| Viscosity, Brookfield - RVF, 25 °C, cP: Spindle 1, speed 20 rpm | 50 |

Mixed Properties

| | |
|--|------------|
| Pot Life @ 25 °C, minutes: 100 g mass | 60 to 90 |
| UV Gel Time, 1/16" to 1/8" thickness, seconds | 10 |
| UV Intensity, mw/cm ² | 200 |
| UV Spectral Output, nanometers | 375 |
| UV Optimum Wavelength, nanometers | 300 to 500 |
| Specific Gravity | 1.09 |
| Viscosity, Brookfield - RVF, 25 °C, cP: Spindle 2, speed 20 rpm | 290 |

TYPICAL CURING PERFORMANCE

Recommended Curing Conditions

| |
|-------------------------------------|
| 24 hours @ 25 °C (Recommended cure) |
| 2 hours @ 60 °C (Alternate cure) |

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties :

| | |
|---|------------|
| Coefficient of Thermal Expansion, ppm/°C: | |
| Alpha 1, Below Tg | 68 |
| Alpha 2, Above Tg | 199 |
| Glass Transition Temperature, °C | 44 |
| Linear Shrinkage, % | 1.3 |
| Shore Hardness, Durometer D | 80 |
| Tensile Strength, psi | 7,900 |
| Tensile Elongation, % | 3.7 |
| Flexural Strength, psi | 10,000 |
| Operating temperature range, °C | -40 to 125 |

Electrical Properties:

| | |
|---|-----------------------|
| Dielectric Strength, 10 mil thickness, volts/mil | 1,390 |
| Volume Resistivity, ohm-cm | 1.27×10 ¹⁶ |
| Volume Resistivity, ohm/cm @ 125°C | 2.3×10 ¹³ |
| Surface Resistivity, ohms @ 25°C | 6.6×10 ¹⁵ |
| Dielectric Constant / Dissipation Factor @ °C: 1 kHz | 3.8 / 0.008 |

GENERAL INFORMATION

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

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.

STORAGE:

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

Optimal Storage: 20 °C to 30 °C. Storage below 20 °C or greater than 30 °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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Reference 1