

LOCTITE STYCAST US 1000

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PRODUCT DESCRIPTION

LOCTITE STYCAST US 1000 provides the following product characteristics:

Technology	Polyurethane
Appearance - Part A	Black paste
Appearance - Part B	Brown liquid
Appearance (cured)	Dark grey
Components	Two components - requires mixing
Mix Ratio by volume: Part A: Part B	100 : 15
Mix Ratio by weight: Part A: Part B	100 : 11
Cure	Room temperature cure and Heat cure
Product Benefits	• Low viscosity • Easy mix ratio • Fast gel time • Designed for automated dispensers
Application	Potting and Encapsulating
Typical Assembly Applications	Electrical component encapsulation & potting
Operating Temperature	-40 to +125 °C

LOCTITE STYCAST US 1000 is a flexible, flame retardant, mineral filled 2-component polyurethane compound. This potting compound has low viscosity, flows well, and adheres to many substrates.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties

Density, g/cm ³	1.7
Viscosity @ 25°C, mPa·s (cP): @ Shear rate of 15 s ⁻¹	20,000
Shelf Life @ 18 to 25°C, days	365

Part B Properties

Density, g/cm ³	1.2
Viscosity @ 25 °C, mPa·s (cP): @ Shear rate of 15 s ⁻¹	200
Shelf Life @ 18 to 25°C, days	365

Mixed Properties

Density, g/cm ³	1.6
Viscosity @ 25 °C, mPa·s (cP): @ Shear rate of 15 s ⁻¹	17,500
Pot Life @ 25°C, minutes	4 to 8

TYPICAL CURING PERFORMANCE

Recommended Cure Schedule

2 hours @ 65°C

Alternate Cure Schedule

48 hours @ 25°C or

1 hour @ 80°C or

1 hour @ 100°C

The above cure profile(s) are guideline recommendation(s). These conditions (time and temperature) may vary based on customers' experience and specific application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties

Hardness, Shore A	85
Elongation, %	20
Tensile Strength	N/mm ² 4 (psi) (580)

Glass Transition Temperature, (Tg) by TMA, °C 10 to 25

Coefficient of Thermal Expansion, ppm/K:

Below Tg	40 to 50
Above Tg	160 to 180

Thermal Conductivity, W/(m·K) 0.6

Flammability @ 6 mm, UL94 V-0

Electrical Properties

Volume Resistivity, ohm-cm	3.2×10 ¹⁵
Surface Resistivity, ohm-cm	8.1×10 ¹⁴
Dielectric Constant @ 1 MHz	4.1
Dielectric Strength, kV/mm	25

GENERAL INFORMATION

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

Directions for use

1. Part B is sensitive to moisture. Do not expose to humid conditions. Keep in closed containers or vessels as much as possible.
2. Allow products to reach 18 to 25°C before use to ensure proper processing of the materials.
3. Moderate filler settling can occur in Part A during storage. Before use, stir gently to make it homogeneous again.
4. Substrates should be free of contaminants such as dust, moisture and oils which can cause poor adhesion.
5. Accurately weigh Part A and Part B in the recommended ratio.
6. To ensure a void-free embedment, vacuum de-airing should be used to remove any entrapped air introduced during the mixing operation.
7. Cure product with the recommended cure schedule.

STORAGE

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

Optimal Storage: 10 to 30°C. Storage below 10°C or above 30°C can adversely affect product properties.

Frost Sensitive: Yes, (Component B)

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 Henkel Representative.

Conversions

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\text{N} \times 0.225 = \text{lb/F}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{N/mm}^2 \times 145 = \text{psi}$
 $\text{N/mm}^2 = \text{MPa}$
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$
 $\text{mPa}\cdot\text{s} = \text{cP}$

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