

# LOCTITE STYCAST U 2500 HTR

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## PRODUCT DESCRIPTION

LOCTITE STYCAST U 2500 HTR provides the following product characteristics:

<b>Technology</b>	Polyurethane
Appearance, Resin (Component A)	Black
Appearance, Hardener (Component B)	Amber
Components	Two-component
Mixing Ratio, by weight Component A: Component B	100 : 7.6
Product Benefits	<ul style="list-style-type: none"> <li>• Low viscosity</li> <li>• Low modulus</li> <li>• High temperature resistance</li> <li>• Excellent wetting properties</li> </ul>
<b>Cure</b>	Room Temperature or Heat Cure
<b>Application</b>	Potting, Encapsulation
Operating Temperature	-40 to +150
Typical Assembly Applications	Transformers, PCB's and other insulating applications

LOCTITE STYCAST U 2500 HTR flexible polyurethane encapsulant is formulated to have low viscosity and excellent wetting properties allowing complete impregnation of either small slightly wound coils or large castings. It can also be used to replace silicones. LOCTITE STYCAST U 2500 HTR has a higher service temperature than standard polyurethane materials.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

### Part A Properties

Viscosity @ 25 °C, mPa·s (cP)	12,500
Density, g/cm <sup>3</sup>	1.42
Flash Point - See SDS	

### Part B Properties

Viscosity @ 25 °C, mPa·s (cP)	135
Density, g/cm <sup>3</sup>	1.23
Flash Point - See SDS	

### Mixed Properties

Mixed Viscosity @ 25°C, mPa·s (cP)	8,000
Pot Life @ 25°C, hours	4
Shelf Life @ 18 to 25°C, days	183
Flash Point - See SDS	

## TYPICAL CURING PERFORMANCE AS MIXED

### Recommended Cure Schedule

24 hours @ 25°C or
4 hours @ 60°C

### Post Cure

2 hours @ 100 to 120°C

Complete cure at room temperature will be obtained after 2 to 3 days.

A post cure of 2 hours @ 100 to 120°C is recommended.

The above cure profiles are guideline recommendations. Cure 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 AS MIXED

### Physical Properties

Hardness, Shore A @ 25°C	75
Coefficient of Thermal Expansion, ppm/°C:	
Above Tg	134
Glass Transition Temperature, °C	-50
Thermal Conductivity, W/(m·K)	0.5
Moisture Absorption, %:	
@ 24°C, 24 hours	0.6
@ 100°C, 1 hour	0.6
Elongation, %	66
Young's modulus (E)	N/mm <sup>2</sup> 10 (psi) (1,450)

### Electrical Properties

Volume Resistivity@ 500 Volts, ohms-cm	1.7×10 <sup>12</sup>
Surface Resistivity, ohms	1.9×10 <sup>13</sup>
Dielectric Constant / Dissipation Factor @ 25°C:	
50 Hz	7.0 / 0.05
1kHz	7.1 / 0.03
1 MHz	6.0 / 0.05

## TYPICAL PERFORMANCE OF CURED MATERIAL AS MIXED

### Shear Strength

Lap Shear Strength, Al to Al	N/mm <sup>2</sup> 6 (psi) (870)
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### Miscellaneous

Tensile Strength	N/mm <sup>2</sup> 4 (psi) (580)
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## GENERAL INFORMATION

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

### Directions for Use

1. Moisture sensitive before mixing.
2. Before use, stir Part A to make it homogeneous.
3. Accurately weigh out the required amount of part A and part B as stated in the mix ratio.
4. Mix thoroughly, degas and fill the casting.

**Storage**

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

**Optimal Storage : 18 to 25 °C**

Once opened, containers should be purged with dry nitrogen.

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.

**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.

**Conversions**

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

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

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

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

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

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

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

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

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

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

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

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## Reference 1.1