

# LOCTITE STYCAST US 5000

August 2017

## PRODUCT DESCRIPTION

LOCTITE STYCAST US 5000 provides the following product characteristics:

<b>Technology</b>	Urethane
<b>Technology (Part A)</b>	Isocyanate
<b>Technology (Part B)</b>	Polyol
Appearance - Part A	Dark brown liquid
Appearance - Part B	Black liquid
Appearance (cured)	Black
Mix Ratio by weight: Part A: Part B	100 : 11.8
Mix Ratio by volume, Part A:Part B	6.1 : 1
<b>Cure</b>	Two component cure after mixing
Product Benefits	<ul style="list-style-type: none"> <li>• Flexible</li> <li>• Slightly thixotropic</li> <li>• Room temperature cure</li> <li>• Fast gel time</li> </ul>
<b>Application</b>	Encapsulant

LOCTITE STYCAST US 5000 encapsulant is designed for high throughput assembly operations. This material is suitable for potting stress sensitive components.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

### Part A Properties (Isocyanate)

Viscosity, , mPa·s (cP):	
Spindle 5, speed 2.5 rpm	47,040
Spindle 5, speed 20 rpm	15,720
Shelf Life @ 25°C (from date of manufacture), days	180
Flash Point, Tag Closed Cup Flash Tester, °C	>110

### Part B Properties (Polyol)

Viscosity, @ 25 °C, mPa·s (cP)	80
Shelf Life @ 25°C (from date of manufacture), days	180
Flash Point, Tag Closed Cup Flash Tester, °C	>200

### Mixed Properties

Initial Mixed Viscosity, 200 gram mass, mPa·s (cP):	
Spindle 6, speed 20 rpm	10,250
Specific Gravity	1.64

## TYPICAL CURING PERFORMANCE

### Gel Time

Gel Time, 200 gram mass @ 25 °C, minutes	50
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### Recommended Cure Schedule

24 hours @ 25°C

### Alternate Cure Schedule

4 hours @ 49°C

The above cure profiles are guideline recommendations. 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

Hardness:	
Shore A	89
Shore D	41
Thermal Conductivity, cal/cm.sec.°C	11.5×10 <sup>-4</sup>

### Electrical Properties

Volume Resistivity, ohm-cm	2.7×10 <sup>12</sup>
Dielectric Constant/ Dissipation Factor:	
@ 25 °C:	
@ 100 Hz	10.1/0.15
@ 1 KHz	8.5/0.12
@ 10 KHz	7.2/0.09
@ 100 KHz	6.4/0.08
@ 85°C:	
@ 1 KHz	10.6/0.3
@ 10 KHz	9.5/0.07
@ 100 KHz	8.8/0.07
@ 120°C:	
@ 1 KHz	13.2/0.6
@ 10 KHz	9.0/0.1
@ 100 KHz	8.7/0.04

## GENERAL INFORMATION

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

**DIRECTIONS FOR USE**

1. Pre-mix Isocyanate and pre-mix Polyol separately.
2. Weigh the above ratio of Isocyanate and Polyol into a clear container, and mix until a uniform color.
3. Pour mixture into another clean container, and mix for 30 seconds, then use.
4. Use low speed mixing to reduce air entrapment. If air bubbles persist, place unit under vacuum.
5. Cure mixture according to the above cycle. Cure time is measured after the product reaches curing temperature.

**STORAGE:**

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

**Optimal Storage : 25 °C**

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**