

# LOCTITE STYCAST 99

November 2019

## PRODUCT DESCRIPTION

LOCTITE STYCAST 99 provides the following product characteristics:

<b>Technology</b>	Epoxy
<b>Appearance</b>	Black paste
<b>Cure</b>	Heat cure
<b>Product Benefits</b>	<ul style="list-style-type: none"> <li>• One component</li> <li>• Thixotropic</li> <li>• Thermally conductive</li> <li>• Electrically Insulating</li> <li>• No flow even on vertical surface</li> <li>• Good chemical resistance</li> <li>• Low CTE</li> </ul>
<b>Operating Temperature</b>	-40 to +175°C
<b>Application</b>	Assembly
<b>Key Substrates</b>	Most metals and Ceramics

LOCTITE STYCAST 99 is ideal for heat dissipation applications such as aluminum heat sinks to ceramic headers.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Density, g/cm <sup>3</sup>	2.3
Shelf Life @ 25°C (from date of manufacture), days	90
Flash Point - See SDS	

## TYPICAL CURING PERFORMANCE

### Cure Schedule

- 120 minutes @ 150°C or
- 90 minutes @ 165°C or
- 50 minutes @ 175°C or
- 30 minutes @ 205°C or
- 15 minutes @ 260°C

Cure at any one of the recommended cure schedules.

This product may generate excessive heat if cured in thicknesses greater than 2.5 mm (0.1 inch) at a temperature above 150°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 D	88
Coefficient of Thermal Expansion, ppm/°C	35
Thermal Conductivity, W/(m-K)	1.44

### Electrical Properties

Volume Resistivity @ 25°C, ohm-cm	1×10 <sup>15</sup>
Dielectric Strength, kV/mm	17.7

## TYPICAL PERFORMANCE OF CURED MATERIAL

Tensile Lap Shear Strength @ 25°C:

Al to Al	N/mm <sup>2</sup>	15.2
	(psi)	(2,200)

## GENERAL INFORMATION

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

## DIRECTIONS FOR USE

1. Complete cleaning of the components and substrates should be performed to remove contamination such as dust, moisture, salt and oils which can cause electrical failure, poor adhesion or corrosion in an embedded part.
2. Some separation of components is common during shipping and storage. For this reason, it is recommended that the contents of the shipping container be thoroughly mixed prior to use.
3. Power mixing is preferred to ensure a homogeneous product.
4. Apply adhesive to all surfaces to be bonded and join together.
5. In most applications only contact pressure is required.

## 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. Storage below 25°C or greater than 25°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

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

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Reference **N/A**