

LOCTITE STYCAST SC 3613

December 2016

PRODUCT DESCRIPTION

LOCTITE STYCAST SC 3613 provides the following product characteristics:

Technology	Silicone
Appearance	clear
Components	One-component
Product Benefits	<ul style="list-style-type: none"> • Elastomeric • High purity • Optically clear • Thixotropic • Low temperature cure • Low stress elastomer • Low viscosity
Cure	Heat Cure
Application	Protective Coating
Typical Assembly Applications	LEDs, LED display coating and IC and hybrid passivation
Operating Temperature	-40 to 200 °C
Percent Solids, %	100

LOCTITE STYCAST SC 3613 protective coating is engineered to meet the high reliability performance requirements for the optoelectronic / semiconductor industry. It minimizes alpha particle interactions with sensitive circuitry.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield , mPa·s (cP)	3,500
Specific Gravity	0.96 to 1.0
Shelf Life:	
@ 4°C, months	3
@ -40°C, months	9
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Cure Schedule

<5 minutes @ 175°C or
10 minutes @ 160°C or
30 minutes @ 120°C

Post Cure

1 to 2 hours @ 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

Shore Hardness, ISO 868, Durometer A	30
Extractable Ionic Content, ppm:	
Halogen or Alkali Metals	<3

Electrical Properties

Dielectric Constant / Dissipation Factor, IEC 60250:	
1kHz	3.01 / 0.001
Dielectric Breakdown Strength IEC 60243-1, kV/mm	≥23
Volume Resistivity, IEC 60093, Ω·cm	≥2×10 ¹⁵

GENERAL INFORMATION

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

DIRECTIONS FOR USE

1. Complete cleaning of the substrates should be performed to remove contamination such as oxide layers, dust, moisture, salt and oils which can cause poor adhesion or corrosion in a bonded part.
2. The cure of this silicone product may be inhibited through contact with certain contaminants.
3. Avoid contact with butyl and chlorinated rubbers, amines, sulfur, sulfur containing materials, tin containing components and heavy metal salts.
4. Substrates in question should be evaluated for compatibility before application of this product.
5. In addition, molds, mixing equipment, oven, and other apparatus that will be used in the preparation and curing of this product should be free of inhibiting contaminants.
6. LOCTITE STYCAST SC 3613 may be diluted with electronic grade solvents such as toluol or Xylene to reduce product viscosity. A non-flammable, fast drying solvent such as 1,1,1 Trichloroethane is suggested.
7. If diluted, it is recommended that the product be dried in warm air below the solvent flash point for 1 to 4 minutes before cure initiation so as to eliminate bubble or void occurrence.
8. Application: Brush, flowcoating or dipping.

STORAGE:

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

Optimal Storage : +04 °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
 $(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\text{N} \times 0.225 = \text{lb}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{psi} \times 145 = \text{N/mm}^2$
 $\text{MPa} = \text{N/mm}^2$
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$
 $\text{mPa}\cdot\text{s} = \text{cP}$
Disclaimer**Note:**

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Belgium NV, Henkel Electronic Materials NV, Henkel Nederland BV, Henkel Technologies France SAS and Henkel France SA please additionally note the following:

In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

In case products are delivered by Henkel Colombiana, S.A.S. the following disclaimer is applicable:

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Corporation, Resin Technology Group, Inc., or Henkel Canada Corporation, the following disclaimer is applicable:

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

Trademark usage: [Except as otherwise noted] All trademarks in this document are trademarks and/or registered trademarks of Henkel and its affiliates in the U.S. and elsewhere.

Reference 1

Americas
+1.888.943.6535

Europe
+32.1457.5611

Asia
+86.21.3898.4800

For the most direct access to local sales and technical support visit: www.henkel.com/electronics