

LOCTITE STYCAST 906-1

May 2017

PRODUCT DESCRIPTION

LOCTITE STYCAST 906-1 provides the following product characteristics:

Technology	Epoxy
Appearance	Black
Cure	Heat cure
Product Benefits	<ul style="list-style-type: none">• One component• High temperature resistance• Thermally conductive• Provides environmental and chemical resistance• Thermal shock resistant
Operating Temperature	-40 to +180°C
Application	Encapsulant

LOCTITE STYCAST 906-1 encapsulant is designed for use on small device potting applications.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield , mPa·s (cP)	190,000
Density, g/cm ³	2.3
Shelf Life @ 25°C (from date of manufacture), days	120
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Cure Schedule

- 2 hours @ 125°C
- 1 hour @ 140°C
- 15 minutes @ 160°C
- 8 minutes @ 180°C

Cure at any one of the recommended cure schedules.

For optimum performance, follow the initial cure with a post cure of 2 to 4 hours at the highest expected use temperature.

This product generates moderate heat during cure. No adverse exotherm effects are obtained when cured at 125°C in masses up to approximately 50 grams.

This product may generate excessive heat if cured in thicknesses greater than 9.5 mm (0.375 inch) at temperatures above 125°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, Shore D:	
@ 25°C	90
@ 125°C	65
Thermal Conductivity , W/(m-K)	0.86

Electrical Properties

Volume Resistivity @ 25°C, ohm-cm	>1×10 ¹⁵
Dielectric Strength, kV/mm	15.7

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. To ensure a void-free embedment, vacuum deairing or degassing should be performed to remove any entrapped air introduced during the mixing operation.
4. Pump-down or pull vacuum on the mixture to achieve an ultimate vacuum or absolute pressure of 1 to 5 torr or mm Hg. The foam will rise several times in the liquid height and then subside.
5. Continue vacuum deairing until most of the bubbling has ceased. This usually takes 3 to 10 minutes.
6. Pour mixture into cavity or mold.
7. Gentle warming of the mold or assembly reduces the viscosity. This improves the flow of the material into the unit having intricate shapes or tightly packed coils or components.
8. Further vacuum deairing in the mold may be required for critical applications.

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

Reference 1

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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.

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