

# LOCTITE STYCAST 2850FT-FR CAT 24LV

February 2020

## PRODUCT DESCRIPTION

LOCTITE STYCAST 2850FT-FR CAT 24LV provides the following product characteristics:

<b>Technology</b>	Epoxy
<b>Appearance (Resin)</b>	Black liquid
<b>Components</b>	Two components - requires mixing
<b>Mix Ratio, by weight: Resin : Catalyst</b>	100 : 6.9
<b>Mix Ratio by volume: Resin: Catalyst</b>	100 : 16.6
<b>Product Benefits</b>	<ul style="list-style-type: none"> <li>• Thermally conductive</li> <li>• Electrically insulative</li> <li>• Thermal shock resistant</li> <li>• Low CTE</li> <li>• Can be used with a variety of catalysts</li> <li>• Flame retardant</li> </ul>
<b>Cure</b>	Heat or Room temperature cure
<b>Application</b>	Encapsulation, Potting
<b>Operating Temperature Range</b>	-65 to +105°C

LOCTITE STYCAST 2850FT-FR CAT 24LV is recommended for encapsulation of components requiring excellent heat dissipation and thermal shock properties.

LOCTITE STYCAST 2850FT-FR can be used with a variety of catalysts. For more information on mixed properties when used with their available catalysts, please contact your local technical service representative for assistance and recommendations.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

### Mixed Properties *LOCTITE STYCAST 2850FT-FR with CAT 24LV*

Viscosity, Brookfield - HBDV3, Spindle CP-51z, 25 °C, mPa·s (cP):	
@ Speed 1 rpm	11,598
@ Speed 5 rpm	6,544
@ Speed 10 rpm	5,882
Density, gm/cc	2.24
Volume coverage, cubic inches/lb	12.4
Work Life (100 g mass) @ 25 °C, minutes	30
Flash Point - See SDS	

## TYPICAL CURING PERFORMANCE AS MIXED

### Cure Schedule

#### LOCTITE STYCAST 2850FT-FR with LOCTITE CAT 24LV

- 8 to 16 hours @ 25°C or
- 4 to 6 hours @ 45°C or
- 1 to 2 hours @ 65°C

Cure at any one of the recommended cure schedules.

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 AS MIXED

Sample cured 2 hours @ 65°C

### LOCTITE STYCAST 2850FT-FR with LOCTITE CAT 24LV

#### Physical Properties

Thermal Conductivity @ 25°C, W/(m-K)	1.23
Weight Loss, TGA:	
@ 150°C	0.15
@ 200°C	0.36
@ 300°C	1.08
Young's modulus (E), MPa:	
@ 30°C	7,922
@ 50°C	6,461
@ 100°C	84
@ 150°C	88
Linear Shrinkage, %	1.08
Volumetric Shrinkage, %	3.2
Water Absorption, %:	
After 24 hours @ 25 °C	0.37
After 7 days @ 25 °C	0.73

#### Electrical Properties

Volume Resistivity, ohm-cm	$3.5 \times 10^{15}$
Surface Resistivity, ohms	$8 \times 10^{15}$
Dielectric Strength, 500V/sec @ 25°C, kV/mm	30

## TYPICAL PERFORMANCE OF CURED MATERIAL AS MIXED

### LOCTITE STYCAST 2850FT-FR with LOCTITE CAT 24LV

#### Shear Strength

Lap Shear Strength, MPa	6.3
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## GENERAL INFORMATION

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

## DIRECTIONS FOR USE

1. To ensure the long term performance of the potted or encapsulated electrical/electronic assembly, complete cleaning of the 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 filler settling 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. Power mixing is preferred to ensure homogeneous product.

3. Accurately weigh resin and hardener into a clean container in the recommended ratio. Weighing apparatus having an accuracy in proportion to the amounts being weighed should be used.

4. Blend components by hand, using a kneading motion, for 2 to 3 minutes. Scrape the bottom and sides of the mixing container frequently to produce a uniform mixture. If possible, power mix to an additional 2 to 3 minutes. Avoid high mixing speeds which could entrap excessive amounts of air or cause overheating of the mixture resulting in reduced working life.

5. To ensure a void-free embedment, vacuum de-airing or degassing should be performed to remove any entrapped air introduced during the mixing operation. 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 the liquid height and then subside. Continue vacuum de-airing until most of the bubbling has ceased. This usually requires 3 to 10 minutes..

6. To facilitate deairing in difficult to deair materials, add 1 to 3 drops of an air release agent, such as ANTIFOAM 88 into 100 grams of mixture.

7. Gentle warming will also help, but working life will be shortened.

8. Pour mixture into cavity or mold. 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. Further vacuum deairing in the mold may be required for critical applications.

#### 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.

#### STORAGE:

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

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

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

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

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

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

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

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

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

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

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

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

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

#### 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

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