Technical Data Sheet

LOCTITE STYCAST 2850GT CAT 9

August 2016

PRODUCT DESCRIPTION

LOCTITE STYCAST 2850GT CAT 9 provides the following product characteristics:

Technology	Epoxy
Appearance (Resin)	Black
Components	Two components - requires mixing
Mix Ratio, by weight - Material:Catalyst	100 : 3.5
Mix Ratio, by Volume - Material:Catalyst	100 : 8.0
Product Benefits	• Low CTE • Thermally conductive • Electrically Insulating • General purpose • Good chemical resistance • Good physical strength
Cure	Room temperature cure
Application	Encapsulation
Operating Temperature	-40 to +130 °C

LOCTITE STYCAST 2850GT CAT 9 is recommended for encapsulation of components that require heat dissipation and thermal shock properties. The fillers in LOCTITE STYCAST 2850GT CAT 9 are slightly gritty and hard, requiring the finished product to be grounded for smoothness.

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

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties *LOCTITE STYCAST 2850GT*

Viscosity Brookfield, mPa (cP) 50 rpm, #7	400,000
Density, g/cm³	2.32
Shelf Life @ 25°C, months	12
Flash Point - See SDS	

Part B Properties *LOCTITE CAT 9*

Viscosity @ 25 °C, mPa·s (cP)	93
Flash Point - See SDS	

Mixed Properties

Mixed Viscosity, Brookfield , mPa·s (cP)	305,000
Density, g/cm³	2.29
Working Time, 100 g mass, @ 25ºC, minutes	45
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Cure Schedule

20 hours @ 25°C

Alternate Cure Schedule

5 hours @ 45°C
1.5 hours @ 65°C

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

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	96
Coefficient of Thermal Expansion, , TMA, 10^{-6}/ºC:	
Above Tg	30
Below Tg	96
Glass Transition Temperature (Tg), °C	77
Thermal Conductivity , W/(m-K)	1.36
Water Absorption , 24- hour boil, %	0.01
Compressive Strength :	
N/mm²	164
(psi)	23,800
Flexural Strength:	
N/mm²	104
(psi)	15,100
Linear Shrinkage, cm/cm	0.004

Electrical Properties

Dielectric Strength, volts/mil	390
Dielectric Constant @ 1MHz	5.21
Dissipation Factor @ 1MHz	0.036
Volume Resistivity @ 25ºC, ohm-cm	$>1\times10^{15}$

Outgassing Properties

Outgassing , per NASA Reference Publication 1124, %:	
sample cured 7 days @ 25°C	
TML	0.33
CVCM	0.0

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 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 a 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.
5. If possible, power mix for an additional 2 to 3 minutes. Avoid high mixing speeds. This can entrap excessive amounts of air. It can also cause overheating of the mixture, resulting in reduced working life.
6. To ensure a void-free embedment, vacuum deairing should be used to remove any entrapped air introduced during the mixing operation.
7. Vacuum deair mixture at 1 to 5 mm mercury. The foam will rise several times the liquid height and then subside.
8. Continue vacuum deairing until most of the bubbling has ceased. This usually takes 3 to 10 minutes.
9. To facilitate deairing in difficult to deair materials, add a few drops of an air release agent, such as ANTIFOAM 88 into 100 grams of mixture.
10. Gentle warming will also help, but pot life will be shortened.
11. Pour mixture into cavity or mold.
12. 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.
13. Further vacuum deairing in the mold may be required for critical applications.

STORAGE:

Store in original, tightly covered containers in clean, dry areas. Storage information may be indicated on the product container labeling.

Certain resins and hardeners are prone to crystallization. If crystallization does occur, warm the contents of the shipping container to 50 to 60°C until all crystals have dissolved. Be sure the shipping container is loosely covered during the warming stage to prevent any pressure build-up. Allow contents to cool to room temperature before continuing.

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.

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.

Conversions

(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
N x 0.225 = lb/F
N/mm x 5.71 = lb/in
psi x 145 = N/mm²
MPa = N/mm²
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = 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.
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Reference 1

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