Hysol

STYCAST 2850KT CATALYST 11

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PRODUCT DESCRIPTION

STYCAST 2850KT CATALYST 11 provides the following product characteristics:

Technology	Epoxy
Appearance (Resin)	Blue liquid
Components	Two components - requires mixing
Mix Ratio, by weight - Material:Catalyst	100 : 2.5
Mix Ratio, by Volume - Material:Catalyst	100 : 6
Product Benefits	• Two component • Low CTE • High thermal conductivity • Thermally conductive • Electrically insulative • Long pot life • Excellent chemical resistance • Good physical and chemical properties at elevated temperatures
Cure	Heat cure
Application	Encapsulant
Operating Temperature	-55 to +155 °C

STYCAST 2850KT CATALYST 11 epoxy encapsulant is designed for heat sink replacement in non-integrated electrical components and assemblies. it is also recommended for use in high voltage applications where surface arcing or tracking is a concern.

STYCAST 2850KT 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 *2850KT*

Viscosity, Brookfield , mPa·s (cP):	
Spindle 6, speed 2.5 rpm	165,000
Density , g/cm³	2.75
Shelf Life @ 25°C, months	12
Flash Point - See MSDS	

Part B Properties *Catalyst 11*

Viscosity @ 65 °C, mPa·s (cP)	48
Flash Point - See MSDS	

Mixed Properties *2850KT Catalyst 11*

Viscosity, Brookfield , mPa·s (cP)	125,000
Density , g/cm³	2.79
Work Life , 100 grams @ 25ºC, hours	>4

TYPICAL CURING PERFORMANCE

Recommended Cure

8 to 16 hours @ 80 °C
2 to 4 hours @ 100 °C
30 to 60 minutes @ 120 °C

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For optimum performance, follow the initial cure with a post cure of 4 to 6 hours at the highest expected use temperature.

Alternate cure schedules may also be possible. Contact your Henkel representative for further information.

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,	95
Flexural Strength:	
N/mm²	105
(psi)	(15,200)
Compressive Strength :	
N/mm²	195
(psi)	(28,300)
Linear Shrinkage, cm/cm	0.0016
Water Absorption, 24-hours, %	0.01
Coefficient of Thermal Expansion , 10^{-6}/ºC:	
Alpha 1	19.9
Alpha 2	63.9
Glass Transition Temperature, °C	96
Thermal Conductivity, W/mK	2.78

Electrical Properties:

Dielectric Strength, kV/mm	13.6
Dielectric Constant @ 1MHz	6.46
Dissipation Factor @ 1MHz	0.04
Volume Resistivity @ 25ºC, ohm-cm	$>1\times10^{15}$

GENERAL INFORMATION

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

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DIRECTIONS FOR USE

1. Certain resins and hardeners are prone to crystallization. If crystallization does occur, warm the contents of the shipping container to 50 to 60ºC until all crystals have dissolved. Shipping container must be loosely covered during the warming stage to prevent any pressure build-up.
2. Allow contents to cool to room temperature before continuing.
3. 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.
4. 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.
5. Power mixing is preferred to ensure a homogeneous product.
6. 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.
7. Blend components by hand, using a kneading motion, for 2 to 3 minutes and scrape the bottom and sides of the mixing container frequently to produce a uniform mixture.
8. If possible, power mix for 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.
9. To ensure a void-free embedment, vacuum deairing or degassing should be performed to remove any entrapped air introduced during the mixing operation.
10. Vacuum deair mixture at 1 to 5 mm mercury. The foam will rise several times the liquid height and then subside.
11. Continue vacuum deairing until most of the bubbling has ceased. This usually takes 3 to 10 minutes.
12. 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.
13. Gentle warming will also help, but pot life will be shortened.
14. Pour mixture into cavity or mold.
15. 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.
16. 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

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
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

Note

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Reference 0.0