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LOCTITE

Technical Data Sheet

LOCTITE STYCAST 2057 CAT 9

May 2021

PRODUCT DESCRIPTION

LOCTITE STYCAST 2057 provides the following product characteristics:

Technology	Epoxy
Appearance (Resin)	Black
Product Benefits	• Low viscosity • Good machinability • General purpose • Rapid air release • Can be used with a variety of catalysts
Application	Encapsulation, Potting

LOCTITE STYCAST 2057 CAT 9 is a general purpose encapsulant designed for machine dispensing and for parts requiring post molding machining. It contains a soft filler formulated to reduce abrasion in meter/mix equipment and to enhance machinability in the cured product.

LOCTITE STYCAST 2057 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.

CATALYST DESCRIPTION

LOCTITE CAT 9 provides the following product characteristics:

Product Benefits	• General purpose • Good chemical resistance • Good physical strength
Cure	Room temperature cure
Mix Ratio by weight - Material:Catalyst	100 / 7.5
Operating Temperature - Continuous	-40 to 130ºC
Operating Temperature - Intermittent	-40 to 150ºC

TYPICAL UNCURED PROPERTIES

LOCTITE STYCAST 2057

Density, g/cm³	1.6
Viscosity, Brookfield , 25 °C, mPa·s (cP)::	
Spindle 5, speed 50 rpm	5,500
Shelf Life @ 18 to 25°C (from date of manufacture), days	365
Flash Point - See SDS	

LOCTITE CAT 9

Density, g/cm³	1
Viscosity @ 25 °C, mPa·s (cP)	90
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Cure Schedule

LOCTITE STYCAST 2057 with LOCTITE CAT 9

16 to 24 hours @ 25°C

4 to 6 hours @ 45°C

1 to 2 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 specific application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

TYPICAL PROPERTIES OF CURED MATERIAL

LOCTITE STYCAST 2057 with LOCTITE CAT 9

Physical Properties

Hardness, Shore D		90
Coefficient of Thermal Expansion , TMA:		
Below Tg, ppm/°C		38
Above Tg, ppm/°C		122
Glass Transition Temperature, °C:		
Tg by TMA		62
Tg by DMA, tan delta		98
Tg by DMA, @ onset point		78
PHYSICAL PROPS:		
Young's modulus (E) :		
@ 35°C	N/mm² (psi)	6,166 (894,302)
@ 50°C	N/mm² (psi)	5,912 (857,463)
@ 100°C	N/mm² (psi)	256 (37,129)
@ 150°C	N/mm² (psi)	94 (13,633)
Weight Loss, %:		
@ 150°C		0.09
@ 200°C		0.32
@ 250°C		0.53
@ 300ºC		1.1
@ 700ºC		50.7
Linear Shrinkage, %		0.26

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Water Absorption, %:	
After 1 day @ 25ºC	0.03
After 7 days @ 25ºC	0.09
After 1 hour @ 100ºC	0.29

Electrical Properties

Surface Resistivity, ohms	7.4×10^{16}
Volume Resistivity, ohm-cm	1.5×10^{15}
Dielectric Constant / Dissipation Factor :	
@ 50 Hz	4.6/0.018
@ 1 KHz	4.8/0.01
@ 1 MHz	4.4/0.019

GENERAL INFORMATION

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

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 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.
4. 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.
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. 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. This can entrap excessive amounts of air. It can also cause overheating of the mixture, resulting in reduced working life.
9. To ensure a void-free embedment, vacuum deairing should be used 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. Apply adhesive to all surfaces to be bonded and join together.
13. In most applications only contact pressure is required.

Storage

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

Optimal Storage : 18 to 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 Henkel 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

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Reference 4