

LOCTITE STYCAST 2651MM CAT 28

April 2020

PRODUCT DESCRIPTION

LOCTITE STYCAST 2651MM CAT 28 provides the following product characteristics:

Technology	Epoxy
Appearance (Resin)	Black
Components	Two components - requires mixing
Mix Ratio, by weight - Material:Catalyst	100 : 12
Mix Ratio, by Volume - Material:Catalyst	100 : 18.5
Product Benefits	• General purpose • Machinability • Low viscosity • Casting can be cut, drilled and tapped easily • Ease of use
Cure	Room temperature cure and Heat cure
Application	Encapsulation

LOCTITE STYCAST 2651MM CAT 28 is a general purpose encapsulant designed for machine dispensing and for parts requiring post molding machining. LOCTITE STYCAST 2651MM CAT 28 is also available in the unpigmented version.

LOCTITE STYCAST 2651MM CAT 28 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 28 provides the following product characteristics:

Product Benefits	• Long pot life • Excellent chemical resistance • Good physical and chemical properties at elevated temperatures
Cure	Heat cure

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties LOCTITE 2651MM

Viscosity, Brookfield, mPa·s (cP):	
Spindle 5, speed 5 rpm	35,000
Density, g/cm ³	1.61
Shelf Life @ 25°C, days	365
Flash Point - See SDS	

Part B Properties LOCTITE CAT 28

Viscosity @ 25 °C, mPa·s (cP)	275
Density, g/cm ³	1.05
Flash Point - See SDS	

Mixed Properties LOCTITE 2651MM & LOCTITE CAT 28

Work Life, 100 grams @ 25°C, hours	2
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Recommended Cure

4 hours @ 120°C

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,	92
Glass Transition Temperature, °C:	
(Tg) by TMA	103
(Tg) by DMA @ tan delta	139
(Tg) by DMA @ onset point	119
Coefficient of Thermal Expansion, :	
Below Tg	59
Above Tg	118
Weight Loss, %:	
@150°C	0.06
@200°C	0.19
@250°C	0.28
@300°C	0.38
@700°C	50.6
Thermal Conductivity, W/(m·K)	0.6
Linear Shrinkage, %	0.39

Water Absorption, %:		
After 1 day @ 25°C		0.04
After 7 days @ 25°C		0.11
After 1 hour @ 100°C		0.13
Operating temperature, °C:		
Continuous		-40 to +175
Intermittent		-40 to +200
Storage Modulus:		
@ 35°C	N/mm ²	5,978
	(psi)	(867,000)
@ 50°C	N/mm ²	5,773
	(psi)	(837,000)
@ 100°C	N/mm ²	4,213
	(psi)	(611,000)
@ 150°C	N/mm ²	75
	(psi)	(10,900)

Electrical Properties

Surface Resistivity, ohm	9.3×10 ¹⁶
Volume Resistivity @ 25°C, ohm-cm	4.4×10 ¹⁵
Dielectric Constant / Dissipation Factor :	
@ 50 Hz	4.9/0.019
@ 1 kHz	5.0/0.005
@ 1 MHz	4.7/0.027

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 60°C until all crystals have dissolved. Shipping container must be loosely covered during the warming stage to prevent any pressure build-up.
2. 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.
3. 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.
4. Power mixing is preferred to ensure a homogeneous product.
5. 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.
6. 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.
7. 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.
8. To ensure a void-free embedment, vacuum deairing or degassing should be performed to remove any entrapped

air introduced during the mixing operation.

9. 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.
10. Continue vacuum deairing until most of the bubbling has ceased. This usually takes 3 to 10 minutes.
11. 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.
12. Gentle warming will also help, but pot life will be shortened.
13. Pour mixture into cavity or mold.
14. 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.
15. 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 : 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 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

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

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 recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

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