Technical Data Sheet

LOCTITE STYCAST 2662

August 2018

PRODUCT DESCRIPTION

LOCTITE STYCAST 2662 provides the following product characteristics:

Technology	Epoxy
Appearance (Resin)	Black
Product Benefits	• High temperature resistance • Excellent chemical resistance • Good moisture resistance
Cure	Heat cure
Application	Encapsulation, Potting

LOCTITE STYCAST 2662 epoxy encapsulant is designed for potting electronic components exposed to harsh environments. This material is also ideal for large and complex castings that require high temperature chemical and moisture resistance.

LOCTITE STYCAST 2662 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 14 provides the following product characteristics:

Product Benefits	• Powdered epoxy hardener • Chemical resistant • High temperature performance • Long work life
Cure	Heat cure

LOCTITE CAT 17 provides the following product characteristics:

Product Benefits	• High temperature resistant • Long work life • High temperature performance • Chemical resistant
Cure	Heat cure

LOCTITE CAT 17M-1 provides the following product characteristics:

Product Benefits	• Non crystallizing version of LOCTITE CAT 17 • Ease of use and handling
Cure	Heat cure

TYPICAL UNCURED PROPERTIES

LOCTITE STYCAST 2662

Brookfield Viscosity mPa·s (cP)	40,000
Density, g/cm³	1.44
Shelf Life @ 25ºC , days	180
Flash Point - See SDS	

TYPICAL UNCURED PROPERTIES AS MIXED

LOCTITE STYCAST 2662 with LOCTITE CAT 14

Density, g/cm³	1.46
Mix Ratio, Material:Catalyst, by weight	100:25
Work Life, 100 grams, @ 25ºC, hours	>24

LOCTITE STYCAST 2662 with LOCTITE CAT 17

Density, g/cm³	1.41
Mix Ratio, Material:Catalyst, by weight	100:30
Work Life, 100 grams, @ 25ºC, hours	>24

LOCTITE STYCAST 2662 with LOCTITE CAT 17M-1

Density,	1.41
Mix Ratio, Material:Catalyst, by weight	100:30
Work Life, 100 grams @ 25ºC, hours	>24

TYPICAL CURING PERFORMANCE

Cure Schedule

LOCTITE STYCAST 2662 with LOCTITE CAT 14

3 hours @ 150°C

LOCTITE STYCAST 2662 with LOCTITE CAT 17

Regular Castings

3 hours @ 125°C plus 3 hours @ 175°C

For larger or extremely critical castings

16 hours @ 65°C

plus 6 hours @ 125°C

plus 6 hours @ 150°C

LOCTITE STYCAST 2662 with LOCTITE CAT 17M-1

Regular Castings
3 hours @ 125°C plus 3 hours @ 175°C

For larger or extremely critical castings
16 hours @ 65°C
plus 6 hours @ 125°C
plus 6 hours @ 150°C

Cure at any one of the recommended cure schedules.

For optimum performance, follow the initial cure with a post cure of 4 to 6 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

LOCTITE STYCAST 2662 with LOCTITE CAT 14

Physical Properties

Hardness, Shore D	88
Coefficient of Thermal Expansion 10^{-6}/°C,	47
Thermal Conductivity, W/(m-K)	0.53
Water Absorption (24 hours), %	0.01
Operating temperature, ºC	-20 to +230

Electrical Properties

Dielectric Strength, kV/mm	16.5
Dielectric Constant @ 1 mHz:	
@ 25 °C	3.5
@ 150 °C	3.6
Dissipation Factor @ 1 mHz:	
@ 25 °C	0.009
@ 150 °C	0.007
Volume Resistivity, ohm-cm:	
@ 25 °C	$>10^{16}$
@ 150 °C	$>10^{14}$

Outgassing Properties

Outgassing , %:	
TML	0.63
CVCM	0.0

LOCTITE STYCAST 2662 with LOCTITE CAT 17

Physical Properties

Hardness, Shore D	88
Coefficient of Thermal Expansion 10^{-6}/°C,	47
Thermal Conductivity, W/(m-K)	0.53
Water Absorption (24 hours), %	0.01
Operating temperature, ºC	-20 to +230

Electrical Properties

Dielectric Strength, kV/mm	16.5
Volume Resistivity, ohm-cm:	
@ 25 °C	$>10^{16}$

LOCTITE STYCAST 2662 with LOCTITE CAT 17M-1

Physical Properties

Hardness, Shore D	88
Coefficient of Thermal Expansion 10^{-6}/°C,	47
Thermal Conductivity , W/(m-K)	0.53
Water Absorption (24 hours), %	0.01
Operating temperature, ºC	-20 to +230

Electrical Properties

Dielectric Strength, kV/mm	16.5
Volume Resistivity, ohm-cm:	
@ 25 °C	$>10^{16}$

TYPICAL PERFORMANCE OF CURED MATERIAL

LOCTITE STYCAST 2662 with LOCTITE CAT 14

Miscellaneous

Flexural Strength	N/mm²	100
	(psi)	(14,500)

LOCTITE STYCAST 2662 with LOCTITE CAT 17

Miscellaneous

Flexural Strength	N/mm²	100
	(psi)	(14,500)

LOCTITE STYCAST 2662 with LOCTITE CAT 17M-1

Miscellaneous

Flexural Strength	N/mm²	100
	(psi)	(14,500)

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 should be used to remove any entrapped air introduced during the mixing operation. Vacuum de-air mixture at 1 to 5 mm mercury. The foam will rise several times the liquid height and then subside. Continue to 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 pot 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.

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.

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
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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