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LOCTITE STYCAST 1495K

May 2019

PRODUCT DESCRIPTION

LOCTITE STYCAST 1495K provides the following product characteristics:

Technology	Ероху
Appearance (Resin)	Black liquid
Product Benefits	 Good thermal conductivity Low viscosity Can be used with a variety of catalysts
Application	Encapsulation, Potting

LOCTITE STYCAST 1495K epoxy encapsulant formulated for use in applications requiring good flow performance and thermal conductivity. It is an excellent choice for transformers, sensors and other electronic assemblies that require good heat dissipation and protection from environment.

LOCTITE STYCAST 1495K 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:

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Product Benefits	General purpose
	 Good chemical resistance
	 Good physical strength
Cure	Room temperature cure

LOCTITE CAT 11 provides the following product characteristics:

LOCTITE CAT IT provides the following product characteristics.	
Product Benefits	Long pot life
	 Excellent chemical resistance
	 Good physical and chemical
	properties at elevated
	temperatures
Cure	Heat cure

LOCTITE CAT 23LV provides the following product characteristics:

Cure	Room temperature cure
	 Excellent adhesion to glass
	 Excellent low temperature properties
	 Excellent thermal shock and impact resistance
	Long pot life
	Low exotherm
Product Benefits	Low color

TYPICAL UNCURED PROPERTIES

LOCTITE STYCAST 1495K	
Brookfield Viscosity , mPa·s (cP):	
Spindle 6, speed 10 rpm	45,000
Density, g/cm³	1.9
Shelf Life @ 18 to 25°C (from date of	365
manufacture), days	
Flash Point - See SDS	
LOCTITE CAT 9	
Viscosity @ 25 °C, mPa·s (cP)	92.5
Flash Point - See SDS	
LOCTITE CAT 11	
Viscosity @ 65 °C, mPa·s (cP)	47.5
Flash Point - See SDS	47.5
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LOCTITE CAT 23LV	

TYPICAL UNCURED PROPERTIES AS MIXED LOCTITE STYCAST 1495K with LOCTITE CAT 9

Viscosity @ 25 °C, mPa·s (cP)

Flash Point - See SDS

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Brookfield Viscosity , mPa·s (cP)	21,000
Density, g/cm³	1.89
Mix Ratio, Material:Catalyst:	
By Weight	100 : 4.5
By Volume	100 : 8.5
Work Life, 100 grams, @ 25°C, minutes	45

LOCTITE STYCAST 1495K with LOCTITE CAT 11

Brookfield Viscosity, mPa·s (cP)	14,000
Density, g/cm³	1.89
Mix Ratio, Material:Catalyst:	
By Weight	100 : 5
By Volume	100 : 9
Work Life, 100 grams, @ 25°C, hours	4

LOCTITE STYCAST 1495K with LOCTITE CAT 23LV

Brookfield Viscosity , mPa·s (cP)	10,000
Density, g/cm³	1.82
Mix Ratio, Material:Catalyst:	
By Weight	100 : 9
By Volume	100 : 17.5
Work Life, 100 grams, @ 25°C, minutes	60



4.09

1×10¹⁰

TYPICAL CURING PERFORMANCE

Cure Schedule

LOCTITE STYCAST 1495K with LOCTITE CAT 9

16 to 24 hours @ 25°C 4 to 6 hours @ 45°C 1 to 2 hours @ 65°C

LOCTITE STYCAST 1495K with LOCTITE CAT 11

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

LOCTITE STYCAST 1495K with LOCTITE CAT 23LV

24 hours @ 25°C 6 to 8 hours @ 45°C 2 to 4 hours @ 65°C

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 1495K with LOCTITE CAT 9

Physical Properties:

Hardness, Shore D	95
Linear Shrinkage, cm/cm	0.001
Moisture Absorption, in 24 hours, %	0.07
Coefficient of Linear Thermal Expansion, ppm/°C	42
Thermal Conductivity, W/(m-K)	1.1
Operating temperature range, °C	-40 to +130

Electrical Properties:

Electrical i Toperties.	
Dielectric Constant @ 1 mHz	3.95
Dissipation Factor @ 1 mHz	0.027
Dielectric Strength, kV/mm	15.7
Volume Resistivity, ohm-cm:	
@ 25°C	5×10 ¹³
@ 130°C	5×10 ¹¹

LOCTITE STYCAST 1495K with LOCTITE CAT 11

Physical Properties:

Hardness, Shore D	95
Linear Shrinkage, cm/cm	0.004
Moisture Absorption, in 24 hours, %	0.09
Coefficient of Linear Thermal Expansion, ppm/°C	33
Thermal Conductivity, W/(m-K)	1.25
Operating temperature range, °C	-55 to +155

Electrical Properties:

Dielectric Constant @ 1 mHz

Dissipation Factor @ 1 mHz	0.038
Dielectric Strength, kV/mm	15.7
Volume Resistivity, ohm-cm:	
@ 25°C	5×10 ¹³
@ 130°C	2.6×10 ¹¹

LOCTITE STYCAST 1495K with LOCTITE CAT 23LV

Physical Properties:

Hardness, Shore D	90
Linear Shrinkage, cm/cm	0.002
Moisture Absorption, in 24 hours, %	0.1
Coefficient of Linear Thermal Expansion, ppm/°C	37
Thermal Conductivity, W/(m-K)	1.0
Operating temperature range, °C	-65 to +105

Electrical Properties:

Liectrical Froperties.	
Dielectric Constant @ 1 mHz	4.0
Dissipation Factor @ 1 mHz	0.042
Dielectric Strength, kV/mm	15.7
Volume Resistivity, ohm-cm :	
@ 25°C	5×10 ¹³

TYPICAL PERFORMANCE OF CURED MATERIAL LOCTITE STYCAST 1495K with LOCTITE CAT 9

Miscellaneous

@ 130°C

Flexural Strength	N/mm² (psi)	88 (12,800)
Compressive Strength	N/mm²	, , ,
Tensile Strength	N/mm² (psi)	46 (6,670)

LOCTITE STYCAST 1495K with LOCTITE CAT 11

Miscellaneous

Flexural Strength	N/mm²	•
	(psi)	(12,600)
Compressive Strength	N/mm²	190
	(psi)	(27,600)
Tensile Strength	N/mm²	59
-	(psi)	(8.560)

LOCTITE STYCAST 1495K with LOCTITE CAT 23LV

Miscellaneous

Flexural Strength	N/mm²	97
-	(psi)	(14,100)
Compressive Strength	N/mm²	97
	(psi)	(14,100)
Tensile Strength	N/mm²	49
-	(psi)	(7,110)

GENERAL INFORMATION

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

DIRECTIONS FOR USE

- 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.
- 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.
- 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.
- 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: 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.

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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