Technical Data Sheet

LOCTITE STYCAST ES 6501

August 2018

PRODUCT DESCRIPTION

LOCTITE STYCAST ES 6501 provides the following product characteristics:

Technology	Epoxy
Appearance - Mixed	Black
Appearance - Part A	Black liquid
Appearance - Part B	Yellow liquid
Components	Two components - requires mixing
Product Benefits	• Rigid • Low to medium viscosity
Mix Ratio by weight: Part A: Part B	100 : 13
Mix Ratio by volume: Part A: Part B	4.59 : 1
Cure	Heat cure
Application	Encapsulation, Potting

LOCTITE STYCAST ES 6501 epoxy encapsulant is designed for general potting and encapsulation applications.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Mixed Properties

Mixed Viscosity @ 25°C, mPa·s (cP) :	
Spindle 3, speed 10 rpm	3,380
Spindle 3, speed 20 rpm	2,700
Density	1.53
Working Time @ 25°C, 100cc volume, minutes	30 to 60
Shelf Life, in cool, dry conditions, days	240
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Recommended Cure Schedule

12 to 24 hours @ 20 to 30°C

Alternate Cure Schedule

1 to 3 hours @ 60 to 85°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

Physical Properties

Hardness, Shore D	85
Glass Transition Temperature (Tg), °C	57
Coefficient of Linear Thermal Expansion, in/in/ºC, x 10^{-6} :	
Alpha 1, -10 to 30ºC	47
Alpha 2, 70 to 110ºC	151
Thermal Conductivity , W/(m-K)	0.46
Moisture Absorption, 24 hour water immersion, %	0.13
Weight Loss after 168 hrs @ 105ºC, %	0.17

Electrical Properties

Volume Resistivity, 100 VDC, ohms-cm	22×10^{17}
Surface Resistivity, 100 VDC, ohms	7.7×10^{15}
Arc Resistance, seconds	87
Dielectric Constant / Dissipation Factor @ 25ºC:	
@ 1 KHz	4.17/0.009
@ 100 KHz	4.02/0.016
Dielectric Strength, 0.02" thickness, volts/mil	1,175

GENERAL INFORMATION

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

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.

DIRECTIONS FOR USE

1. Some settling of fillers and pigments will occur with time. Therefore, thorough mixing of components containing fillers or pigments is necessary prior to every withdrawal of material.
2. Weigh needed quantities together and mix until homogeneous. Mixing takes 1 to 4 minutes depending on material quantity and viscosity.
3. Try to choose a mixing container that will be ½ to ¾ full of material. This minimizes inclusion of bubbles into the mix.
4. Use spatulas or mixing paddles appropriate to container size. Scrape the sides and bottom of the container while mixing.
5. If a bubble free product is desired, it may be necessary to vacuum de-air the separated components and/or the mixture. Vacuum pressure should be 1 mmHg or less to be effective.
6. Once opened, blanket the remaining product with dry nitrogen or dry air. Reseal containers tightly and store in cool, dry conditions. Blanket and reseal containers immediately after each use. This protects the remaining material from moisture contamination.
7. Use a drying tube on the ventilation opening of drums. Never store chemical containers exposed to weather or direct sunlight.

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

Liquid Storage - Liquids should be stored at 25°C or below, in closed containers. If stored below 25°C, the material MUST be allowed to come to room temperature, in the sealed container, to avoid moisture contamination.

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:
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