

LOCTITE STYCAST E 151-13

October 2015

PRODUCT DESCRIPTION

LOCTITE STYCAST E 151-13 provides the following product characteristics:

Technology	Epoxy
Appearance	Amber
Cure	Heat cure
Product Benefits	<ul style="list-style-type: none"> • One component • Low viscosity • Solvent-free • Good insulation properties • Good long term moisture resistance
Operating Temperature	130°C
Application	Encapsulant

LOCTITE STYCAST E 151-13 epoxy encapsulant is specifically designed for motor, coil, transformer and other insulation applications. The material's low viscosity and excellent wetting properties allow for complete impregnation when used either on small slightly wound coils or large castings.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield, 25 °C, mPa·s (cP)	1,500
Density, g/cm ³	1.05
Shelf Life (from date of manufacture):	
@ 0 to 8°C, days	180
@ 18 to 25°C, days	90
@ 40°C, days	14
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Gel Time

100-gram Mass @ 75 °C, hours (±)	3
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Cure Schedule

16 hours @ 85°C
4 hours @ 105°C
2 hours @ 120°C
1 hour @ 140°C
15 minutes @ 160°C

LOCTITE STYCAST E 151-13 is slightly exothermic.

This product may be cured in large castings with no adverse heat or exotherm effects. There is essentially no limit on casting size due to shrinkage or exotherm. In order to minimize stress during cure, large parts should be cured at 120°C or below.

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 @ 25 °C	63
Shore A @ 120 °C	65
Thermal Conductivity, W/(m·K)	0.3
Coefficient of Linear Thermal Expansion, ppm/°C	80
Linear Shrinkage on Cure, %	1.3
Stroke Cure @ 160°C, minutes	4
Moisture Absorption, 10 days @ 96% RH, %	0.8

Electrical Properties

Volume Resistivity, ohm-cm:	
@ 25°C	1×10 ¹⁴
@ 130°C	1×10 ¹¹
Dielectric Strength, kV/mm	12.8
Dielectric Constant / Dissipation Factor @ 1×10 ³ Hz	3.48/0.025

GENERAL INFORMATION

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

DIRECTIONS FOR USE

1. To fasten pouring and to improve impregnation, preheat the product up to 65 to 70°C. If no mold is used, product can be applied by dipping the device into the resin.
2. This material is vacuum degassed before shipment and contains an air release agent to minimize air entrapment during shipping and use.
3. For best impregnation and to eliminate moisture absorbed in coils, paper and other insulation components, preheat the device to 105 - 125°C.
4. For coil molding, product and mold should be preheated and the resin poured in when mold temperature is in the 70 - 90°C range. Vacuum degas until bubbling has completely stopped, then cure at one of the schedules shown.

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

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