

LOCTITE STYCAST ES 0506

April 2018

PRODUCT DESCRIPTION

LOCTITE STYCAST ES 0506 provides the following product characteristics:

Technology	Epoxy
Components	Two components - requires mixing
Appearance - Part A	Gray
Appearance - Part B	Amber
Mix Ratio, by volume - Part A: Part B	100 : 35.7
Mix Ratio, by weight - Part A: Part B	100 : 25.4
Cure	Heat cure
Application	Encapsulant and Potting

LOCTITE STYCAST ES 0506 is a two-component, filled epoxy system designed for vacuum impregnation applications as well as for general potting and encapsulating.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties :

Viscosity, Brookfield - RVF, 25 °C, mPa·s (cP):	
Spindle 7., speed 10 rpm	30,000
Density @ 25°C, gm/cc	1.7
Filler Content %	63
Solids Content, %	100
Shelf Life @ 25°C (from date of manufacture), days	365
Flash Point - See SDS	

Part B Properties :

Viscosity, Brookfield - RVF, 25 °C, mPa·s (cP):	
Spindle 1, speed 20 rpm	60
Density @ 25°C, gm/cc	1.21
Filler Content %	0
Solids Content, %	100
Shelf Life @ 25°C (from date of manufacture), days	365
Flash Point - See SDS	

Mixed Properties :

Viscosity	
Spindle 4, speed 2 rpm, @ 25°C	3,300
Spindle 3, speed 20 rpm, @ 75°C	180
, mPa·s (cP):	
Spindle 4, speed 2 rpm, @ 25°C	3,300
Spindle 3, speed 20 rpm, @ 75°C	180
Pot Life @ 25°C, 200 gm mass, hours	>8
Sunshine Gel @ 100°C, minutes	47
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Recommended Cure Schedule

3 hours @ 85°C plus 1 hour @ 125°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

Appearance	Brown/Tan
Filler Content, %	48
Linear Shrinkage, %	0.88
Density, gm/cc	1.79
Specific Gravity	1.76
Glass Transition Temperature (Tg) by TMA, °C	75
Coefficient of Thermal Expansion, :	
@ 40 to 60°C, µm/m.°C	81
@ 110 to 130°C, µm/m.°C	228
Hardness, Shore D	90
Elongation, %	1.5

Electrical Properties

Volume Resistivity, ohms-cm:	
@ 23 °C	9×10 ¹⁵
@ 100 °C	1×10 ¹⁴
Dielectric Strength, 20 mil thickness, volts/mil	1,250
Dielectric Constant / Dissipation Factor:	
@ 23 °C:	
@ 1KHz	3.7/0.0047
@ 10KHz	3.7/0.0045
@ 100 °C:	
@ 1KHz	4.2/0.039
@ 10KHz	4.0/0.0024

TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Tensile Strength	N/mm ²	54
	(psi)	(7,880)

GENERAL INFORMATION

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

DIRECTIONS FOR USE

1. 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.
2. 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.
3. LOCTITE STYCAST ED 0706 Part B may crystallize when subjected to low temperature storage of 10°C or below. A warming cycle of 50 to 70°C along with applying a slow, gentle mixing until crystals are no longer present may be necessary prior to mixing the two components. Crystallized epoxy components do not react as well as liquid components and should be re-dissolved prior to use for best results.

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.

STORAGE:

Store in original, tightly covered containers in clean, dry areas. 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

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

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