

LOCTITE STYCAST ES 0505

November 2016

PRODUCT DESCRIPTION

LOCTITE STYCAST ES 0505 provides the following product characteristics:

Technology	Epoxy
Appearance - Part A	Gray
Appearance - Part B	Tan
Appearance (cured)	Brown
Components	Two components - requires mixing
Mix Ratio by weight: Part A: Part B	100 : 99.9
Mix Ratio by volume: Part A: Part B	98.4 : 100
Cure	Heat Cure
Application	Potting and Encapsulating

LOCTITE STYCAST ES 0505 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

Solids Content, %	100
Filler Content, %	63
Density @ 25°C, gm/cc	1.77
Brookfield Viscosity - RVF, mPa·s (cP): Spindle 7, speed 10 rpm	215,000
Shelf Life @ 25°C (from date of manufacture), days	180

Part B Properties

Solids Content, %	100
Filler Content, %	63
Density @ 25°C, gm/cc	1.74
Viscosity @ 25 °C, cP: Spindle 5, speed 4 rpm	30,000
Shelf Life @ 25°C (from date of manufacture), days	180

Mixed Properties

Viscosity, mPa·s (cP): @ 25°C, Spindle 4, Speed 2 rpm	72,000
@ 75°C, Spindle 3, Speed 20 rpm	1,250
Pot Life @ 25°C, 200 gm mass, hours	>8

TYPICAL CURING PERFORMANCE

Gel Time

Gel @ 100°C, Sunshine Gel timer, minutes	46
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Recommended Cure

2 hours @ 93 °C plus 3 hours @ 150 °C

Alternate Cure

2 hours @ 125 °C plus 1 hour @ 150 °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

Linear Shrinkage, %	0.66
Density, gm/cc	1.79
Specific Gravity	1.76
Hardness, Shore D	90
Tensile Modulus, psi	950,000
Elongation, %	1.5
Glass Transition Temperature (Tg) by TMA, °C	88
Coefficient of Thermal Expansion, ppm/°C: @ 40 to 60°C	46
@ 110 to 130°C	163

Electrical Properties

Dielectric Strength @ 20 mil thickness, volts/mil	1,300
Dielectric Constant / Dissipation Factor: @ 23 °C: @ 1 KHz	3.7/0.0031
@ 10 KHz	3.7/0.0036
@ 125°C: @ 1 KHz	4.7/0.049
@ 10 KHz	4.4/0.0497
Volume Resistivity : @ 23°C	2.15×10 ¹⁶
@ 125°C	5.57×10 ¹³

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.

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 20 to 30°C in closed containers. If stored below 23°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

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$

$\text{kV/mm} \times 25.4 = \text{V/mil}$

$\text{mm} / 25.4 = \text{inches}$

$\text{N} \times 0.225 = \text{lb}$

$\text{N/mm} \times 5.71 = \text{lb/in}$

$\text{psi} \times 145 = \text{N/mm}^2$

$\text{MPa} = \text{N/mm}^2$

$\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$

$\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$

$\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$

$\text{mPa}\cdot\text{s} = \text{cP}$

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