



LOCTITE



LOCTITE STYCAST EE 4183 with HD 3537

January 2015

PRODUCT DESCRIPTION

LOCTITE STYCAST EE 4183 with HD 3537 provides the following product characteristics:

Technology	Epoxy
Appearance, Resin (Component A)	Tan Liquid
Components	Two component - requires mixing
Appearance, Hardener (Component B)	Amber
Appearance (cured)	Tan
Mixing Ratio, by weight Component A: Component B	100 : 43
Product Benefits	<ul style="list-style-type: none"> Enhanced resistance to temperature cycle degradation
Cure	Heat cure
Application	Encapsulant, Potting

LOCTITE STYCAST EE 4183 with HD 3537 casting compound is formulated to produce a high heat distortion cured epoxy system recommended for use in the assembly of transformers and rotating parts where high temperatures are expected.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties *LOCTITE STYCAST EE 4183*

Filler Content, %	50
Viscosity, Brookfield - RVF, 25 °C, mPa·s (cP): Spindle 6, speed 4 rpm	80,000
Specific Gravity @ 25°C	1.5
Shelf Life @ 25°C (from date of shipment), days	180
Flash Point - See SDS	

Part B Properties *STYCAST HD 3537*

Viscosity, Brookfield - RVF, 25 °C, mPa·s (cP): Spindle 2, speed 20 rpm	900
Specific Gravity @ 25°C	1.2
Shelf Life @ 25°C (from date of shipment), days	360
Flash Point - See SDS	

Mixed Properties

Viscosity, Brookfield, 70 °C, mPa·s (cP): Spindle 2, speed 20 rpm	400
Pot life @ 70 °C, 200 gram mass, hours	2
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Cure Schedule

3 hours @ 120°C plus 16 hours @ 160°C

Alternate Cure Schedule

2 hours @ 125°C, plus 2 hours @ 150°C, plus 6 hours @ 200°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

All measurements are taken at 25°C, unless otherwise noted.

Physical Properties

Coefficient of Linear Thermal Expansion, ppm/°C	40.6×10 ⁻⁶
Density, lb/cu in	0.045
Heat Deflection Temperature @ 264 psi, °C	165
Linear Shrinkage, %	1.0
Moisture Absorption, 24 hrs immersion, %	0.3
Specific Gravity	1.45
Thermal Conductivity, cal x cm/sec x cm ² x °C	7×10 ⁻⁴

Electrical Properties

Volume Resistivity :	
@ 25°C	3×10 ¹⁵
@ 105°C	3×10 ¹⁵
@ 160°C	8×10 ¹²
@ 200°C	2×10 ¹⁰
Dielectric Strength @ 10 mil thickness, volts/mil	650
Dielectric Constant / Dissipation Factor:	
@ 100 Hz:	
@ 25°C	3.5/0.004
@ 105°C	3.6/0.005
@ 160°C	3.8/0.02
@ 200°C	5.3/0.235
@ 100 KHz:	
@ 25°C	3.5/0.015
@ 105°C	3.5/0.0006
@ 160°C	3.6/0.007
@ 200°C	4.0/0.052
Guide to operating class, IEEE	180

TYPICAL PERFORMANCE OF CURED MATERIAL

All measurements are taken at 25°C, unless otherwise noted.

Miscellaneous

Compressive Strength	N/mm ² 193 (psi) (28,000)
Flexural Strength	N/mm ² 107 (psi) (15,600)
Tensile Strength	N/mm ² 68 (psi) (9,950)

GENERAL INFORMATION

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

DIRECTIONS FOR USE

- The mix ratio of LOCTITE STYCAST EE 4183 with HD 3537 is fixed by their chemistry. Any attempt to increase or decrease

cure rate by adding more or less hardener will result in degraded materials.

- Crystals may form in STYCAST HD 3537 on standing. Heat both components to 71°C. Mix and deair.
- Cast into molds preheated to 70°C.

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

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

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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