

LOCTITE STYCAST EE 4183 HD 3561

April 2019

PRODUCT DESCRIPTION

LOCTITE STYCAST EE 4183 HD 3561 provides the following product characteristics:

Technology	Epoxy
Appearance, Resin (Part A)	Tan
Appearance, Hardener (Part B)	Tan
Appearance (cured)	Tan
Components	Two components - requires mixing
Product Benefits	<ul style="list-style-type: none"> Improved thermal conductivity Heat resistant Thermal shock resistant
Mix Ratio by volume: Part A: Part B	100 : 24
Mix Ratio by weight: Part A: Part B	100 : 15
Cure	Heat cure or Room temperature
Application	Encapsulation, Potting

LOCTITE STYCAST EE 4183 HD 3561 is a filled system offering improved thermal conductivity and increased resistance to heat and thermal shock. The filled system is recommended for potting applications where rigid or flexible wire leads protrude directly from the encapsulation and where high impact strength is required. This system eliminates microscopic cracking on flexing of leads. It adheres extremely well to lead materials, such as vinyl or neoprene.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties LOCTITE STYCAST EE 4183

Filler Content, %	50
Density @ 25°C, g/cc	1.6
Viscosity, Brookfield - RVF, 25 °C, mPa·s (cP): Spindle 6, speed 10 rpm	80,000
Shelf Life @ 25°C (from date of shipment), days	180

Part B Properties LOCTITE STYCAST HD 3561

Density @ 25°C, g/cc	1.01
Viscosity, Brookfield - RVF, 25 °C, mPa·s (cP): Spindle 1, speed 20 rpm	20
Color, maximum	Gardner 3
Shelf Life @ 25°C (from date of shipment), days	365

Mixed Properties LOCTITE STYCAST EE 4183 HD 3561

Filler Content %	43.5
Density, g/cc	1.5
Specific Gravity	1.5
Viscosity @ 25 °C, mPa·s (cP)	2,000
Pot Life, 200 gm mass, @ 25 °C, minutes	80
Peak Exotherm Temperature, 200 gram mass, °C	115

TYPICAL CURING PERFORMANCE AS MIXED

Recommended Cure Schedule

3 hours @ 60°C

Alternate Cure Schedule

24 hours @ 25°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 AS MIXED

Physical Properties

Coefficient of Linear Thermal Expansion, in/in/°C x 10 ⁻⁶ :	
@ 30 to 70°C	53
@ 70 to 90°C	119
Elongation, %	2.2
Hardness, Shore D	83
Heat Deflection Temperature @ 264 psi, °C	85
Izod Impact Strength, ft-lb/in. of notch	0.44
Linear Shrinkage, %	0.5
Moisture Absorption, 24 hrs immersion, %	0.21
Thermal Conductivity, cal x cm/sec x cm ² x °C	11 x 10 ⁻⁴

Electrical Properties

Dielectric Strength, 10 mil thickness, volts/mil	1,500
Arc Resistance, seconds	138
Volume Resistivity, ohm-cm :	
@ 25°C	4 × 10 ¹⁴
@ 80°C	2 × 10 ¹⁰
Dielectric Constant / Dissipation Factor @ 25°C:	
100 Hz	4.51 / 0.01
1 kHz	4.5 / 0.086
10 kHz	4.41 / 0.017
100 kHz	4.21 / 0.027

Dielectric Constant / Dissipation Factor @ 80°C:

100 Hz	6.92 / 0.021
1 kHz	6.1 / 0.007
10 kHz	5.58 / 0.046
100 kHz	5.27 / 0.03

TYPICAL CURED PERFORMANCE AS MIXED

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

Miscellaneous

Tensile Strength	N/mm ²	58.6
	(psi)	(8,500)
Compressive Strength	N/mm ²	155
	(psi)	(22,500)
Compressive Yield Strength	N/mm ²	105
	(psi)	(15,200)
Flexural Strength	N/mm ²	107
	(psi)	(15,500)

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 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

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

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