

LOCTITE STYCAST EE 4190 HD 3563

July 2016

PRODUCT DESCRIPTION

LOCTITE STYCAST EE 4190 HD 3563 provides the following product characteristics:

Technology	Epoxy
Appearance, Resin (Component A)	Red liquid
Appearance, Hardener (Component B)	Tan
Appearance (cured)	Red
Components	Two components - requires mixing
Mixing Ratio, by weight Component A: Component B	100 : 130
Mixing Ratio, by volume Component A: Component B	3 : 4
Product Benefits	<ul style="list-style-type: none"> Thermal and mechanical shock resistant
Cure	Heat cure
Application	Encapsulation, Potting

LOCTITE STYCAST EE 4190 HD 3563 is a flexible, low temperature cure epoxy system resistant to thermal and mechanical shock. Castings of the system containing large steel inserts of various configurations cycled between temperatures of -65°C and 150°C showed no cracking or other deterioration. This system has been particularly useful on large electrical power equipment such as transformers, inductors, capacitors and switch gear parts.

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
Epoxy Equivalent	398
Shelf Life @ 25°C (from date of shipment), days	180
Flash Point - See SDS	

Part B Properties *STYCAST HD 3563*

Filler Content %	49
Viscosity, Brookfield - RVF, 25 °C, mPa·s (cP): Spindle 7, speed 2 rpm	400,000
Neutralization equivalent	375
Shelf Life @ 25°C (from date of shipment), days	180
Flash Point - See SDS	

Mixed Properties

Mixed Viscosity @ 80°C, mPa·s (cP)	1,400
Pot life @ 80°C, 200 gram mass, hours	6
Peak Exotherm Temperature, 200 gram mass, °C	80

TYPICAL CURING PERFORMANCE

Cure Schedule

6 hours @ 100°C

Alternate Cure Schedule

3 hours @ 125°C

In large masses, this material has been successfully cured at 80°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

Hardness, Shore D	75
Coefficient of Linear Thermal Expansion @ 30 to 90 °C, in/in/°C	89×10 ⁻⁶
Density, lb/cu in.	0.0581
Elongation, %	26
Filler Content, %	50
Flammability	Pass
Linear Shrinkage, %	1.4
Specific Gravity	1.6

Electrical Properties

Volume Resistivity :	
@ 30°C	2×10 ¹⁴
@ 105°C	7.22×10 ¹⁰
Dielectric Constant / Dissipation Factor:	
@ 100 Hz:	
@ 30°C	4.34/0.068
@ 105°C	6.66/0.084
@ 100 KHz:	
@ 30°C	3.85/0.046
@ 105°C	4.92/0.254
Guide to operating class, IEEE	130
Arc Resistance, seconds	149

TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Tensile Strength	N/mm ²	26
	(psi)	(3,800)

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 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

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

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

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

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

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

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

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

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

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

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

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

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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