

LOCTITE STYCAST EE 4143/HD 3475

February 2020

PRODUCT DESCRIPTION

LOCTITE STYCAST EE 4143/HD 3475 provides the following product characteristics:

Technology	Epoxy
Appearance, Resin (Component A)	Tan
Appearance, Hardener (Component B)	Amber
Appearance (cured)	Tan
Components	Two components - requires mixing
Product Benefits	<ul style="list-style-type: none"> • Low shrinkage • Low expansion
Mix Ratio by weight: Part A: Part B	100 : 12.5
Mix Ratio by volume: Part A: Part B	100 : 18
Cure	Heat cure and Room temperature
Application	Encapsulation and Potting

LOCTITE STYCAST EE 4143/HD 3475 is silica filled for improved thermal properties, lower shrinkage and lower expansion characteristics.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties

LOCTITE STYCAST EE 4143

Viscosity, Brookfield - RVF, 25 °C, cps:	
Spindle 5, speed 20 rpm	15,000
Specific Gravity @ 25 °C	1.57
Filler Content, %	50
Shelf Life @ 25°C, days	180
Flash Point - See SDS	

Part B Properties

LOCTITE STYCAST HD 3475

Viscosity, Brookfield - RVF, 25 °C, cps:	
Spindle 5, speed 4 rpm	5,000
Specific Gravity @ 25 °C	1.1
Color, maximum	Gardner 4
Shelf Life @ 25°C, days	365
Flash Point - See SDS	

Mixed Properties

LOCTITE STYCAST EE 4143 with LOCTITE STYCAST HD 3475

Viscosity @ 25 °C, cps	7,000
Density, gm/cc	1.53
Filler Content, %	44
Pot Life, 200 gm mass, @ 25 °C, minutes	30
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Recommended Cure Schedule

2 hours @ 60°C

Alternate Cure Schedule

24 hours @ 25°C

Peak Exotherm

Peak Exotherm Temperature, 200 gram mass, °C	150
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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 :

Hardness, Shore D	88
Coefficient of Linear Thermal Expansion, in/in/°C x 10 ⁻⁶ :	
Below Tg (25 °C)	56
Above Tg (150°C)	128
Glass Transition Temperature (Tg), °C	70
Elongation, %	1.66
Heat Deflection Temperature @ 264 psi, °C	80
Linear Shrinkage, %	0.75
Moisture Absorption, 24 hrs immersion, %	0.1
Thermal Conductivity, cal x cm/sec x cm ² x °C	12x10 ⁻⁴
Guide to Operating Class, IEEE °C	105

Electrical Properties:

Dielectric Strength, 10 mil thickness, volts/mil	1,678
Arc Resistance, seconds	146
Volume Resistivity, ohm-cm:	
@ 25 °C	7×10^{15}
@ 105 °C	1×10^{14}
Dielectric Constant / Dissipation Factor:	
@ 25 °C:	
@ 100 Hz	4.4/0.009
@ 1 kHz	4.1/0.017
@ 100 kHz	4.1/0.023
@ 105 °C:	
@ 100 Hz	5.0/0.02
@ 1 kHz	4.8/0.022
@ 100 kHz	4.7/0.016

TYPICAL PERFORMANCE OF CURED MATERIAL

Compressive Strength	N/mm ²	90.3
	(psi)	(13,100)
Flexural Strength	N/mm ²	107
	(psi)	(15,500)
Tensile Strength	N/mm ²	68.9
	(psi)	(10,000)
IZOD Impact Strength, ft. lbs/inch of notch		0.34

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.

Optimal Storage : 8 to 28 °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

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

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