

LOCTITE STYCAST OS 8300

Known as OA 8300, OB 8300
February 2019

PRODUCT DESCRIPTION

LOCTITE STYCAST OS 8300 provides the following product characteristics:

Technology	Epoxy
Appearance - Part A	Colorless liquid
Appearance - Part B	Amber liquid
Components	Two components - requires mixing
Mix Ratio, (by weight) Resin : Hardener	10 : 1
Product Benefits	<ul style="list-style-type: none"> • High spectral transmission • Excellent adhesion • Low weight loss • Low halogen content
Cure	Heat cure
Application	Component assembly, NCA
Typical Optic Application	<ul style="list-style-type: none"> • Active alignment of optical devices • Packaging • Sealing of fiber components • Opto-package

LOCTITE STYCAST OS 8300 is a two-component adhesive formulated to enhance productivity in the assembly of semiconductor, optical, fiber optic, and optoelectronic devices.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):
 @ Speed 20 rpm 4,000
 Pot Life @ 20 to 25°C, hours ≤3
 Flash Point - See SDS

TYPICAL CURING PERFORMANCE

Recommended Curing Conditions

60 minutes @ 150°C

Alternate Cure Schedule

1 minute @ 150°C
 5 minutes @ 120°C
 10 minutes @ 100°C
 30 minutes @ 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

Physical Properties

Hardness, Shore D	85
Glass Transition Temperature (Tg), °C	103
Coefficient of Thermal Expansion, ppm/°C:	
Below Tg	60
Above Tg	186
Thermal Degradation Temperature, °C	410
Weight Loss, %:	
@200°C	0.2
@250°C	0.39
@300°C	0.73
Storage Modulus	N/mm ² 2,700 (psi) (392,000)

Electrical Properties

Volume Resistance @ 25°C, ohm-cm ≥1.5 x 10¹³

Optical Properties

Refractive Index:	
@ 25°C	
@ 589 nm	1.5683
Spectral Transmission, %:	
@ 550 nm	≥50.0
@ 800 to 1,000 nm	≥96.68
@ 1,100 nm	≥98.38

TYPICAL PERFORMANCE OF CURED MATERIAL

Sample cured @ 150°C.

Die Shear Strength @ 25 °C:

Glass to Glass:
 2 x 2 mm die, Kg >15

GENERAL INFORMATION

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

DIRECTIONS FOR USE

1. Substrates and syringes should be clean before use to avoid any possible contamination.
2. If Part A crystallizes in storage, initially warm the sample in an oven (< 80 °C) until it becomes clear, followed by cooling down to room temperature, prior to mixing with Part B.
3. Part A and Part B must be fully mixed to a clear solution prior to transferring to syringe.
4. Rapid stirring should be avoided as this causes air entrapment.

STORAGE:

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage : 25 °C (room temperature)

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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