

LOCTITE STYCAST 50291 W1

February 2019

PRODUCT DESCRIPTION

LOCTITE STYCAST 50291 W1 provides the following product characteristics:

Technology	Epoxy
Appearance - Part A	Blue
Appearance - Part B	Yellow
Appearance - Mixed	Green
Components	Two components - requires mixing
Mix Ratio by weight: Part A: Part B	100 : 18
Operating Temperature Range	-40 to +100°C
Product Benefits	<ul style="list-style-type: none"> Low viscosity Easy to pour
Cure	Room temperature or Cure at elevated temperatures
Application	Encapsulation, Potting
Typical Assembly Applications	Electronic and electrical encapsulation applications

LOCTITE STYCAST 50291 W1 is a two component epoxy encapsulant with excellent adhesion to metals, plastics and ceramics.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties

Density, g/cm ³	1.5
Viscosity @ 25 °C, mPa·s (cP)	32,500
Flash Point - See SDS	

Part B Properties

Density, g/cm ³	1.0
Viscosity @ 25 °C, mPa·s (cP)	40.0
Flash Point - See SDS	

Mixed Properties

Density, g/cm ³	1.43
Mixed Viscosity @ 25 °C, mPa·s (cP)	2,000
Pot Life, 100gm mixture @ 25 °C, minutes	30
Shelf Life @ 18 to 25 °C (from date of manufacture), days	365
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Cure Schedule

8 to 16 hours @ 25°C

Post Cure

24 hours @ 25°C or
2 to 4 hours @ 60 to 70°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
Thermal Conductivity, W/(m·K)	0.4
Moisture Absorption, in 24 hours, %	0.3
Machinability	Good

Electrical Properties

Volume Resistivity, ohm-cm	1×10 ¹⁴
Dielectric Strength, kV/mm	16

GENERAL INFORMATION

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

DIRECTIONS FOR USE

- Mix Part A in the shipping container until it is uniform in texture. This will normally require 2 to 5 minutes in 1 or 5 gallon containers.
- Use 18 parts by weight of Part B for each 100 parts by weight of Part A. Blend thoroughly.
- Use vacuum evacuation if necessary, to remove entrained air.
- Pot life for a 100 g mixture is 30 minutes.
- Cure the product for 8 to 16 hours at room temperature to allow handling or demolding. Full properties develop over the following 24 hours at room temperature or after 2 to 4 hours at 60 to 70°C.

STORAGE:

Store in original, tightly covered containers in clean, dry areas. Storage information may be indicated on the product container labeling.

Optimal Storage : 18 to 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

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

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