



STYCAST[®] 2 CN

Optically Clear, Repairable, Silicone Encapsulant

Key Feature:	Benefit:
• Optical clarity	• Facilitates visual inspection of protected components
• High temperature properties	• Assemblies can withstand severe temperature conditions
• Repairability	• Defective components replaced easily

Product Description:

STYCAST 2 CN is a water white, RTV silicone potting compound. It has excellent high temperature properties, is very flexible, and can be readily repaired.

Applications:

STYCAST 2 CN is designed for potting applications which require identification, repair, or replacement of defective components

Instructions For Use:

Thoroughly read the information concerning health and safety contained in this bulletin before using. Observe all precautionary statements that appear on the product label and/or contained in individual Material Safety Data Sheets (MSDS).

To ensure the long term performance of the potted or encapsulated electrical / electronic assembly, complete cleaning of components and substrates should be performed to remove contamination such as dust, moisture, salt, and oils which can cause electrical failure, poor adhesion or corrosion in an embedded part.

This RTV silicone product is based on condensation cure chemistry and will cure in contact with most materials without cure inhibition. This product is not recommended for use in closed molds or sealed molds which could prevent its exposure to moisture or the escape of reaction by-products required to complete the cure. In addition, catalysts used to cure this product may cause corrosion of copper and other sensitive metals.

Properties of Material As Supplied:

Property	Test Method	Unit	Value
Chemical Type			Silicone
Appearance Visual			Clear liquid
Density AST	M-D-792	g/cm ³	0.99
Brookfield Viscosity	ASTM-D-2393 100 rpm # 5	Pa.s cP	1.7 1,700

Accurately weigh the liquid RTV silicone and catalyst into a clean container in the recommended ratio. To facilitate the addition of catalyst, the use of a medicine dropper which has been previously calibrated to determine the number of drops per gram is recommended. Working life and cure time are shortened as the amount of catalyst is increased. Low catalyst concentrations are recommended for applications requiring thick sections or use at temperatures in excess of 125°C.

Blend components by hand, using a kneading motion, for 2-3 minutes. Scrape the bottom and sides of the mixing container frequently to produce a uniform mixture. If possible, power mix for an additional 2-3 minutes. Avoid high mixing speeds which could entrap excessive amounts of air or cause overheating of the mixture resulting in reduced working life.

To ensure a void-free embedment, vacuum deairing should be used to remove any entrapped air introduced during the mixing operation. Vacuum deair mixture at 1-5 mm mercury. The foam will rise several times the liquid height and then subside. Continue vacuum deairing until most of the bubbling has ceased. This usually requires 3-10 minutes.

In general, silicone materials exhibit outstanding release properties and will not adhere to most substrates. If adhesion is required, apply a thin, uniform coating of PRIMER S 11 to the desired clean, dry substrates. Allow the PRIMER S 11 to dry for 30-60 minutes at room temperature before applying this silicone material.

Pour mixture into cavity or mold. Gentle warming of the mold or assembly reduces the viscosity. This improves the flow of the material into the unit having intricate shapes or tightly packed coils or components. Further vacuum deairing in the mold may be required for critical applications.

STYCAST 2 CN can be repaired easily. The encapsulating material may be cut from around the defective part, and the part replaced. The hole is then refilled with resin and allowed to cure at room temperature. The cure may be accelerated by exposure to temperatures up to 65°C.

Choice of Curing Agents		
Curing agent	Catalyst 25	Catalyst 50
Description	Condensation cure catalyst, yields slightly better low temperature performance and is less corrosive. Also longer pot life and less tendency to revert.	Standard condensation cure catalyst, yields slightly better adhesion and high temperature performance. Also slightly faster curing.
Type of cure	Room	Room
Viscosity Pa.s cP	0.065 65	0.085 85

Properties of Material As Mixed:

Property	Test Method	Unit	Value	
			Catalyst 25	Catalyst 50
Mix Ratio-Catalyst per 100 parts of STYCAST 2 CN		By Weight	0.3 to 0.5	0.3 to 0.5
Working Life (100 g @ 25°C)	ERF 13-70	minutes	110	60
Density AST	M-D-792	g/cm ³	0.99	0.99
Brookfield Viscosity	ASTM-D-2393 Pa.s	cP	1.7 1,700	1.7 1,700

Cure Schedule:

Cure at any one of the recommended cure schedules. Where use at temperatures above 125°C is anticipated, a post cure schedule of 1-2 hours at 25-30°C increments up to the highest expected use temperature is recommended to properly condition the silicone rubber.

Temperature	Cure Time (hours)	
°C	Catalyst 25	Catalyst 50
25 16-24		16-24
65 4-6		2-4

Properties of Material After Application:

Property	Test Method	Unit	Value	
			Catalyst 25	Catalyst 50
Hardness AST	M-D-2240	Shore A	22	22
Temperature Range of Use		°C	-55 to 120	-55 to 120

contact. Handling this product at elevated temperatures may also generate vapors irritating to the respiratory system.

Good industrial hygiene and safety practices should be followed when handling this product. Proper eye protection and appropriate chemical resistant clothing should be worn to minimize direct contact. Consult the Material Safety Data Sheet (MSDS) for detailed recommendations on the use of engineering controls and personal protective equipment.

Storage and Handling:

The shelf life of STYCAST 2 CN is 6 months at 25°C. For best results, store in original, tightly covered containers. Storage in cool, clean and dry areas is recommended. Usable shelf life may vary depending on method of application and storage conditions.

This information is only a brief summary of the available safety and health data. Thoroughly review the MSDS for more complete information before using this product.

Health and Safety:

The STYCAST 2 CN, like most industrial compounds, possesses the ability to cause skin and eye irritation upon

Attention Specification Writers:

The values contained herein are considered typical properties only and are not intended to be used as specification limits. For assistance in preparing specifications, please contact Henkel Corporation Quality Assurance for further details.

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Hysol

// Underfills // Solder Alternatives // C.O.B Materials
 // Encapsulants // Coatings // Adhesives // Film Adhesives // Thermal Interfaces
 // Electrically Conductive Coatings and Adhesives

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