

## DESCRIPTION

- One-Part, white RTV silicone
- Non-slumping in thin sections
- Non-corrosive
- Designed for enhanced performance in extreme low and high temperatures

Meets or exceeds the ASTM E 595 low outgas specifications outlined in NASA SP-R-0022A and European Space Agency PSS-014-702, with a TML of  $\leq 1\%$  and CVCM of  $\leq 0.1\%$

## APPLICATION

- For applications requiring low outgassing and minimal volatile condensables under extreme operating conditions
- To provide moderate heat transfer between electrical/electronic components and their heat sinks
- As a sealing, caulking, adhesive or potting material in electronics and space applications requiring minimal outgassing to avoid condensation in sensitive devices
- For bonding and sealing in applications such as overhead or vertical joints that require a non-slumping and one-part material
- For applications requiring a broader operating temperature range

## PROPERTIES

### TYPICAL PROPERTIES

### AVERAGE RESULT

### ASTM

### NT-TM

#### Uncured:

Appearance*	White	D2090	002
Cure Loss	3.2%	D2288	004
Extrusion Rate* (Performed using a 14 gauge nozzle with a 0.5" orifice and 90 +/-5 psi air pressure)	40 g/min	C603	033
Tack-Free Time*	40 minutes	C679	005

#### Cured: 72 hours minimum @ ambient temp. and humidity

Appearance*	Elastomeric Solid	D2090	002
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TYPICAL PROPERTIES	AVERAGE RESULT	ASTM	NT-TM
Specific Gravity*	2.33	D792	003
Durometer, Type A*	65	D2240	006
Tensile Strength*	400 psi (2.8 MPa)	D412	007
Elongation*	150%	D412	007
Thermal Conductivity*	0.609 W/(mK) (15 x 10 <sup>-4</sup> cal/(cm·sec·°C))	E1530	101
Coefficient of Linear Thermal Expansion (-115°C to 250°C)	223 ppm/°C (223 μm/m/°C)	E831	-
Glass Transition (T <sub>g</sub> )	-116°C (-177°F)	E831	-
Ionic Content, Cl	<5 ppm	-	-
Ionic Content, K	<5 ppm	-	-
Ionic Content, Na	<5 ppm	-	-
Collected Volatile Condensable Material (CVCM)*	0.02%	E595	072
Total Mass Loss (TML)*	0.14%	E595	072
<b>Cured: 7 days @ ambient temp. and humidity</b>			
Lap Shear Strength (unprimed)*	225 psi (1.6 MPa)	D1002	010

\*Properties tested on a lot-to-lot basis. Do not use the properties shown in this technical profile as a basis for preparing specifications. Please contact NuSil Technology for assistance and recommendations in establishing particular specifications.

## INSTRUCTIONS FOR USE

Mixing Instructions provided at end of Product Profile.

### Substrate Considerations

Although generally considered to be non-corrosive to most substrates, the oxime cure system may cause discoloration in the presence of copper or copper alloys.

Note: Some bonding applications may require the use of a primer. NuSil Technology's SP-120 silicone primer is recommended.

### Adjustable Cure Schedule

Product cures at a wide range of cure times and temperatures to accommodate different production needs. Contact NuSil Technology for details.

### Packaging

6 oz Tube (177 mL)

### Warranty

6 Months



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## OPERATING TEMPERATURE

The operating temperature range of a silicone in any application is dependent on many variables, including but not limited to: temperature, time of exposure, type of atmosphere, exposure of the material's surface to the atmosphere, and mechanical stress. In addition, a material's physical properties will vary at both the high and low end of the operating temperature range. This type of silicone typically remains flexible at extremely low temperatures and has been known to perform at  $-140^{\circ}\text{C}$  ( $-220^{\circ}\text{F}$ ) as well as resist breakdown at elevated temperatures up to  $300^{\circ}\text{C}$  ( $572^{\circ}\text{F}$ ). The user is responsible to verify performance of a material in a specific application.

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## RoHS AND REACH COMPLIANCE

CV-2900 is compliant with the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) regulation contained in Article 4(1) of the European Parliament and Council's Directive 2002/95/EC. RoHS mandates that manufacturers restrict the use of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls, polychlorinated biphenyls, and polybrominated diphenyl ethers in electrical and electronic equipment.

CV-2900 is also compliant with the Registration, Evaluation, and Authorization of Chemicals (REACH) regulation (European Union 1907/2006). CV-2900 does not contain any of the 16 chemicals identified as Substances of Very High Concern (SVHC) by the European Chemicals Agency (ECHA), which oversees REACH compliance.

Please contact NuSil Technology's Regulatory Compliance department with any questions or for further assistance.

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## SPECIFICATIONS

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## WARRANTY INFORMATION

The warranty period provided by NuSil Technology LLC (hereinafter "NuSil Technology") is 6 months from the date of shipment when stored below  $40^{\circ}\text{C}$  in original unopened containers. Unless NuSil Technology provides a specific written warranty of fitness for a particular use, NuSil Technology's sole warranty is that the product will meet NuSil Technology's then current specification. NuSil Technology specifically disclaims all other expressed or implied warranties, including, but not limited to, warranties of merchantability and fitness for use. The exclusive remedy and NuSil Technology's sole liability for breach of warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted. NuSil Technology expressly disclaims any liability for incidental or consequential damages.



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## WARNINGS ABOUT PRODUCT SAFETY

NuSil Technology believes, to the best of its knowledge, that the information and data contained herein are accurate and reliable. The user is responsible to determine the material's suitability and safety of use. NuSil Technology cannot know each application's specific requirements and hereby notifies the user that it has not tested or determined this material's suitability or safety for use in any application. The user is responsible to adequately test and determine the safety and suitability for their application and NuSil Technology makes no warranty concerning fitness for any use or purpose. NuSil Technology has completed no testing to establish safety of use in any medical application.

NuSil Technology has tested this material only to determine if the product meets the applicable specifications. (Please contact NuSil Technology for assistance and recommendations when establishing specifications.) When considering the use of NuSil Technology products in a particular application, review the latest Material Safety Data Sheet and contact NuSil Technology with any questions about product safety information.

Do not use any chemical in a food, drug, cosmetic, or medical application or process until having determined the safety and legality of the use. The user is responsible to meet the requirements of the U.S. Food and Drug Administration (FDA) and any other regulatory agencies. Before handling any other materials mentioned in the text, the user is advised to obtain available product safety information and take the necessary steps to ensure safety of use.

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## PATENT / INTELLECTUAL PROPERTY WARNING

NuSil Technology disclaims any expressed or implied warranty against the infringement of any domestic or international patent/intellectual property right. NuSil Technology does not warrant the use or sale of the products described herein will not infringe the claims of any domestic or international patent/intellectual property right covering the product itself, its use in combination with other products, or its use in the operation of any process.

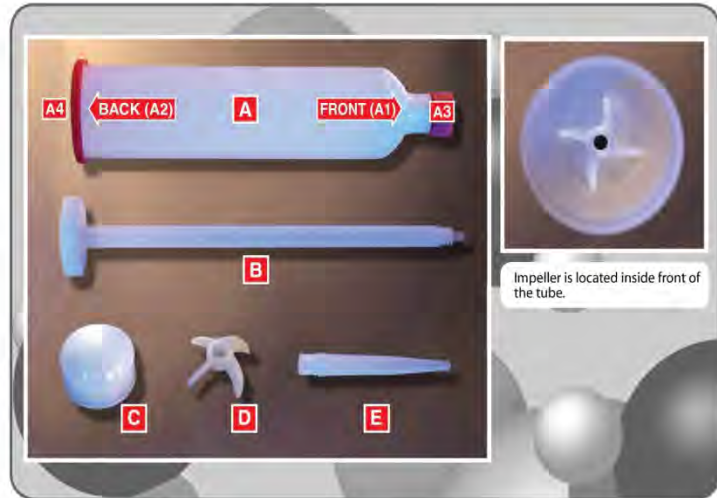


# Mixing Instructions For Six Ounce Cartridge with Impeller

A six-ounce cartridge is composed of: a six-ounce (6 oz.) tube containing an impeller in the tube and a dasher rod. Six ounce cartridges require some care during assembly to prevent the threads on the dasher rod from being stripped or offsetting the impeller. The mixing instructions below are based on the use of specific equipment for mixing Semco® cartridges. The equipment keeps pressure applied to the top and bottom of the tube while mixing. Please follow the instructions below.

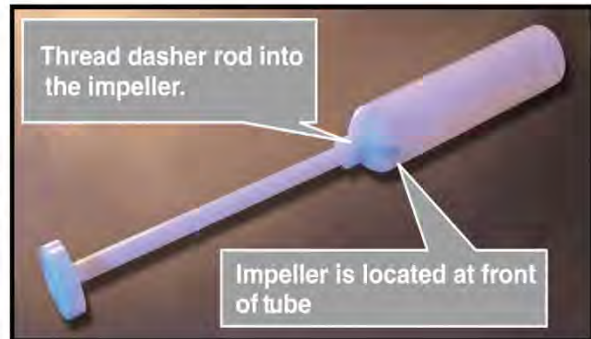
## Packing List:

- (A) 6 oz. tube – contains one-part, condensation cure silicone.
  - (A1) Front of 6 oz. tube - the smaller end of the 6 oz. tube.
  - (A2) Back of 6 oz. tube - the larger end of the 6 oz. tube.
  - (A3) Red Screw Off Cap - located at the front of 6 oz. tube
  - (A4) Red Pop-Off Cap - located at the back of 6 oz. tube.
- (B) Dasher rod
- (C) Plunger – inside the back of the 6 oz. tube and used to hold the product in place.
- (D) Impeller – located inside the front of the 6 oz. tube and used to mix the silicone inside the 6 oz. tube.
- (E) Nozzle - used for extruding, not included, sold separately (EQ-6).



## Instructions:

1. Unscrew the red cap (A3) at the front of the 6 oz. tube (A).
2. Remove the red pop-off cap (A4) at the back of the 6 oz. tube (A2).
3. Thread the dasher rod (B) into the impeller (D) located inside the front of the 6 oz. tube (A1). Avoid any force that might offset the impeller (D) in the 6 oz. tube (A1). Do not pre-mix.
4. Fix the dasher rod (B) and 6 oz. tube (A) onto mixing machine and begin mixing at the front of the 6 oz. Tube (A1).
  - a. The total time required to mix the tube should be 2 - 3 minutes or 100 strokes. Do not mix any longer. Potentially you may heat the silicone, which may result in decreased work time and accelerated cure time.
  - b. Mix the entire length of tube.
  - c. If the mixing equipment is not available, ensure to keep pressure applied to the back plunger if mixing by another method.
5. When finished mixing leave the impeller (D) at the back of the 6 oz. tube (A2).
  - a. The impeller (D) has a smaller diameter opening than the front of the 6 oz. tube (A1) and therefore will restrict the extrusion of the silicone if left in the front of the 6 oz. tube (A).
6. Unscrew the dasher rod (B).
7. Proceed with dispensing the product.





# **Polymer Systems** Technology Limited

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