

# CV-2646

## Controlled volatility electrically conductive RTV silicone

### DESCRIPTION

- Two-part, tan-colored electrically conductive RTV silicone
- 100:0.5 Mix Ratio (Base: Curing Agent)

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 avoid condensation in sensitive devices
- Use for RFI and EMI shielding in electrical and space applications
- Use to adhere covers onto housings or for any application where grooves and other configurations require a non-flowable to limited flow material
- For applications requiring a broader operating temperature range

### PROPERTIES

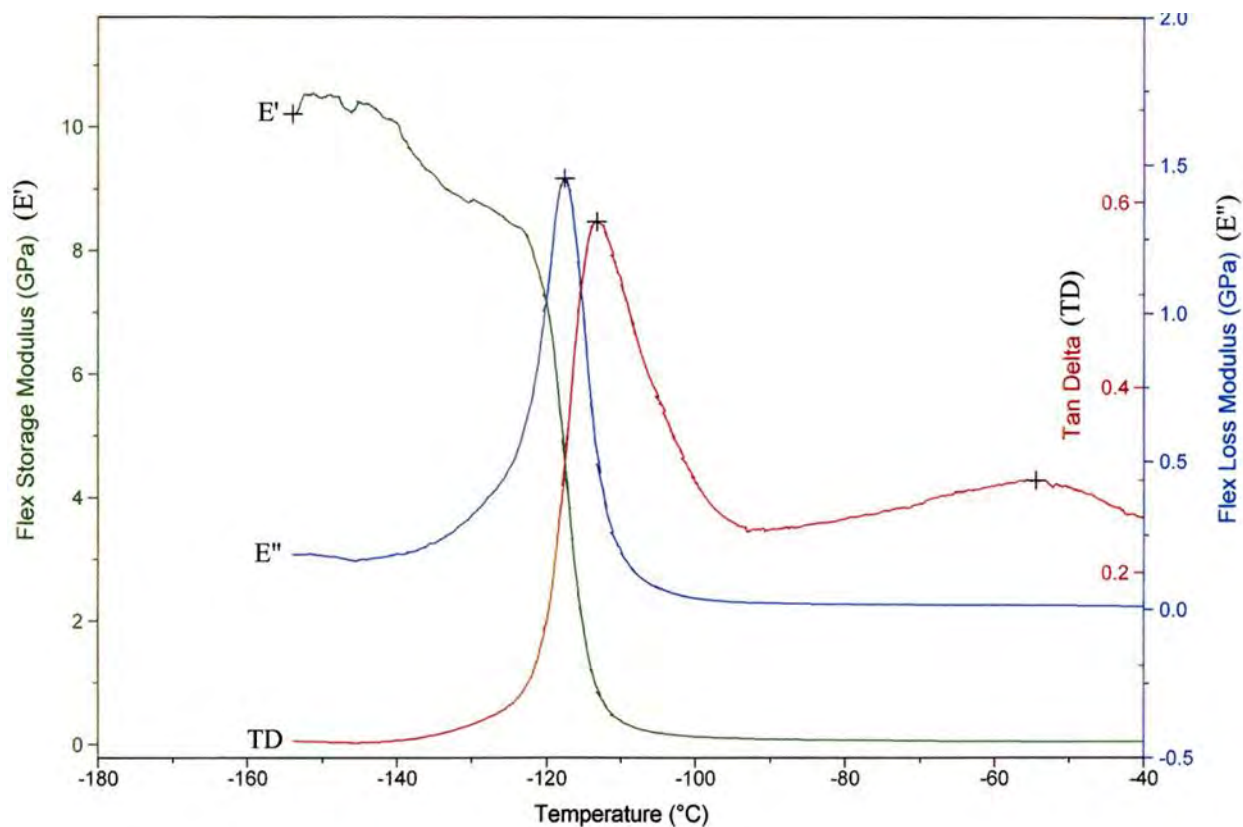
Typical Properties	Average Result	Standard	NT-TM
<b>Uncured:</b>			
Appearance*	Tan	ASTM D2090	002
Work Time*	3.5 hours	-	008
<b>Cured: 10 days minimum at ambient temperature and humidity</b>			
Appearance*	Tan, Elastomer	ASTM D2090	002
Specific Gravity*	3.86	ASTM D792	003
Durometer, Type A*	80	ASTM D2240	006
Tensile Strength*	400 psi (2.8 MPa)	ASTM D412	007
Elongation*	90%	ASTM D412	007
Tear Strength*	60 ppi (10.5 kN/m)	ASTM D624	009
Lap Shear Strength* (primed w/ SP-120)	325 psi (2.2 MPa)	ASTM D1002	010
Volume Resistivity*	0.007 ohm-cm	ASTM D257, D4496	040
Thermal Conductivity	1.0 W/(mK) ( $24 \times 10^{-4}$ cal/(cm·sec·°C))	ASTM E1530	101

Typical Properties	Average Result	Standard	NT-TM
Coefficient of Linear Thermal Expansion			
Below Tg (-150°C to -115°C)	45 ppm/°C (45 μm/m/°C)	ASTM D3386	-
Above Tg (-95°C to 250°C)	185 ppm/°C (185 μm/m/°C)	ASTM D3386	-
Dynamic Mechanical Analysis (DMA)	See Attached Graph	ASTM D4065	-
Collected Volatile Condensable Material (CVCM)*	0.02%	ASTM E595	072
Total Mass Loss (TML)*	0.20%	ASTM E595	072

\* 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.

### DYNAMIC MECHANICAL ANALYSIS (DMA) ASTM D4065

	Tg	Initial E'	Final E' (Gpa)	Tan Delta above Tg
CV-2646	-120°C	10.0 Gpa	0.004 Gpa	0.3 – 0.7



## INSTRUCTIONS FOR USE

### Mixing

Thoroughly stir base prior to weighing for curing agent addition as the product separates. Mix 100 parts base to 0.5 parts curing agent by weight, just prior to use.

Caution: Curing agent may cause skin irritation. In case of eye contact, irrigate with water immediately and seek medical attention. (Standard curing agent is dibutyl tin dilaurate.)

### Vacuum Deaeration

Remove air entrapped during mixing by common vacuum deaeration procedure, observing all applicable safety precautions. Slowly apply full vacuum to a container rated for use and at least four times the volume of the material being deaerated. Hold vacuum until bulk deaeration is complete.

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

## 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 -120°C (-248°F) as well as resist breakdown at elevated temperatures up to 300°C (572°F). The user is responsible to verify performance of a material in a specific application.

## ROHS AND REACH COMPLIANCE

Please [contact](#) NuSil Technology's Regulatory Compliance department with any questions or for further assistance

## SPECIFICATIONS

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.

### Packaging

50 Gram Kit  
100 Gram Kit  
250 Gram Kit  
500 Gram Kit

### Warranty

6 Months

## 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°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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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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