

CV2-2289-1

Controlled volatility potting and encapsulating silicone elastomer

DESCRIPTION

- Two-part, white silicone system
- Offers medium strength, low modulus, good physical properties and a broad operating temperature range
- 1:1 Mix Ratio (Part A:B)

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

- To provide protection of electric components and assemblies against shock, vibration, moisture, dust, chemicals and other environmental hazards
- Ideal for adhesive applications where a large surface must be covered
- For applications requiring minimal outgassing
- For applications requiring a broader operating temperature

PROPERTIES

| Typical Properties | Average Result | Standard | NT-TM |
|---|-------------------------|-------------------|-------|
| Uncured: | | | |
| Appearance, Part A* | White | ASTM D2090 | 002 |
| Appearance, Part B* | Translucent | ASTM D2090 | 002 |
| Viscosity, Part A* | 14,000 cP (14,000 mPas) | ASTM D1084, D2196 | 001 |
| Viscosity, Part B* | 10,500 cP (10,500 mPas) | ASTM D1084, D2196 | 001 |
| Tack-Free Time* | 10 hours | ASTM C679 | 005 |
| Cured: 4 hours at 65°C (149°F) | | | |
| Durometer, Type A* | 30 | ASTM D2240 | 006 |
| Tensile Strength* | 450 psi (3.1 MPa) | ASTM D412 | 007 |
| Elongation* | 200% | ASTM D412 | 007 |
| Lap Shear Strength (primed w/ CF1-135)* | 200 psi (1.4 MPa) | ASTM D1002 | 010 |
| Collected Volatile Condensable Material (CVCM)* | 0.07% | ASTM E595 | 072 |
| Total Mass Loss (TML)* | 0.31% | ASTM E595 | 072 |

| Typical Properties | Average Result | Standard | NT-TM |
|--|-------------------|------------|-------|
| After High Temperature Exposure: 7 days at 240°C (464°F) | | | |
| Tensile Strength | 130 psi (0.9 MPa) | ASTM D412 | 007 |
| Elongation | 45% | ASTM D412 | 007 |
| Young's Modulus | 350 psi (2.4 MPa) | - | - |
| Lap Shear Strength (primed w/ SP-270) | 45 psi (0.3 MPa) | ASTM D1002 | 010 |
| 10 cycles of 5 minutes at 300°C (572°F) | | | |
| Tensile Strength | 550 psi (3.8 MPa) | ASTM D412 | 007 |
| Elongation | 230% | ASTM D412 | 007 |
| Young's Modulus | 350 psi (2.4 MPa) | - | - |
| Lap Shear Strength (primed w/ SP-270) | 400 psi (2.8 MPa) | ASTM D1002 | 010 |

*The test data shown for this material is the average value for typical properties. All of these properties may not be tested on a lot to lot basis and cannot be used to draft specifications. Please [contact](#) NuSil® for assistance and recommendations in establishing limits for product specifications.

INSTRUCTIONS FOR USE

Mixing

Mix Part A and B in a 1:1 mix ratio by weight. CV2-2289-1 is ideal for Static mix and dispense application.

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.

Inhibition Concerns

Cures in contact with most materials common to electronic assemblies. Exceptions include butyl and chlorinated rubbers, some RTV silicones and unreacted residues of some curing agents. Units being encapsulated or potted should be clean and free of surface contaminants. Containers and dispensers being used should also be clean and dry. Cure inhibition can usually be prevented by washing all containers with solvent or volatilizing the contaminant by heating.

Note: Some bonding applications may require the use of a primer. NuSil CF1-135 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 for details.

| Packaging | Warranty |
|--------------------------|-----------|
| 50 ml SxS Kit (0.054 kg) | 12 Months |
| 50 Gram Kit (0.05 kg) | |
| 200 Gram Kit (0.2 kg) | |
| 500 Gram Kit (0.5 kg) | |

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 (-184°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's Regulatory Compliance department with any questions or for further assistance

SPECIFICATIONS

Do not use the typical properties shown in this technical profile as a basis for preparing specifications. Please [contact](#) NuSil for assistance and recommendations in establishing limits for product specifications.

WARRANTY INFORMATION

The warranty period provided by NuSil Technology LLC is 12 months from the date of shipment when stored below 40°C in original unopened containers. Unless NuSil provides a specific written warranty of fitness for a particular use, NuSil's sole warranty is that the product will meet NuSil's then current specification. NuSil 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'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 expressly disclaims any liability for incidental or consequential damages.

WARNINGS ABOUT PRODUCT SAFETY

NuSil 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 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 makes no warranty concerning fitness for any use or purpose. NuSil has completed no testing to establish safety of use in any medical application.

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