

EPM-2490

Low volatility thermally conductive dielectric silicone gel

DESCRIPTION

- Two-part, white, thermally conductive, electrically insulating, silicone system
- Electrically insulative and non-corrosive
- 15:1 Mix Ratio (Part A: Part B)

APPLICATION

- Flexible Thermal interface material (TIM) designed to provide heat transfer between electrical/electronic components and their heat sinks for a variety of component level packaging
- For applications requiring a broad operating temperature range
- Ideal where a form-in-place TIM is needed for use as a sealing, caulking, adhesive, or potting material in electronics applications requiring minimal volatility for prevention of contamination in sensitive devices

PROPERTIES

Typical Properties	Average Result	Standard	NT-TM
Uncured:			
Appearance	White	ASTM D2090	002
Work Time	2 hours	-	008
Tack-Free Time	4.5 hours	ASTM C679	005
Cured:			
Specific Gravity	1.53	ASTM D792	003
Durometer, Type A	75	ASTM D2240	006
Tensile Strength	200 psi (1.4 MPa)	ASTM D412	007
Elongation	30%	ASTM D412	007
Lap Shear Strength	160 psi (1.1 MPa)	ASTM D1002	010
Thermal Conductivity	1.49 W/mK (36 x 10 ⁻⁴ cal/cm·sec·°C)	ASTM E1530	101
Volatile Content (1 hour at 275°C)	0.2%	ASTM D2288	004
Moisture Absorption	610%	JEDEC J-STD-020C	202

Typical Properties	Average Result	Standard	NT-TM
Dielectric Strength	610 V/mil (24.0 kV/mm)	ASTM D149	-
Dielectric Constant, 100 Hz	3.4	ASTM D150, D924	906
Dielectric Constant, 1 kHz	3.4	ASTM D150, D924	906
Loss Tangent, 100 Hz	0.002	ASTM D150, D924	906
Loss Tangent, 1 kHz	0.001	ASTM D150, D924	906
Coefficient of Linear Expansion (-70°C to 200°C)	240 µm/(m°C)	ASTM E831	-
Glass Transition Temperature (Tg)	-127°C (-196.6°F)	ASTM D3418	-
Ionic Content, Na	< 3 ppm	MIL-STD-883	-
Ionic Content, K	< 3 ppm	MIL-STD-883	-
Ionic Content, Cl	< 6 ppm	MIL-STD-883	-

The above properties are tested on a lot-to-lot basis. Do not use as a basis for preparing specifications. Do not use as a basis for preparing specifications. Please [contact](#) NuSil Technology for assistance and recommendations in establishing particular specifications.

INSTRUCTIONS FOR USE

Mixing

Thoroughly stir base prior to weighing for curing agent addition as the product separates. Mix in a 15: 1 (Part A: Part B) ratio just prior to use.

Vacuum Deaeration

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

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. For further information please see [Avoiding Cure Inhibition](#).

Note: Some bonding application may require the use of a primer. NuSil Technology's CF1-135 silicone primer is recommended. For further information please see [Choosing a Silicone Primer / Adhesive System for Engineering Applications](#).

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

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

Warranty

12 Months

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. Silicone typically remains flexible at extremely low temperatures and has been known to perform at -50°C (-58°F) as well as resist breakdown at elevated temperatures up to 250°C (482°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.

WARRANTY INFORMATION

The warranty period provided by NuSil Technology LLC (hereinafter "NuSil Technology") is 12 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.

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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