R1-2145

Extremely tough, high durometer, fast-cure adhesive/sealant

DESCRIPTION

- Two-part, gray silicone adhesive system
- Cures at room temperature or rapidly by applying heat in an oven or by a heat gun or lamp
- Does not require atmospheric moisture to cure
- No curing byproducts such as acetic acid or methyl alcohol
- Product available in easy-to-use, airless side-by-side kits that eliminate mixing and deairing difficulties
- 1:1 Mix Ratio (Part A: Part B)

APPLICATION

- Adhesive for bonding and sealing silicones to each other and other substrates such as metals and plastics
- For rapid production or prototyping due to a rapid cure

PROPERTIES

Typical Properties	Average Result	Standard	NT-TM
Uncured:			
Appearance, Part A	Black	ASTM D2090	002
Appearance, Part B	White	ASTM D2090	002
Color, Mixed	Dark Gray	-	-
Extrusion Rate, Part A	280 g/min	ASTM C603	033
Extrusion Rate, Part B	290 g/min	ASTM C603	033
Work Time	1 hour	-	008
Cured: 2 hours at 65°C (149°F)			
Specific Gravity	1.16	ASTM D792	003
Durometer, Type A	45	ASTM D2240	006
Tensile Strength	1,000 psi (6.9 MPa)	ASTM D412, D882	007
Elongation	400%	ASTM D412, D882	007
Tear Strength	190 ppi (33.5 N/mm)	ASTM D624	009
Stress at 200% Strain	525 psi (3.6 MPa)	ASTM D412, D882	007

Typical Properties	Average Result	Standard	NT-TM
Lap Shear, unprimed	145 psi (1.0 MPa)	ASTM D1002	010
Lap Shear, primed w/ CF1-135	625 psi (4.3 MPa)	ASTM D1002	010
180° Peel, primed w/ CF1-135	50 ppi (8.8 N/mm)	ASTM D903	104
Young's Modulus	300 psi (2.1 MPa)	-	-
Dielectric Strength	825 Volts/mil (32.5 kV/mm)	ASTM D149	-

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 at a 1:1 mix ratio when extracted from their side-by-side kits through a static mix and dispense cartridge. Attach the disposable static mix tip to the cartridge and extrude the product directly onto the substrate.

Note: NuSil recommends discarding the first few grams of extruded material.

Can also be purchased in standard two-part kits. When using standard kits, take care to minimize air entrapped while mixing. Place the mixed product in a vacuum chamber to remove entrapped air and subsequently reduce bubble formation during curing.

Substrate Consideration

Cures in contact with most materials common to electrical and electronic assemblies. Exceptions include sulfur cured organic rubbers, latex, chlorinated rubbers, some RTV silicones and unreacted residues of some curing agents. Clean units being encapsulated or potted to ensure they are free of contaminants. Also, clean and dry containers and dispensers being used. Prevent cure inhibition by washing all containers with clean solvent or volatizing the contaminants by heating.

Note: Some bonding applications may require 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.

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.

Packaging	Warranty
50 mL SxS Kit (0.054 kg) 200 mL SxS Kit (0.21 kg)	12 Months

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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