R4-1140

Silicone adhesive

DESCRIPTION

- One-part, self-leveling, solvent-free silicone material
- Cures at room temperature upon exposure to atmospheric moisture

APPLICATION

- Bonds aggressively to most surfaces including: glass, ceramics, most metals, natural and synthetic fibers, wood, painted surfaces, many plastics and other silicone rubbers

PROPERTIES

Typical Properties	Average Result	Metric Conv.	Standard	NT-TM
Uncured:				
Appearance	Translucent	-	ASTM D2090	002
Volatility	2.4%	-	ASTM D2288	004
Flow Rate*	2 inches	50.8 mm	ASTM D2202	019
Tack-Free Time	10 min.	-	ASTM C679	005
Cured: 72 hours at ambient temperature and humidity				
Specific Gravity	1.12	-	ASTM D792	003
Durometer, Type A	25	-	ASTM D2240	006
Tensile Strength	1,400 psi	9.7 MPa	ASTM D412	007
Elongation	750%	-	ASTM D412	007
Tear Strength	100 ppi	17.6 kN/m	ASTM D624	009
Stress at 200% Strain	110 psi	0.76 MPa	ASTM D412, D882	007

*0.375" plunge for 1 minute

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INSTRUCTIONS FOR USE

Apply R4-1140, supplied in cartridges, with the use of an appropriate caulking gun. Do not store alcohol near the worksite as traces of alcohol inhibit the catalytic system of the adhesive.

Surface Preparation

Thoroughly clean surfaces being bonded or built-up with silicone adhesive using a non-oily cleaner or mild soap to remove any surface contaminants. Do not use synthetic detergents or oil-based soaps, as they may be absorbed and subsequently leach out. Rinse copiously with hot water and follow with a thorough rinse using distilled water. Use compatible degreasers to clean metal surfaces.

Bonding Applications

Spread a layer of silicone adhesive on one of the surfaces. Squeeze both surfaces together to bond. Apply sufficient pressure to ensure full contact without forcing the silicone adhesive from between the pieces.

Curing Time

Curing or vulcanization time depends upon the thickness of the silicone adhesive layer, relative humidity, and accessibility of atmospheric moisture to the curing adhesive. For sections of typical thickness, a relative humidity level between 20-60% is recommended to cure the adhesive at room temperature.

Generally the adhesive forms a thick, tack-free outer skin for thick section films within a few minutes after application. The vulcanization rate slows when exposing very thin films to excessive humidity (80% relative air humidity). For films below 80 microns, the relative air humidity should be within 30 - 50%.

Because R4-1140 cures upon exposure to moisture vapor, keep the tubes tightly closed when not in use. A plug of cured material may form in the tip of the tube. Remove or dispense the plug from the tube before using.

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.

Packaging	Warranty
6 oz Tube (177 mL)	12 Months

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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