

R-1077

RTV silicone coating

DESCRIPTION

- One-part flowable, RTV silicone dispersed in xylene
- Cures at room temperature within 24 hours upon exposure to atmospheric moisture
- Non-corrosive oxime cure system
- Electrically insulating

APPLICATION

- Conformal coating for rigid and flexible printed circuit boards (PCBs).
- Protects from moisture ingress, vibration, shock, dust, chemicals, and other environmental hazards
- Low viscosity ideal for use as sprayable or dip coatings
- Suitable for dip casting into thin films

PROPERTIES

Typical Properties	Average Result	Standard	NT-TM
Uncured:			
Appearance	Translucent	ASTM D2090	002
Viscosity	3,400 cP (3,400 mPas)	ASTM D1084, D2196	001
Non-Volatile Content	60%	ASTM D2288-69	004
Tack-Free Time* (sample thickness 0.1 mm/0.004 in)	20 minutes	ASTM C679-87	005
Cured: 6 days at ambient temperature and humidity			
Durometer, Type A	40	ASTM D2240	006
Tensile Strength	745 psi (5.1 MPa)	ASTM D412	007
Elongation	330 %	ASTM D412	007
Volume Resistivity*	2.5X 10 ¹⁵ ohm-cm	ASTM D257, D4496	040
Dielectric Strength*	560 V/mil (22 kV/mm)	ASTM D149	243
Thermal Conductivity*	0.17 W/(m-K) 0.0004 cal/(cm-sec°C)	ASTM E1530	101
Dielectric Constant, 100 Hz*	2.2	ASTM D150	354
Dissipation Factor, 100 Hz*	0.0011	ASTM D150	354

*These properties are NOT tested on a lot-to-lot basis. 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 material to ensure homogeneity. Exercise care to prevent solvent loss during deairing. Accomplish additional dilution for thin film applications by adding appropriate solvent. Mixer design/size/type, blade/propeller type, shear/RPM levels, and heat generated during mixing, are important parameters and should be addressed in order to have an adequately mixed dispersion.

Note: Some bonding applications may require the use of a primer. NuSil™ SP-120 is recommended. For more information on primer selection, visit www.nusil.com and review [Choosing a Silicone Primer/Adhesive System](#).

Coating & Use

Dispersions are commonly used in dipping and spraying processes, but can also be casted. Make sure to apply in a well ventilated environment. For further information, please see [A Guide to Silicone Dispersions – Strategies for Processing and Troubleshooting](#) on www.nusil.com.

Solvent Addition

R-1077 is dispersed in xylene and its viscosity may be lowered by adding compatible moisture free solvents. Mix without introducing moisture from the air into the coating. Accomplish proper mixture by agitation in a closed container on a commercial paint shaker

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 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

Packaging

1 Pint (400 g)
1 Gallon (3.2 kg)
5 Gallon (16.0 kg)
1 Drum (180 kg)

Warranty

6 Months

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.

PATENT / INTELLECTUAL PROPERTY WARNING

NuSil Technology disclaims any expressed or implied warranty against the infringement of any domestic or international patent/intellectual property right. NuSil Technology does not

warrant the use or sale of the products described herein will not infringe the claims of any domestic or international patent/intellectual property right covering the product itself, its

use in combination with other products, or its use in the operation of any process.