ADVANCED TECHNOLOGIES

R-2613

Clear silicone potting elastomer

DESCRIPTION

- Two part, Clear, 10:1 Mix ratio (A:B)
- Pourable and self-leveling
- Cures at room temperature
- REACh and RoHS compliant
- Tested per UL-94 and passed V-0

APPLICATION

- Good optical clarity allows for photonic coupling and visual inspection during component assembly
- Low viscosity allows the potting of complex geometries without the entrapment of air
- Superior UV and weathering resistance for protection of outdoor electronic components
- Applications include: potting for optical sensors, components and various electronic devices

PROPERTIES

Typical Properties	Average Result	Standard	NT-TM
Uncured:			
Appearance, Mixed	Colorless	ASTM D2090	002
Viscosity, Part A	5,500 cP	ASTM D1084, D2196	001
Viscosity, Part B	125 cP	ASTM D1084, D2196	001
Mixed Viscosity	4,000 cP	ASTM D1084, D2196	001
Work Time (Pot Life)	2 hour minimum	-	008
Cured: 10 minutes at 150° C (302°F)			
Durometer, Type A	45	ASTM D2240	006
Tensile Strength	1,140 psi (7.9 MPa)	ASTM D412	007
Elongation	150 %	ASTM D412	007
Tested per UL-94 (4.7 mm nominal thickness)	Passed V-0	-	-
Volume Resistivity	4 x 10^{14} Ohm-cm	ASTM D257	153
Thermal Conductivity	0.15 W/mK	ASTM E1530	101
Dielectric Constant, 100 Hz	2.4	ASTM D150	354

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Typical Properties	Average Result	Standard	NT-TM
Dielectric Constant, 100 kHz	2.3	ASTM D150	354
Dissipation Factor 100 Hz	0.0004	ASTM D150	354
Dissipation Factor 100 kHz	0.0008	ASTM D150	354
Dielectric Strength	660 Volts/mil (25.8 kv/mm)	ASTM D149	243
Glass Transition Temperature (Tg)	-120 °C	ASTM D3418	260
Coefficient of Thermal Expansion			243
-40° C to 250° C	305 (µm/(m°C))	ASTM E831	
% Linear Shrink (1 hour at 90 C)	1.5%	-	059
% Linear Shrink (1 hour at 110 C)	2.0%	-	059
Recommended Cure Times based on 90% cured via ODR*	-	-	
T90 at 90°C	50 minutes	ASTM D2084	124
T90 at 110°C	40 minutes	-	-

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 us for assistance and recommendations in establishing limits for product specifications.

*Recommended cure times are based on the testing performed via CSR (Controlled Stress Rheometer) where T90 is considered 90% of full cure. However the cure times can be affected by multiple factors, including, but not limited to, quantity of silicone used, time to heat the entire device or mold, and whether the material is cured in pre-heated oven or not. The cure times listed are not tested on a lot to lot basis and meant as recommendations only.

INSTRUCTIONS FOR USE

Mixing and Vacuum Deaeration

Combine Part A and Part B in a 10:1 mix ratio prior to use. Airless mixing, metering or dispensing equipment is recommended for production operations. If mixing by hand, take care to minimize air entrapment and check the work time prior to mixing and dispensing.

Recommended mixing equipment: https://synergymixers.com/

Remove air entrapped during mixing by common vacuum deaeration procedure, observing all applicable safety precautions. Slowly apply full vacuum to a suitable container of at least four times the volume of material being de-aired. Hold vacuum until bulk deaeration is complete.

Packaging	Warranty
250 mL SxS Kit (0.253 kg) 500 Gram Kit (0.505 kg) 1 Gallon Kit (4.04 kg) 5 Gallon Kit (20.2 kg) Drum Kit (198.5 kg)	12 Months

Substrate Considerations

R-2613 cures in contact with most materials common to electronic assembles. Exceptions include butyl and chlorinated rubbers, some Tin condensation cure silicones and unreacted residues of some curing agents. Units being encapsulated or potted should be clean and free of surface contaminates. Containers and dispensers being used should also be clean and dry. Cure inhibition can usually be prevented by washing all containers with solvent or volatizing the contaminant by heating.

Note: Some bonding applications may require the use of a primer. Recommended Primer: CF1-135

For more information on primer application, review: Application & Storage Recommendations

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SPECIFICATIONS

Do not use the typical properties shown in this technical profile as a basis for preparing specifications. Please contact us 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.

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NuSil has tested this material only to determine if the product meets the applicable specifications. (Please contact us 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 us 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.

ROHS AND REACH COMPLIANCE

Please contact our Regulatory Compliance department with any questions or for further assistance.

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NO Blades

NO Cleanup

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Silicone Cleaning & Removal

To ensure a safe and clean environment and to prevent contamination that could impact your silicone in the future, we recommend using the following products on the link below:

PST- Silicone Cleaning and Removal

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