



RTV167

Electronic Grade Silicone Adhesive Sealant

Product Description

RTV167 adhesive sealant from GE Silicones is one-component, ready-to-use electronic grade silicone sealant. It cures to a tough, resilient silicone rubber on exposure to atmospheric moisture at room temperature. The electronic-grade silicone adhesive sealants differ somewhat in physical properties including consistency.

RTV167 - gray, high strength paste

Key Performance Properties

- Non-corrosive to electronic metals, including copper and brass
- Low odor cure, releasing an alcohol vapor from the sealant surface during cure
- [UL](#) Recognition. RTV 167 is recognized by Underwriters Laboratories, Inc. under their Component Recognition Program (UL File No. E-36952). Refer to GE Silicone Publication (4320) for additional information.
- Retains elastomeric properties for long periods at temperatures from -60C (-75F) to 205C (400F) and for short periods up to 260C (500F).
- One component
- Cure at room temperature
- Excellent electrical insulation properties
- Excellent resistance to moisture, dust, dirt, UV, ozone and chemicals

Typical Product Data

Typical Uncured Properties	RTV167
Color	Gray
Consistency	Spread able paste
Viscosity, poise	–
Specific Gravity	1.12
Application Rate, gm/min.	180
Tack-Free Time, hours	4
Cured Properties⁽¹⁾	
Mechanical	
Hardness, Shore A	37
Tensile Strength, kg/cm ² (lb/in ²)	56 (800)
Elongation, %	600
Peel Strength, kg/cm (lb/in) ⁽²⁾	10 (80)
Electrical⁽³⁾	
Dielectric Strength, kv/mm (v/mil)	20 (500)
Dielectric Constant @ 60 Hz	2.8
Dissipation Factor @ 60 Hz	.0026
Volume Resistivity, ohm-cm	3x10 ¹⁵
Thermal⁽³⁾	
Brittle Point, °C (°F)	-60 (-75)
Maximum continuous operating temperature, °C (°F)	204 (400)
Maximum intermittent operating temperature, °C (°F)	260 (500)
Additional Information⁽³⁾	
Thermal Conductivity, cal/sec/cm ² , °C/cm	.0005
(Btu/hr/ft ² , °F/f)	(.12)
Coefficient of Expansion	27x10 ⁻⁵
cm/cm, °C (in/in, °F)	(15x10 ⁻⁵)

(1) Cure time 7 days at 25C (77F), 50% relative humidity.

(2) 1 in. x 8 in. stainless steel screen at 180° pull angle.

(3) Information is provided for customer convenience only. Properties are not tested on a routine basis.

Specifications

Typical product data values should not be used as specifications. Assistance and specifications are available by contacting GE Silicones at 800/255-8886

MILITARY SPECIFICATIONS

RTV167 sealant meets the physical requirements of MIL-A-46146. Testing is performed in accordance with current GE Silicones quality test methods, laboratory conditions, and procedures, frequency and sampling, which are not necessarily identical with the methods, conditions, procedures, frequency and sampling stated or referenced in MIL-A-46146. Any certification will be limited to listed properties and will not imply or state conformity to any other aspect of MIL-A-46146, including but not limited to marking, packaging, bar coding, testing, or sampling. Contact GE Silicones for a comparison review.

Instructions for Use**Applications**

RTV167 is recommended for use in aerospace, automotive, appliance and other industries which incorporate electronic components into a finished product. Electronic and integrated circuits, semiconductors and copper connections are typical applications.

RTV167 adhesive sealant is recommended for sealing and bonding where high strength would be required.

Surface Preparation

RTV167 adhesive sealant will bond to many clean surfaces without the aid of primers. These surfaces normally include many metals, glass, ceramic, silicone rubber and some rigid plastics. These adhesive sealants will also bond to some organic rubbers and flexible plastics not containing fugitive plasticizers (those that migrate to the surface impairing adhesion). An evaluation should be made to determine bond strength for each specific application.

For difficult-to-bond substrates, use of a primer is suggested. SS4004, SS4044 and SS4179 primers are recommended for use with RTV167 sealant. Complete information and usage instructions for these primer products are contained in a separate product data sheet, (CDS#1532).

Where adhesion is required, surfaces should be thoroughly cleaned with a suitable solvent to remove dirt, oil and grease. The surface should be dry before applying the adhesive sealant.

When solvents are used, proper safety precautions must be observed.

Cure Time Cycle

RTV167 adhesive sealants may be applied directly to a clean or primed substrate. The adhesive sealant begins to cure on exposure to moisture in the air at room temperature. Where broad surfaces are to be bonded the sealant should be applied in a thin, less than 6mm (¼ in.) diameter bead or ribbon around the edge of one of the surfaces.

The cure process begins with the formation of a skin on the exposed surface of the sealant and progresses inward through the material. At 25C (77F) and 50% relative humidity, these products will form a surface skin which is tack-free to the touch in about 4 hours. Once the tack-free skin has begun to form, further tooling of the adhesive sealant is not advisable.

High temperatures and high humidity will accelerate the cure process low temperatures and low humidity will slow the cure rate.

As the adhesive sealant cures, alcohol vapors are released from the sealant surface. This by-product of cure has a slight, but non-objectionable odor which will completely disappear after curing is completed.

A 3mm (1/8 in.) section of adhesive sealant will cure through in approximately 48 hours at 25C (77F) and 50% relative humidity. Since cure time increases with thickness, use of RTV167 sealants should be limited to section thicknesses of 6mm (¼ in.) or less.

PACKAGING AND DISPENSING

RTV167 adhesive sealants are supplied in caulking cartridges and bulk containers. RTV167 are also available in collapsible squeeze tubes.

Tubes may be squeezed by hand or with the aid of mechanical wringers which allow more complete removal of material from the tube. The sealant may be dispensed from caulking cartridges by using simple mechanical caulking guns or air-operated guns. Air-operated guns will allow greater control and application speed. Both tubes and cartridges are easy to use, can be put into production quickly and require minimum capital investment.

Note: Do not exceed 45 psig when used in air-powered caulking guns. Bulk containers offer the most economical packaging .

Bulk dispensing systems are air-operated extrusion pumps coupled to hand or automated dispensing units. Specific details on dispensing systems and manufacturers are available in a separate GE RTV Silicone Sealant Equipment Guide, (CDS1541).

Recommendations for pump selection and assistance in converting lines from other silicone systems to the RTV167 alkoxy cure system sealants are available from GE Silicones.

CLEAN UP AND REMOVAL

Before cure, solvent systems such as naphtha or methyl ethyl ketone (MEK) are effective.

Handling and Safety

Material Safety Data Sheets are available upon request from GE Silicones. Similar information for solvents and other chemicals used with our products should be obtained from your suppliers.

Storage and Warranty Period

The warranty period is 6 months from date of shipment from GE Silicones if stored in the original unopened container at or below 50°F.

Availability

Products may be ordered from GE Silicones, Waterford, NY 12188, the GE Silicones Sales office nearest you, or where appropriate an authorized GE silicone product distributor.

Government Requirement

Prior to considering use of a GE Silicones product in fulfilling any Government requirement, please contact the Government and Trade Compliance office at 413-448-4624.

CDS4500

LEGAL

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