

# SILTRUST™ RTV6563-LV LOW DENSITY ADHESIVE

## Product Description

SILTRUST RTV6563-LV is a two-part, addition cure, low outgassing† and low-density adhesive. It is a candidate material when long term reliability in harsh environmental conditions is needed. SILTRUST RTV6563-LV has been shown to have excellent adhesion to many metal, composite, and organic substrates with a primer. This two-part silicone rubber is to be mixed 1:1 by weight mix ratio for ease of use. RTV6563-LV cures quickly, in as little as one hour, upon exposure to heat. SILTRUST RTV6563-LV is a semi-flowable paste designed for applications where adhesive flow should be controlled. Applications may include satellite, aerospace, and aviation where a wide temperature range, low density adhesive is needed. Each batch of SILTRUST RTV6563-LV meets ASTM E595 levels of low outgassing.

## Key Features and Typical Benefits

- Simple Processing
  - Convenient 1:1 by weight mix ratio
  - Long working time at 77F/50%RH, approximately 3 hours
  - Easy to apply thin coatings
  - Fast, full cure from 1 hour at 120°C, to enable rapid production
  - Cures at room temperature and cure can be accelerated with heat
- Provides ASTM E595 low outgassing characteristics in a high vacuum and high temperature environment
- Wide operating temperature range, approximately -100°C to 260°C
- Dielectric Insulator
- Low modulus

## Typical Physical Properties

	RTV6563-LV	
Uncured Properties	RTV6563-LV (A)	RTV6563-LV (B)
Consistency	Semi-Flowable Paste	Semi-Flowable Paste
Color	Red	White
Viscosity#, cPs	170,000	155,000
Specific Gravity	0.66	0.59
Mix Ratio by Weight	1:1	
Mixed Viscosity after 180 Minutes, cPs	196,000	
Typical Cured Properties	Cured at 120°C for 1 hour	
Hardness, Shore A	38	
Tensile Strength, MPa, (psi)	0.65 (94)	
Elongation, %	67	
Lap Shear Strength ‡, MPa, (psi)	1.0 (145)	
AM0 Solar Absorptance	0.59	
Thermal Emittance	0.88	
ASTM E595 Outgassing†: TML, %	0.11	
ASTM E595 Outgassing†: CVCM, %	0.01	

Typical properties are average data and are not to be used as or to develop product specifications.

†: When tested using ASTM E595 conditions

#: Brookfield Viscometer, RVF Spindle #7, 4 r.p.m.

‡: Abraded AL 2024-T3 with SS4155 primer

## Compatibility

RTV6563-LV silicone rubber compound will cure in contact with most clean, dry surfaces. However, certain materials, such as butyl and chlorinated rubber, sulfur-containing materials, amines, and certain metal soap-cured RTV silicone rubber compounds, can cause cure inhibition. Cure inhibition is characterized by a gummy appearance of the RTV silicone rubber compound at the interface between it and the substrate.

It is recommended that a sample patch test be performed with RTV6563-LV silicone rubber compound to determine if a barrier coating or other inhibition preventing measures are necessary before applying material to a desired surface.

## Mixing

Select a mixing container 3-5 times larger than the volume of RTV silicone rubber compound to be used. Weigh out one part of the B component and one part of the A component by weight. Planetary centrifugal mixing is preferred. When mixing material, two mixing cycles with a mix by hand using a metal spatula in between each mixing cycle can be used. The mix by hand is to incorporate material from the container sidewalls. If planetary centrifugal mixing is not available, using a clean metal spatula, thoroughly mix the A and B components together, scraping the sides and bottom of the container carefully to produce a homogeneous mixture. The red Part A and white Part B allow for uniform mixing to be verified by visual inspection. No visible stripes of red or white should be visible in the thoroughly mixed RTV6563-LV. When mixing using any tools or equipment, avoid excessive speeds which could entrap large amounts of air or cause overheating of the mixture, resulting in shorter pot life. An example mixing process is detailed below:

1. Avoid filling the speed mix cup more than half-full to minimize the risk of incorporating bubbles into the material.
2. Weigh the white SILTRUST RTV6563B-LV (part B) into the speed mix cup. Cups with rounded bottoms are preferred to minimize holdup of unmixed material in the corners of the cup.
3. Weigh an equal mass of the red SILTRUST RTV6563A-LV (part A) on top of the part B and place the lid on the cup.
4. Program the speed mixer to run at 3500 rotations per minute (r.p.m.) for 20 seconds.
5. Remove the lid, stir the mixture by hand to scrape the side walls and bottom of the cup to incorporate any unmixed material.
6. Program the speed mixer to run at 3500 r.p.m. for 20 seconds.

Note: RPM and time may need to be adjusted for the particular mixer used.

## Deaeration

Air incorporation if RTV6563-LV is mixed by planetary centrifugal mixing should be minimal. If RTV6563-LV is mixed by hand, air could be entrapped in the mixture. Air entrapped during mixing should be removed to eliminate voids in the cured product. Expose the mixed material to a vacuum of about 29 inches of mercury. The material will expand, crest, and recede to approximately the original level as the air bubbles break. Degassing is usually complete approximately two minutes after frothing ceases. Note degassing RTV6563-LV under vacuum could reduce the material's work life.

## Curing

RTV6563-LV can cure at room temperature in approximately 24 hours or rapidly at elevated temperatures. Curing at 120°C for 1 hour is common for RTV6563-LV.

## Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement, or recommendation to practice any invention covered by any patent without authority from the owner of the patent.

## Product Safety, Handling, and Storage

Customers should review the latest Safety Data Sheet (SDS) and label for product safety information, safe handling instructions, personal protective equipment, if necessary, emergency service contact information, and any special storage conditions required for safety. Momentive Performance Materials (MPM) maintains an around-the-clock emergency service for its products. SDS are available at [www.momentive.com](http://www.momentive.com) or, upon request, from any MPM representative. For product storage and handling procedures to maintain the product quality within our stated

specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

### Limitations

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular application(s).

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