SILTRUST™ RTV566-XB LOW OUTGASSING ADHESIVE

Product Description

SILTRUST RTV566-XB silicone rubber compound is a two-part product processed and tested for applications where low outgassing is required. RTV566A-XB base compound is supplied ready to use with RTV566B-XB curing agent. RTV566-XB was developed to have similar end properties as SILTRUST RTV566 with a more user-friendly mix ratio. Curing occurs when RTV566A-XB is mixed with RTV566B-XB at a 10:1 by mass ratio. RTV566-XB offers a wide useful temperature range of -115°C (-175°F) to 260°C (500°F) continuously and up to 315°C (600°F) for short periods of time. This is one of the widest useful temperature ranges of any silicone elastomer. RTV566-XB can meet levels of outgassing listed in ASTM E595.

Key Features and Typical Benefits

- Simple Processing
  - 10:1 by mass mix ratio
  - Different colored A and B components to visually verify uniform mix
  - Long working time at 77F/50%RH
- Provides low outgassing characteristics in a high vacuum environment
- Room temperature cure
- Excellent adhesion capability with primer
- Retains elastomeric properties from -115°C (-175°F) up to 260°C (500°F) continuously and up to 316°C (600°F) for short periods of time

Typical Physical Properties

Uncured Properties	**RTV566A-XB**	**RTV566B-XB**
Consistency	Semi-flowable	Paste
Color	Red	White
Viscosity, cPs	42,700	Non-flowable paste
Specific Gravity	1.49	1.18
Work Life $^{\Delta}$, hours	3.8	
Tack Free Time $^{\Delta}$, hours	4.3	
Typical Cured Properties	**Cured at 23°C and 50% Relative Humidity for 7 Days**	
Hardness, Shore A	55	
Tensile Strength, MPa, (psi)	4.5 (658)	
Elongation, %	88	
Lap Shear Strength ǂ, MPa, (psi)	3.2 (464)	
Total Weight Loss %*	0.34	
Volatile Condensable Material %*	0.02	

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

ǂ: acid Etched, Bare AL 2024-T3, primed with SS4155 primer

* Tested using ASTM E595 Conditions

Mixing

Select a mixing container 4 to 5 times larger than the volume of RTV silicone rubber compound to be used. Weigh

out the RTV566-XB Part A base compound and add the appropriate amount of RTV566-XB Part B curing agent. The most commonly used mix ratio is 100 parts A to 10 parts B by weight.

Using clean tools, thoroughly mix the RTV base compound and the curing agent, scraping the sides and bottom of the container carefully to produce a homogeneous mixture. When using power mixers, avoid excessive speeds which could entrap large amounts of air or cause overheating of the mixture, resulting in shorter pot life.

Deaeration

Air entrapped during mixing should be removed to eliminate voids in the cured product. Expose the mixed material to a vacuum of 25 mm (29 inches) of mercury minimum. The material will expand, crest, and recede to about the original level as the bubbles break. Degassing is usually complete about two minutes after frothing ceases. When using RTV566-XB for potting, deaeration may be necessary after pouring to avoid capturing air in complex assemblies.

Surface Preparation

The adhesive performance of any polymer system is highly dependent upon proper surface preparation. In order to maximize the adhesion of SILTRUST RTV566-XB silicone adhesive, parts should be as clean and dry as possible prior to the application of the primer and adhesive.

Bonding

If adhesion is an important application requirement, SILTRUST RTV566-XB silicone rubber compound requires a primer. To apply the primer, thoroughly clean the surface of the substrate and let dry. Then apply a uniform film of the chosen silicone primer, such as SS4110P or SS4155, and allow the primer to air-dry for one hour or more. For more details on priming and adhesion, please refer to Momentive Performance Materials product data sheet on silicone primers.

Curing

SILTRUST RTV566-XB silicone rubber compound, when properly mixed, will cure sufficiently in 24 hours at 25°C (77°F) and 50% relative humidity to allow gentle handling. For best results, especially with regard to outgassing and adhesion, cure for seven days at 23-25°C (73-77°F) and 50% relative humidity.

If this RTV silicone rubber compound is to be used at temperatures over 150°C (302°F), the cured product should be properly conditioned prior to service. Following full room temperature cure, a typical conditioning program would be eight hours at 100°C (212°F) and an additional eight hours at each 28°C (80°F) interval to the desired service temperature. Longer times at each temperature will be required for larger parts or very deep sections.

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 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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