

# SNAPSIL™ RTV210 / RTV224B-DF Adhesive

## Product Description

SNAPSIL RTV210A - RTV224B-DF is a phthalate-free, two-component, thixotropic paste silicone adhesive, which offers extremely fast cure. This paste quickly cures to a durable and resilient silicone rubber at room temperature with primerless adhesion to many substrates. The thixotropic paste consistency of the silicone makes it appropriate for applications to vertical and overhead surfaces. This consistency also facilitates the fixture of small parts in place while the adhesive cures. The new RTV224B-DF has a similar performance to the legacy RTV224B paste catalyst.

## Key Features and Typical Benefits

- Extremely fast room temperature cure
- Two-component for controlled cure rate.
- Primerless adhesion to many substrates
- Low odor
- Non-corrosive to metals, compatible with plastics
- Low temperature flexibility
- Excellent weatherability, ozone, and chemical resistance
- Excellent electrical insulation properties
- Formulated without phthalates

## Typical Physical Properties

Uncured Properties	RTV210A	<b>NEW!</b> RTV224B-DF
Consistency	Thixotropic Paste	Paste
Color	Ivory	Black
Specific gravity	1.37	1.06
Formulated without phthalates	Y	Y
Mix Ratio by weight	10:1	
Tack Free Time @ 77°F (25°C)/ 50% RH, mins <sup>1</sup>	9	
Color: RTV210A – RTV224B / RTV224B-DF	Black	
Tensile Strength, (MPa)	1.82	
Elongation (%)	182	
Hardness, Shore A	39	
Shear Strength (MPa) <sup>2</sup>	1.0	
Specific gravity of cured sheet	1.32	

<sup>1</sup> 24 hours cure at 25°C / 50% RH

<sup>2</sup> Glass to aluminum with a 0.5" overlap, 0.125" bond line thickness

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

## Potential Applications

SNAPSIL RTV210A - RTV224B-DF is an excellent candidate to consider for applications requiring an extremely fast cure, or a more controlled cure speed, all with primerless adhesion and at room temperature. Representative applications include the adhesion of dissimilar materials in automotive headlamps and assembly of solar panels and other industrial applications. RTV210A - RTV224B-DF is appropriate for consideration for use in electronic and electrical applications where a non-corrosive adhesive is required.

## Processing Recommendations

### Surface Preparation

Before applying SNAPSIL RTV210A - RTV224B-DF all surfaces should be cleaned with a cleaner, which is appropriate for the substrate. All surfaces should be clean from grease, foreign matter etc. to obtain optimal bond between SNAPSIL RTV210A - RTV224B-DF and the substrate.

### Mixing

Changes in the ratio will have an impact on catalyzed work life, fixture time and cure time. Increasing the ratio from the standard 100:10 will speed the reaction, while decreasing the ratio will slow the reaction.

SNAPSIL RTV210A - RTV224B-DF can be mixed either by using a manual two-component system with static mixer or with automated equipment.

SNAPSIL RTV210A - RTV224B-DF is ideally suited for use in automated meter/mixing dispensing equipment. These automatic systems can precisely meter appropriate ratios of each component and deliver either a continuous flow or a measured shot size of thoroughly mixed material. This type of equipment is highly recommended for use in high volume continuous production environments.

RTV224B-DF is sensitive to prolonged exposure to atmospheric moisture and should therefore be kept in a closed container whenever possible to maximize the useful life.

### Curing

SNAPSIL RTV210A - RTV224B-DF when mixed at the standard by-weight-ratio of 100:10, will have a typical tack-free time of about 9 minutes at ambient conditions of 25°C / 50% RH. Under these conditions, the fixture time will be approximately 10 - 20 minutes. Complete cure will usually be seen within 24 hours. Maximum properties will normally be achieved within 3 days.

SNAPSIL RTV210A - RTV224B-DF, as a two-component product can be used for cross sections greater than 6mm. As the adhesive cures, alcohol vapors are released from the product. This by-product of the curing reaction has a slight but non-objectionable odor, which will diminish as the cure progresses. This cure by-product should be allowed to dissipate completely (approximately 24 hours for 6 mm thickness) prior to totally enclosing the material. SNAPSIL RTV210A - RTV224B-DF cure rate will be accelerated during high humidity conditions. Mild heat (i.e. below 50°C) will shorten the work-life and fixture time of the product but will not significantly reduce the time required for a complete cure.

### Adhesion

Development of maximum bond strength will depend on joint configuration, degree of confinement, adhesive thickness and substrate preparation. Normally, sufficient bond strength will develop within 10-20 minutes to permit handling of the parts. Minimum stress should be applied to the adhesive bond for 24 hours. SNAPSIL RTV210A - RTV224B-DF adheres without primer or pre treatment to most glass, metal and plastic surfaces. In exceptional cases of difficult to bond substrates, use of a primer such as Momentive Performance Material's SS4004P, SS4179, or surface treatment such as plasma can be used to obtain adhesion with SNAPSIL RTV210A - RTV224B-DF. Examples of substrates where primerless adhesion can be obtained are:

- Metals: anodized aluminum, bare aluminum, stainless steel, galvanized steel
- Plastics: ABS, Polycarbonate (coated and uncoated grades), PA6.6 GF30
- Rubbers: post cured peroxide cured silicone HCR and 2 part addition cure RTV

For each specific application Momentive Performance Materials advises to test whether proper adhesion is obtained with SNAPSIL RTV210A - RTV224B-DF, either without or with use of a primer or surface treatment.

## Clean up and Removal

For uncatalyzed or uncured mixed material, solvent systems such as naphtha or methyl ethyl ketone (MEK) are most effective for cleanup. When solvents are used, proper precautions must be observed. After cure, selected chemical strippers, which will remove the silicone rubber, are available from other manufacturers. Specific product information may be obtained on request.

## 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

The warranted shelf life from both components will be indicated by the "use before date" on the associated documents with a minimum of 6 months when stored in original unopened containers. RTV210A should be stored at temperatures below 27°C. RTV224B-DF should be stored in a freezer at temperatures of -18°C or lower. Before use, the material should be allowed to get to room temperature. The product has a shelf-life of four months at or below 27°C when stored in its original, unopened container.

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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