Technical Data Sheet

SNAPSIL™ RTV210 - RTV224B / RTV229B

SILICONE ADHESIVE

Description

Momentive Performance Materials RTV210A - RTV224B/RTV229B is a 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 RTV210A - RTV224B/229B makes it appropriate for application to vertical and overhead surfaces. This consistency also facilitates the fixture of small parts in place while the adhesive cures.

Key Features and Benefits

- Extremely fast room temperature cure
- Two-component for controlled cure rate.
- Primerless adhesion to many substrates
- Low odour
- Non-corrosive to metals, compatible with plastics
- Low temperature flexibility
- Excellent weatherability, ozone, and chemical resistance
- Excellent electrical insulation properties

Typical Physical Properties

Uncured Properties(1)	RTV 210A	RTV 224B	RTV 229B

Consistency		Thixotropic Paste	Thixotropic Paste	Thixotropic Paste
Colour		Ivory	Black	Dark Grey
Specific Gravity	g/cm^3	1.37	1.03	1.03

Mixed Properties		**RTV210A-RTV224B/RTV229B**
Mix ratio parts by weight RTV210A to RTV224B/RTV229B		100:10
Specific gravity	g/cm^3	1.35
Tack-Free Time	minutes	9
Colour: RTV210A-RTV224B/RTV229B		Black/Grey

Cured Properties (1)		**RTV210A-RTV224B/RTV229B**
Mechanical:		
Hardness	Shore A	38
Tensile Strength	MPa	1.7
Elongation	%	200
Shear Strength (2)	MPa	0.80

(1) 24 hrs cure at 25°C / 50% R.H.
(2) glass/glass 25 x 25 mm overlap, 2.5 mm bond line thickness, 72 hrs cure at 25°C/50% R.H.

Potential Applications

RTV210A - RTV224B/RTV229B should be considered 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/RTV229B is appropriate for consideration for use in electronic and electrical applications where a non-corrosive adhesive is required.

Processing Recommendations

Surface Preparation
Before applying RTV210A - RTV224B/RTV229B 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 RTV210A - RTV224B/RTV229B and the substrate.

Packaging and Dispensing
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.

RTV210A - RTV224B/RTV229B can be mixed either by using a manual two-component system with static mixer or with automated equipment.

RTV210A - RTV224B/RTV229B 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/RTV229B 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
RTV210A - RTV224B/RTV229B 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.

RTV210A - RTV224B/RTV229B, as a two-component product can be used for cross sections greater than 6 mm. As the adhesive cures, alcohol vapours are released from the product. This by-product of the curing reaction has a slight but non-objectionable odour, 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. RTV210A-RTV224B/RTV229B 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.

RTV210A-RTV224B/RTV229B 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 RTV210A -RTV224B/RTV229B.

Examples of substrates where primerless adhesion is obtained are:
- metals: anodized aluminium, bare aluminium, stainless steel, galvanised 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 RTV210A - RTV224B/RTV229B, 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.

Availability
RTV210A is available in 4.5 kg cans, 22 kg pails and 227 kg fiber drums.

RTV224B/RTV229B is available in 18.16 kg pails.

General Considerations for Use

While the typical operating temperature for silicone materials ranges from -45℃ to 200℃, the long-term maintenance of its initial properties is dependent upon design related stress considerations, substrate materials, frequency of thermal cycles, and other factors.

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*/RTV229B 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.

*Tests completed with RTV224B showed that this product can be stored at or below 27°C in its original, unopened container for a maximum of 4 months with no adverse effect upon product cure speed or cured properties.

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 applications.

Contact Information

Email
commercial.services@momentive.com

Telephone

Americas	**Latin America**	**EMEAI- Europe, Middle East, Africa & India**	**ASIA PACIFIC**
+1 800 295 2392 Toll free* +704 805 6946 Direct Number	**Brazil** +55 11 4534 9650 Direct Number	**Europe** +390510924300 Direct number	**China** 800 820 0202 Toll free +86 21 3860 4892 Direct number
*All American countries	**Mexico** +52 55 2169 7670 Direct Number	**India, Middle East & Africa** + 91 44 71212207 Direct number* ***All Middle Eastern countries, Africa, India,**	**Japan** +81 3 5544 3111 Direct number **Korea** +82 2 6201 4600

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