



RTV210

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Description

Momentive Performance Materials RTV210A - RTV223B 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 - RTV223B 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 223B
Consistency		Thixotropic Paste	Thixotropic Paste
Colour		Ivory	Black
Specific Gravity	g/cm ³	1.37	1.03

Mixed Properties		RTV210
Mix ratio parts by weight RTV210A to RTV223B		100:8
Initial Application Rate ⁽²⁾	g/min	20
Specific gravity ⁽³⁾	g/cm ³	1.35
Tack-Free Time	minutes	7
Gel Time	minutes	8
Colour: RTV210A / RTV223B		Dark Grey

Cured Properties ⁽⁴⁾		RTV210A/RTV223B
Mechanical:		
Hardness	Shore A	37
Tensile Strength	MPa	1.6
Elongation	%	210
Shear Strength ⁽⁵⁾	MPa	0.85

(1) Based upon laboratory results only (2) Mixpack system 200 cartridge with Mixpack System 200 10 : 1 pneumatic gun, 5 bar pressure MCX 08-24 static mixer.

- (3) Specific gravity based upon standard formulation 100 parts RTV210A : 10 parts RTV223B by volume (= 100 part RTV210A : 7.5 parts RTV223B by weight)
 (4) 24 hrs cure at 25°C / 50% R.H.(5) glass/glass 25 x 25 mm overlap, 2.5 mm bond line thickness.

Potential Applications

RTV210A - RTV223B 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 - RTV223B is appropriate for consideration for use in electronic and electrical applications where a non-corrosive adhesive is required.

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a 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 4 months when stored in original unopened containers. RTV210A should be stored at temperatures below 27°C. RTV223B 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.

Customers should review the latest Material Safety Data Sheet (MSDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, and any special storage conditions required for safety. MSDS are available at www.momentive.com or, upon request, from any Momentive Performance Materials (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.

Processing Recommendations

Surface Preparation Before applying RTV210A - RTV223B 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 - RTV223B and the substrate.

Packaging and Dispensing

Mixing RTV210A - RTV223B is packaged in containers sized to a standard mix ratio of 100 parts RTV210A to 8 parts RTV223B. This ratio can be varied from a high of 100:10 to a low of 100:6 by weight. Changes in the ratio will have an impact on catalyzed work life, fixture time and cure time. Increasing the ratio from the standard 100:8 will speed the reaction, while decreasing the ratio will slow the reaction. Within the recommended catalyst range there may be a small amount of variation in adhesion and final physical properties. RTV210A - RTV223B can be mixed either by using a manual two-component system with static mixer or with automated equipment. RTV210A - RTV223B 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. RTV223B 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 - RTV223B when mixed at the standard by-weight-ratio of 100:8, will have a typical tack-free time of about 7 minutes at ambient conditions of 25°C / 50% RH. Under these conditions, the fixture time will be approximately 15 - 30 minutes. Complete cure will usually be seen within 24 hours (6mm thickness). Maximum properties will normally be achieved within 7 days. RTV210A - RTV223B, 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-RTV223B 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.

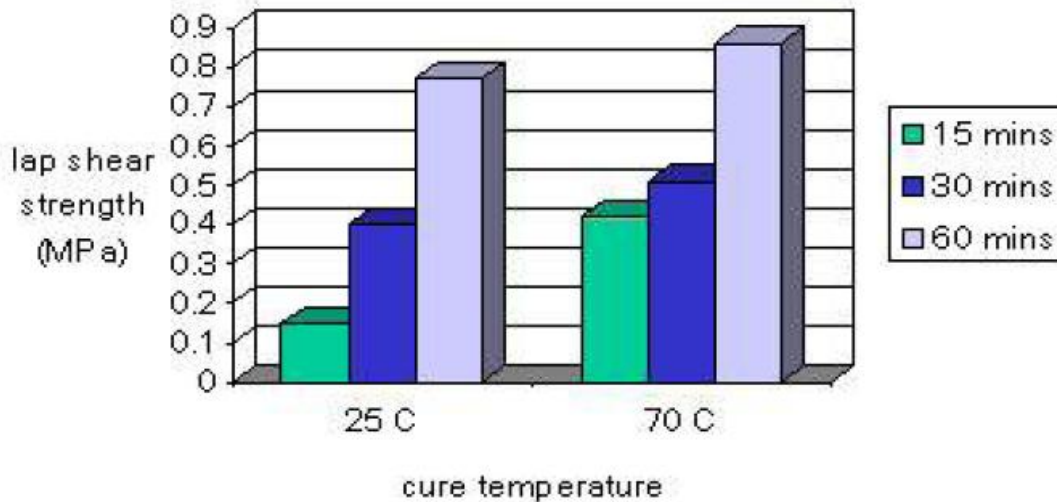
Adhesion Development of maximum bond strength will depend on joint configuration, degree of confinement, adhesive thickness and substrate preparation. Normally, sufficient bond strength will develop within 30 minutes to permit handling of the parts. Minimum stress should be applied to the adhesive bond for 24 hours.

RTV210/RTV223 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 -RTV223B.

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 Silicones advises to test whether proper adhesion is obtained with RTV210A - RTV223B, either without or with use of a primer or surface treatment.

lap shear strength vs cure temperature RTV210A / RTV223B



Substrate :
 glass
 Mix ratio
 100 parts
 RTV210A : 6
 parts
 RTV223B by
 weight (= 100
 parts
 RTV210A : 8
 parts
 RTV223B by
 volume).

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.

Limitations

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

Availability

RTV210A is available in 4.5 kg cans, 22.7 kg pails and 227 kg fiber drums. RTV223B is available in 18.1 kg pails.

From automotive to healthcare, from electronics to construction, products from Momentive Performance Materials Inc. are practically everywhere you look. We are a global leader in silicones and advanced materials with a 70+ year heritage of innovation and being first to market – with performance applications that improve everyday life. By knowing our customers' needs and creating custom technology platforms for them, we provide science based solutions to help customers increase performance, solve product development issues and engineer better manufacturing processes.

Contact Information For product prices, availability, or order placement, contact our customer service by visiting momentive.com/ContactSilicones.

For literature and technical assistance, visit our website at: www.momentive.com

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