Серия герметиков RTV100

Клей- герметики RTV102, RTV103, RTV106, RTV108, RTV109, RTV112, RTV116, RTV118

Описание

RTV102, RTV103, RTV106, RTV108, RTV109, RTV112, RTV116 и RTV118 универсальный, однокомпонентный клей - герметик, готовый к применению. Материал отвердевает при комнатной температуре под воздействием влаги в воздухе, образуюя высокопрочную силиконовую резину. В процессе вулканизации выделяются пары уксусной кислоты. После полной вулканизации выделение паров полностью прекращаются.

Герметики RTV102, RTV103, RTV108 и RTV109 обладают пастообразной консистенцией. Могут быть применены на вертикальных и горизонтальных поверхностях. Не течет.

Клей- герметики RTV112 и RTV118 обладают более текучей консистенцией, что делает их более предпочтительными для примыканий малого размера и применений в труднодоступных местах.

Самовыравнивающий клей- герметик RTV106 обладает самовый высокой текучестью среди материалов серии RTV100.

Поскольку материал вулканизируется под воздейтсвием влаги в воздухе, толщина герметика не доложна привышать 6 мм.

В случае необходимости применения материалов с толщниной нанесения более 6 мм, компания Momentive Performance Materials рекомендует применять двухкомпонентные материалы.

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- Стоек к воздействию высоких температур
- Превосходная стойкость к климатическим воздействиям, озону и хим. веществам
- Отличные адгезивные свойства
- Разрешен для контактная с пищей и питьевой водой

Физические свойства

Не отвержденный материал	**RTV102 RTV103 RTV108 RTV109**	**RTV106**	**RTV116**	**RTV112 RTV118**
Консистенция	Паста	Паста	Самовыравнивающий	Самовыравнивающий
Цвета	RTV102: Белый RTV103: Черный RTV108: Прозрачный RTV109: Аллюминевый	Красный	Красный	RTV112: Белый RTV118: Прозрачный
Вязкость, пауз	–	–	250	200
Скорость подачи,(г/мин)	400	400	–	–
Удельный вес	1.05	1.07	1.09	1.05
Время схватывания	20	20	30	20
Вулканизированный материал	**RTV102 RTV103 RTV108 RTV109**	**RTV106**	**RTV116**	**RTV112 RTV118**
Механические:				
Прочность на растяжение, кг/см^2 (ф/д^2)	28 (400)	26 (375)	25 (350)	23 (325)
Эластичность, %	450	400	350	325
Твердость, ШОР А	30	30	20	25
Прочсноть на разрыв кг/см (ф/д)	8 (45)	7 (40)	–	–
Прочность на сдвиг, кг/см^2 (ф/д^2)(2)	14 (200)	14 (200)	7 (125)	7 (100)
Прочность на отрыв , кг/см (ф/д)(3)	7 (40)	7 (40)	3 (25)	3 (15)
Электрические характеристики:				
Диэлектрическая прочность кв/мм (в/мил)	20 (500)	20 (500)	16 (400)	16 (400)
Диэлектрическая константа @ 60 Hz	2.8	2.8	2.8	2.8
Коэффициент рассеявания @ 60 Hz	0.001	0.001	0.001	0.001
Удельное объемное сопротивление,Ом-см	3x10^{15}	3x10^{14}	2x10^{14}	6x10^{14}
Тепловые характеристики:(4)				

Минимальная температура, °C (°F)	-60 (-75)	-60 (-75)	-60 (-75)	-60 (-75)
Максимальная непрерывная рабочая температура, °C (°F)	204 (400)	260 (500)	260 (500)	204 (400)
Максимальная прерывистая рабочая температура, °C (°F)	260 (500)	315 (600)	315 (600)	260 (500)
Дополнительная информация:(4)				
Линейная усадка,%	1.0	1.0	1.0	1.0
Теплопроводность, кал/сек/см^2, °c/см	0.0005	0.0005	0.0005	0.0005
(Btu/hr/ft^2, °F/ft)	(0.12)	(0.12)	(0.12)	(0.12)
Coefficient of Expansion cm/cm, °C	27x10^{-5}	27x10^{-5}	27x10^{-5}	27x10^{-5}
(in/in, °F)	(15x10^{-5})	(15x^{-5})	(15x^{-5})	(15x^{-5})

(1) Время отвердевания 3 дня при температуре 25°C (77°F) / 50% влажности.
(2) 100% когезия.
(3) На 100% когезионный разрыв. Применялся лист нержавеющей стали 1 дюйм. x 8 дюйм.
(4) Информация предоставляется исключительно для удобства клиента. Эти свойства не проверены на регулярной основе.

Области применения

Продукт	Особенности	Возможные применения	UL	Пищевой контакт
RTV102 (White) RTV103 (Black) RTV108 (Translucent) RTV109 (Aluminum)	Общего назначения	Склеивание, герметизация, электрическая изоляция, формирование прокладок.	File 36952	FDA 21 CFR 177.2600, USDA, NSF International Std. No. 51
RTV106 (Red)	Высокотемпературный матермал	Уплотнение нагревательных элементов, электрическая изоляция, склеивание в местах, которые эксплуатируются при повышенных температурах.	File 36952	FDA 21 CFR177.2600, USDA, NSF International Std. No. 51
RTV116 (Red)	Стойкость к высоким температурах	Тонкие места уплотнений, заполлняет небольшие пустоты, электрическая изоляция.	File 36952	FDA 21 CFR 177.2600, USDA, NSF International Std. No. 51
RTV112 (White) RTV118 (Translucent)	Общего назначения	Склеивание, герметизация, электрическая изоляция, формирование прокладок. Хорошо проникает в тонкие места.	File 36952	FDA 21 CFR 177.2600, USDA, NSF International Std. No. 51

Эти герметики не предназначены и не должны использоваться для постоянной имплантации в человеческое тело.

Эти герметики не предназначены для использования в тонких электрических и электронных устройствах, в которых коррозия меди, латуни или других чувствительных металлов нежелательна.

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.

Processing Recommendations

Surface Preparation

RTV102, RTV103, RTV106, RTV108, RTV109, RTV112, RTV116 and RTV118 sealants will bond to many clean surfaces without the aid of primers. These surfaces typically include many metals, glass, ceramic, silicone rubber and some rigid plastics. These adhesive sealant products will also produce fair bonds to organic rubber and to some flexible plastics not containing fugitive plasticizers (which migrate to the surface, impairing adhesion). An evaluation should be made to determine bond strength for each specific application. For difficult-to-bond substrates, use of a primer is suggested. Primers SS4004, SS4044 and SS4179 are recommended for use with these sealants. Complete information and usage instructions for these primer products are contained in a separate product data sheet.

Where adhesion is required, surfaces should be thoroughly cleaned with a suitable solvent such as naphtha or methyl ethyl ketone (MEK) to remove dirt, oil and grease. The surface should be wiped dry before applying the adhesive sealant.

When solvents are used, proper safety precautions must be observed.

Application and Cure Time Cycle

Paste-consistency products may be applied directly to clean or primed substrates. Where broad surfaces are to be mated, the sealant should be applied in a thin, less than 6mm (1/4 in.) diameter, bead or ribbon around the edge of the surface to be bonded.

Flowable products may be applied to clean or primed substrates by pouring directly from the original container or dipping. These products will self-level on a surface, filling small crevices and surface voids. Depth of potted sections should not exceed 6mm (1/4 in.).

The cure process begins with the formation of a skin on the exposed surface of the sealant and progresses inward through the material. At 25°C (77°F) and 50% relative humidity, RTV102, RTV103, RTV106, RTV108, RTV109, RTV112 and RTV116 sealants will form a surface skin which is tack-free to the touch in 15 to 30 minutes. Once the tack-free skin has begun to form, further tooling of the adhesive sealant is not advisable.

Higher temperatures and humidity will accelerate the cure process low temperatures and low humidity will slow the cure rate.

As the adhesive sealant cures, acetic acid vapors are released from the sealant surface. The odor of acetic acid will completely disappear when curing is completed.

A 3mm (1/8 in.) section of adhesive sealant will cure through in approximately 24 hours at 25°C (77°F) and 50% R.H. Since cure time increases with thickness, use of these adhesive sealants should be limited to section thicknesses of 6mm (1/4 in.) or less.

Bond Strength Development

In addition to the effects of temperature and relative humidity, development of maximum bond strength will depend on joint configuration, degree of confinement, sealant thickness and substrate porosity. Normally, sufficient bond strength will develop in 12 to 24 hours to permit handling of parts. Minimum stress should be applied to the bonded joint until full adhesive strength is developed. Eventually the adhesive strength of the bond will exceed the cohesive strength of the silicone rubber sealant itself. Always allow maximum cure time available for best results.

PACKAGING AND DISPENSING

RTV adhesive sealants from Momentive Performance Materials are supplied ready-to-use in collapsible aluminum squeeze tubes, caulking cartridges and in bulk containers.

Collapsible aluminum tubes may be squeezed by hand or with the aid of mechanical wringers which allow more complete removal of material from the tube. Air-operated dispensing guns may also be used with aluminum tubes and offer the advantages of improved control and faster application for production line use. The sealant may be dispensed from caulking cartridges by using simple mechanical caulking guns or air-operated guns. Air-operated guns will allow greater control and application speed. Both tubes and cartridges are easy to use, can be put into production quickly and require minimal capital investment.

Note: Do not exceed 45 psig when used in air-powered caulking guns.

Bulk containers require a larger initial investment in dispensing equipment, but offer the most economical packaging for volume production. Bulk dispensing systems are air-operated extrusion pumps coupled to hand or automated dispensing units. Pumps which are specifically designed for pumping one-component RTV silicone rubber have TEFLON® seals, packings and lined hoses to prevent moisture permeation and pump cure problems.

CLEAN UP AND REMOVAL

Before curing, solvent systems such as naphtha or methyl ethyl ketone (MEK) are most effective. Refer to solvent use warnings in the section on surface preparation.

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.

Specifications

FDA STATUS

RTV102, RTV103, RTV106, RTV108, RTV109, RTV112, RTV116 and RTV118 sealants are compositionally compliant with the requirements of 21 CFR 177.2600 – Rubber articles intended for repeated use and have been found, through testing of a representative sample, to meet the extractives limitations in 21 CFR 177.2600(e) and/or (f).

Note: It is the responsibility of the user to determine that the final product complies with the extractive limitations and other requirements of 21 CFR 177.2600 under their specific manufacturing procedures.

BIOCOMPATABILITY STATUS

- A representative sample of RTV 108 has passed USP Class VI (United States Pharmacopoeia USP 23, National Formulary 18, 1995).
- A representative sample of RTV 118 has passed USP Class VI (United States Pharmacopoeia USP 23, National Formulary 18, 1995).

USDA STATUS

RTV102, RTV103, RTV106, RTV108, RTV109, RTV112, RTV116 and RTV118 sealants may be used on equipment which may contact edible products in official establishments operating under the Federal meat and poultry products inspection program. See USDA letter of Authorization.

NSF INTERNATIONAL STATUS

NSF International lists RTV102, RTV103, RTV106, RTV108, RTV109, RTV112, RTV116 and RTV118 sealants under NSF International Standard No. 51 (Plastic Materials and Components for Use in Food Equipment), as satisfactory for use on food contact surfaces.

UL STATUS

RTV102, RTV103, RTV106, RTV108, RTV109, RTV112, RTV116 and RTV118 silicone rubber adhesive sealants are recognized by Underwriters Laboratories, Inc., under their Component Recognition Program (UL File No. E-36952).

MILITARY SPECIFICATION

MIL-A-46106

Group I	Type I	General Purpose Paste: RTV102, RTV103, RTV108, RTV109
	Type II	General Purpose Flowable: RTV112, RTV118
Group III	Type I	High Temperature Paste: RTV106
	Type II	High Temperature Flowable: RTV116

Testing for referenced MIL Spec is performed in accordance with current Momentive Performance Materials quality test methods, laboratory conditions, and procedures, frequency and sampling, which are not necessarily identical with the methods, conditions, procedures, frequency and sampling stated or referenced in the listed specification. Any certification will be limited to listed properties and will not imply or state conformity to any other aspect of the referenced specification, including but not limited to marking, packaging, bar coding, testing, or sampling. Contact Momentive Performance Materials for a comparison review.

Contact Information
For product prices, availability, or order placement, contact our customer service at Momentive.com/CustomerService/

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

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