RTV8112

Description

RTV8111, RTV8112 and RTV8262 silicone rubber compounds are two-part silicone elastomers supplied in ready-to-use matched kits containing a base compound and curing agent.

Key Features and Benefits

- Conforms to the physical and electrical requirements of MIL-S-23586E
- Non-corrosive to copper
- Retention of elastomeric properties at high temperature up to 204°C (400°F) continuously for RTV8111 and RTV8112 up to 260°C (500°F) continuously for RTV8262
- Excellent adhesion capabilities when used with primer
- Room temperature cure
- Composition free of solvents

Typical Physical Properties

UNCURED PROPERTIES OF RTV BASE COMPOUNDS	RTV8111	RTV8112	RTV8262
Color	White	White	Red
Consistency	Easily Pourable	Easily Pourable	Pourable
Viscosity, cps	9900	11,000	47,000
Specific Gravity	1.18	1.19	1.47

TYPICAL PROPERTIES OF CURING AGENTS	RTV9891	RTV9858
Color	Light Blue	Off-White
Consistency	Pourable	Pourable
Viscosity, cps	170,000	44,000
Specific Gravity	1.77	1.61
Active Catalyst	STO	DBT

TYPICAL UNCURED PROPERTIES WITH CURING AGENT ADDED	RTV8111 / RTV9891	RTV8112 / RTV9858	RTV8262 / RTV9858
Curing Agent Added, weight %	2 - 4	5 - 7	5 - 7
Pot Life @ 25ºC (77ºF) hours	0.5	2	2
Cure Time @ 25ºC (77ºF) hours	24	24	24

TYPICAL CURED PROPERTIES (Cured 72 hours @ 25ºC (77ºF) and 50% R.H.)	**RTV8111**	**RTV8112**	**RTV8262**
Mechanical			
Hardness, Shore A Durometer	45	42	52
Tensile Strength, kg/cm^2 (psi)	25 (350)	21 (300)	41 (580)
Elongation, %	160	160	150
Tear Strength, kg/cm (lb/in)	4.3 (24)	4.8 (27)	7.7 (43)
Linear Shrinkage, %	1.0	1.0	0.6
Electrical			
Dielectric Strength, kv/mm (v/mil) (1.9 mm thick)	19.7 (500)	18.7 (475)	18.5 (470)
Dielectric Constant @ 103 Hz	3.3	4.02	3.98
Dissipation Factor @ 103 Hz	0.0055	0.007	0.017
Volume Resistivity, ohm-cm	1 x 10^{15}	2.7 x 10^{15}	4.4 x 10^{14}
Thermal			
Useful Temperature Range,°C (°F)	-54 to 204 (-65 to 400)	-54 to 204 (-65 to 400)	-54 to 260 (-65 to 500)
Thermal Conductivity (W/m·K)	0.29	0.29	0.29
Coefficient of Linear Expansion, cm/(cm°C), (in/(in°F))	25 x 10^{-5} (14 x 10^{-5})	25 x 10^{-5} (14 x 10^{-5})	20 x 10^{-5} (11 x 10^{-5})
Specific Heat, cal/(gm°C) , (BTU/lb, °F)	0.35 (0.35)	0.35 (0.35)	0.35 (0.35)
MIL-S-23586E SPECIFICATION LIMITS (Cured 72 hours @ 23 ± 2ºC and 50% ± 5% R.H.)	**Type I, Class 1 Grade B1**	**Type I, Class 2 Grade A**	**Type II, Class 2 Grade A**
Suggested Momentive Performance Materials Product	**RTV8111**	**RTV8112**	**RTV8262**
Viscosity, cps	20,000 max	20,000 max	20,000 - 200,000
Pot Life, hours	0.25 - 0.75	1 - 3	1 - 3
Hardness, Shore A Durometer, min	40	35	45
Tensile Stength, kg/cm^2 (psi), min.	17.6 (250)	17.6 (250)	22.9 (325)
Elongation, %, min.	100	100	100
Dielectric Strength, kv/mm (v/mil), min.	15.7 (400)	15.7 (400)	15.7 (400)

Potential Applications

Typical applications include, but are not limited to the potting of electronic circuit modules, electrical connectors and coils, and other applications in electronics, military/defense and commercial aerospace industries.

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

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

Select a mixing container 4 to 5 times larger than the volume of RTV silicone rubber compound to be used. Weigh out the RTV silicone rubber base compound and add the appropriate amount of curing agent. 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 about 25 mm (29 inches) of mercury. 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 the RTV silicone rubber compound for potting, a deaeration step may be necessary after pouring to avoid capturing air in complex assemblies.

Instead of the above procedure, because of the short pot life of RTV8111/RTV9891 mixtures, mixing under vacuum or using a static mixer may be necessary to eliminate trapped air.

Curing

Using the curing agent levels prescribed, RTV8111, RTV8112 and RTV8262 silicone rubber compounds will cure in 24 hours at 25°C (77°F) and 50% relative humidity to form durable, resilient rubbers. Pot life of catalyzed compounds may be lengthened by refrigeration. Slight adjustments to the pot life and cure rate may also be made by changing the curing agent levels within the limits listed in the curing agent table.

Bonding

If adhesion is an important application requirement, RTV8111, RTV8112 and RTV8262 silicone rubber compounds require a primer to bond to non-silicone surfaces. Clean the substrate thoroughly with a non-oily

solvent such as naphtha or methyl ethyl ketone (MEK) and let dry. Then apply a uniform thin film of a suitable silicone primer such as SS4004P. Allow the primer to air dry for one hour or more. Apply freshly catalyzed RTV silicone rubber compound to the primed surface and cure as recommended.

Limitations

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

Contact Information

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

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

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