

## 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

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

<b>TYPICAL UNCURED PROPERTIES WITH CURING AGENT ADDED</b>	<b>RTV8111 / RTV9891</b>	<b>RTV8112 / RTV9858</b>	<b>RTV8262 / RTV9858</b>
Curing Agent Added, weight %	2 - 4	5 - 7	5 - 7
Pot Life @ 25°C (77°F) hours	0.5	2	2
Cure Time @ 25°C (77°F) hours	24	24	24
<b>TYPICAL CURED PROPERTIES (Cured 72 hours @ 25°C (77°F) and 50% R.H.)</b>	<b>RTV8111</b>	<b>RTV8112</b>	<b>RTV8262</b>
<b>Mechanical</b>			
Hardness, Shore A Durometer	45	42	52
Tensile Strength, kg/cm <sup>2</sup> (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
<b>Electrical</b>			
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 <sup>15</sup>	2.7 x 10 <sup>15</sup>	4.4 x 10 <sup>14</sup>
<b>Thermal</b>			
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 <sup>-5</sup> (14 x 10 <sup>-5</sup> )	25 x 10 <sup>-5</sup> (14 x 10 <sup>-5</sup> )	20 x 10 <sup>-5</sup> (11 x 10 <sup>-5</sup> )
Specific Heat, cal/(gm°C) , (BTU/lb, °F)	0.35 (0.35)	0.35 (0.35)	0.35 (0.35)
<b>MIL-S-23586E SPECIFICATION LIMITS (Cured 72 hours @ 23 ± 2°C and 50% ± 5% R.H.)</b>	<b>Type I, Class 1 Grade B1</b>	<b>Type I, Class 2 Grade A</b>	<b>Type II, Class 2 Grade A</b>
<b>Suggested Momentive Performance Materials Product</b>	<b>RTV8111</b>	<b>RTV8112</b>	<b>RTV8262</b>
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 Strength, kg/cm <sup>2</sup> (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

Standard copy to come

### Product Safety, Handling and Storage

Standard copy to come

### 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**

Standard copy to come

### **Contact Information**

For product prices, availability, or order placement, contact our customer service at [Momentive.com/Customerservice/](https://www.momentive.com/Customerservice/)

For literature and technical assistance, visit our website at: [www.momentive.com](https://www.momentive.com)

**DISCLAIMER:**

**THE MATERIALS, PRODUCTS AND SERVICES OF MOMENTIVE PERFORMANCE MATERIALS INC. AND ITS SUBSIDIARIES AND AFFILIATES (COLLECTIVELY “SUPPLIER”), ARE SOLD SUBJECT TO SUPPLIER’S STANDARD CONDITIONS OF SALE, WHICH ARE INCLUDED IN THE APPLICABLE DISTRIBUTOR OR OTHER SALES AGREEMENT, PRINTED ON THE BACK OF ORDER ACKNOWLEDGMENTS AND INVOICES, AND AVAILABLE UPON REQUEST. ALTHOUGH ANY INFORMATION, RECOMMENDATIONS, OR ADVICE CONTAINED HEREIN IS GIVEN IN GOOD FAITH, SUPPLIER MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, (i) THAT THE RESULTS DESCRIBED HEREIN WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN INCORPORATING ITS PRODUCTS, MATERIALS, SERVICES, RECOMMENDATIONS OR ADVICE. EXCEPT AS PROVIDED IN SUPPLIER’S STANDARD CONDITIONS OF SALE, SUPPLIER AND ITS REPRESENTATIVES SHALL IN NO EVENT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS OR SERVICES DESCRIBED HEREIN.** Each user bears full responsibility for making its own determination as to the suitability of Supplier’s materials, services, recommendations, or advice for its own particular use. Each user must identify and perform all tests and analyses necessary to assure that its finished parts incorporating Supplier’s products, materials, or services will be safe and suitable for use under end-use conditions. Nothing in this or any other document, nor any oral recommendation or advice, shall be deemed to alter, vary, supersede, or waive any provision of Supplier’s standard Conditions of Sale or this Disclaimer, unless any such modification is specifically agreed to in a writing signed by Supplier. No statement contained herein concerning a possible or suggested use of any material, product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Supplier covering such use or design, or as a recommendation for the use of such material, product, service or design in the infringement of any patent or other intellectual property right.

**Momentive and the Momentive logo are trademarks of Momentive Performance Materials Inc.**