



# SILASTIC® M RTV Silicone Rubber

## FEATURES

- Outstanding release properties
- If required the product cure can be heat accelerated
- High hardness
- Medium tear resistance
- Very low shrinkage and good dimensional stability
- Can be used for high temperature casting applications
- High inhibition resistance

## High durometer, medium tear resistance silicone moldmaking rubber

### APPLICATIONS

- SILASTIC M RTV Silicone Rubber is suited for the reproduction of prototyping, architectural and furniture components, especially for use with polyurethanes and other casting plastics.

### TYPICAL PROPERTIES

Specification writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales representative prior to writing specifications on this product.

Property	Unit	Value
<b>Base</b>		
Viscosity	mPa.s	130,000
Color		Beige
<b>Curing Agent</b>		
Color		Regal Blue
<b>Base and Curing Agent mixture (100:10 by weight)</b>		
Viscosity	mPa.s	90,000
Working time	minutes	60
<b>Cured for 24 hours at 25°C (77°F)</b>		
Hardness (Shore A)		59
Tensile strength	MPa	4.5
Elongation at break	%	250
Tear strength	kN/m	16
Relative density at 25°C (77°F)		1.29
Linear shrinkage	%	<0.1

### DESCRIPTION

SILASTIC M RTV Silicone Rubber is a two-component material consisting of a SILASTIC M RTV Base, which when mixed with the SILASTIC M RTV Curing Agent cures at room temperature by an addition reaction. A range of materials can be cast into the cured silicone mold: polyurethane, polyester and other reactive resins are materials typically used.

necessary, and in particular with porous substrates, use a suitable release agent such as petroleum jelly or soap solution.

In all cases, it is advisable to check before casting that no discoloration or adhesion occurs between the product and the original or mold frame.

### HOW TO USE

#### Substrate preparation

The surface of the original should be clean and free of loose material. If

#### Mixing

SILASTIC M RTV Curing Agent contains a pigment which acts as an indicator for proper measuring and mixing. Thoroughly shake/stir the curing agent before use so that any sedimented pigment is redispersed.

Weigh 100 parts of SILASTIC M RTV Base and 10 parts of SILASTIC M RTV Curing Agent (see handling precautions) in a clean container, then mix together until the curing agent is completely dispersed in the base. Hand or mechanical mixing can be used, but do not mix for an extended period of time or allow the temperature to exceed 35°C (95°F). Mix sufficiently small quantities to ensure thorough mixing of the base and curing agent.

It is strongly recommended that entrapped air be removed in a vacuum chamber, allowing the mix to completely expand and then collapse. After a further 1-2 minutes under vacuum, the mix should be inspected and if free of air bubbles, can then be used. A volume increase of 2-3 times will occur on vacuum de-airing the mixture, so a suitably large container should be chosen.

Note: If no vacuum de-airing equipment is available, air entrapment can be minimised by mixing a small quantity of base and curing agent, then using a brush, painting the original with a 1-2mm layer. Leave at room temperature until the surface is bubble-free and the layer has begun to cure. Mix a further quantity of base and curing agent and proceed as follows to produce a final mold.

### **Pouring the mixture and curing**

Pour the mixed base and curing agent as soon as possible onto the original, avoiding air entrapment. The catalyzed material will cure to a flexible rubber within 16 hours at room temperature (22-24°C or 71.6-75.2°F) and the mold can then be removed. If the working temperature is significantly lower, the cure time will be longer. Heat accelerating the cure is possible, but this will produce some apparent shrinkage of the mold, due to differences in volume contraction on cooling between the silicone rubber and the original. The higher the curing temperature, the greater the likely differences in dimensions.

## **ADDITIONAL INFORMATION**

### **Inhibition of cure**

All addition-cured silicone elastomers are susceptible to cure inhibition when in contact with certain materials and chemicals. Inhibition has occurred if the elastomer is only partially cured after 24 hours, or has a sticky surface in contact with another material. Amines and sulphur containing materials are strong inhibitors, as are organo tin salts used in condensation cure silicone elastomers. Wet or moist surfaces can cause gas bubbles to be formed during cure in the silicone adjacent to the substrate surface. It is strongly recommended that mixing containers, mold construction materials, originals and release agents be checked for any inhibition effect before use.

### **Use at high temperatures**

Molds produced from SILASTIC M RTV have a long life at elevated temperatures. However, continuous use above 200°C (392°F) will result in loss of elasticity over a period of time. Use above 250°C (482°F) is not recommended. When heated, a mold made of SILASTIC M RTV will expand producing a small change in copy dimensions.

### **Resistance to casting materials**

The chemical resistance of fully cured SILASTIC M RTV is excellent, and similar to all addition-cure silicone elastomers. It should be noted however that ultimately, resins and other aggressive casting materials will attack silicone molds, changing physical properties, surface release and possibly mold dimensions. Molds should be checked periodically during long production runs.

### **Note:**

SILASTIC M RTV Base/Curing Agent is an industrial product and must not be used in food molding, dental and human skin molding applications.

## **HANDLING PRECAUTIONS**

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED.

BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE FROM YOUR LOCAL DOW CORNING SALES REPRESENTATIVE.

## **USABLE LIFE AND STORAGE**

When stored at or below 25°C (77°F) in the original unopened containers, SILASTIC M RTV Base and SILASTIC M RTV Curing Agent have a usable life of 12 months from the date of production.

SILASTIC M RTV Base and SILASTIC M RTV Curing Agent can be sensitive to moisture and contamination. Ensure that containers are tightly closed after use.

## **PACKAGING**

SILASTIC M RTV Base and SILASTIC M RTV Curing Agent are available in 5.5kg and 22kg kits.

## **LIMITATIONS**

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

## **HEALTH AND ENVIRONMENTAL INFORMATION**

To support customers in their product safety needs, Dow Corning has an extensive Product Stewardship organization and a team of Health, Environment and Regulatory Affairs specialists available in each area.

For further information, please consult your local Dow Corning representative.

## **WARRANTY INFORMATION - PLEASE READ CAREFULLY**

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this

information should not be used in substitution for customer's tests to ensure that Dow Corning's products are safe, effective, and fully satisfactory for the intended end use. Dow Corning's sole warranty is that the product will meet the Dow Corning sales specifications in effect at the time of shipment. Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted. Dow Corning specifically disclaims any other express or implied warranty of fitness for a particular purpose or merchantability. Unless Dow Corning provides you with a specific, duly signed endorsement of fitness for use, Dow Corning disclaims liability for any incidental or consequential damages. Suggestions of use shall not be taken as inducements to infringe any patent.

