

Product Information

Silicone Rubber

Silastic[®] L RTV Silicone Rubber

FEATURES

- Excellent flexibility
- Long mold life
- High elongation, stretches rather than tearing
- Acceptable for food contact

COMPOSITION

- Two-part silicone rubber supplied as pourable liquid; cures to a flexible rubber

Two-part silicone rubber for flexible molds with deep undercuts and general potting and encapsulating applications

APPLICATIONS

- Designed for use as a flexible moldmaking and general potting and encapsulating material.

TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office or your Global Dow Corning Connection before writing specifications on this product.

Method	Test	Unit	Result
As Supplied			
CTM ¹ 0176	Appearance, Base Curing Agent Base to Curing Agent Mix Ratio, by weight		Buff Dark green 10:1
As Catalyzed			
CTM 0176	Appearance		Green
CTM 0050	Viscosity ² at 25°C (77°F)	mPa-s (poise)	92,500 (925)
CTM 0092A	Snap Time ³ at 25°C (77°F)	hours	2.5
CTM 0092A	Cure Time ⁴ at 25°C (77°F)	hours	24
As Cured – Physical Properties ⁵			
CTM 0099	Durometer Hardness, Shore A	points	35
CTM 0137A	Tensile Strength	MPa (psi)	3.8 (550)
CTM 0137A	Elongation	percent	350
CTM 0159A	Tear Strength, Die B	kN/m (ppi)	10 (60)
CTM 0022	Specific Gravity at 25°C (77°F)		1.28
CTM 0157	Linear Shrink		Nil

¹In most cases, CTMs (Corporate Testing Methods) correspond to ASTM standard tests. Copies of CTM procedures are available upon request.

²Brookfield Viscometer Model HAF, spindle #6 at 5 rpm.

³Time required to become nonflowable.

⁴Based on sample mass of one cubic inch.

⁵Based on sample thickness of 125 mils, cured 24 hours at 25°C (77° F).

DESCRIPTION

Silastic[®] L RTV Silicone Rubber is a two-part, room temperature /addition reaction curing silicone rubber designed for use as a flexible moldmaking and general potting and encapsulating material.

Its superior elongation, low modulus and high strength characteristics combine to make an excellent material that minimizes tear, improves part removal ease, and provides longer mold life and nil shrinkage when cured at room temperature.

With curing agent added, *Silastic L* RTV Silicone Rubber base becomes a pourable fluid capable of filling the most minute crevices and reproducing intricate details. Cured, its superior elongation makes it ideal for minimizing tears when parts with deep undercuts and close tolerances are reproduced.

HOW TO USE

Pattern Preparation

Certain contaminants sometimes used in moldmaking operations can prevent *Silastic L* RTV Silicone Rubber from curing. Patterns to be molded should be thoroughly cleaned to remove grease, oil and other surface contaminants. Care should also be taken to ensure that corners, crevices and draws are free of dirt or particles of foreign matter. A light "blow over" with compressed air is advised when the pattern has convoluted draws or undercuts. Then the original model or pattern should be placed in a light frame of cardboard, foil, wood or other material. There should be approximately 1/4-inch clearance on all sides and over the top of the pattern. The pattern should be attached securely to the bottom of the frame so it does not float.

A pattern release agent should then be wiped or sprayed on the pattern. Spreading a light coat of release agent on the sides and underside of the top of the frame will facilitate release.

A good pattern release agent can be made by making a 5 percent solution of petroleum jelly in a suitable solvent. Either VM&P naphtha or mineral spirits can be used.¹

Addition of Curing Agent

Silastic L RTV Silicone Rubber base and its curing agent are produced in matched lots; the two parts should be used in the kit form, as supplied. For the best curing results, use metal cans, clean glassware or unwaxed paper containers for mixing the base and curing agent. *Silastic L* RTV Silicone Rubber curing agent should be mixed into the base material just before use (with either manual or mechanical stirring) in the amount of one part curing agent to ten parts base by weight. Inclusion of air during mixing may cause voids in the finished mold. Entrapped air may be removed by applying a vacuum of 28 to 29 inches of mercury. Under such a vacuum, the material will expand four to five times its original volume. As the froth collapses, the mixture will recede to its original volume. The vacuum should be held one or two minutes longer before releasing. Pressure casting may be substituted with equal success.

Working Time

Unlike conventional organotin-catalyzed RTVs that double or triple viscosity immediately after the curing agent is added, *Silastic L* RTV Silicone Rubber remains a flowable, pourable material for 2½ hours after the curing agent is added.

Curing

The cure of *Silastic L* RTV Silicone Rubber occurs by a reaction between the base polymer and the curing agent. This polymerization requires 24 hours after the addition of the curing agent at room temperature. This material will not revert or depolymerize, even under conditions of elevated temperature and Addition of Curing Agent *Silastic L* RTV Silicone Rubber base and its curing agent are produced in matched lots; the two parts should be used in the kit form, as supplied. For the best curing results, use metal cans, clean glassware or unwaxed paper containers for mixing the base and

curing agent. *Silastic L* RTV Silicone Rubber curing agent should be mixed into the base material just before use (with either manual or mechanical stirring) in the amount of one part curing agent to ten parts base by weight. Inclusion of air during mixing confinement. Vulcanization can be accelerated by heating the catalyzed material. However, this will increase the shrinkage. The rate at which sections will set up depends on the size and shape of the piece.

Vulcanization will not be accelerated at the center of the piece until the entire mass has reached the elevated temperature.

Inhibition

Localized inhibition of cure may be encountered at the interface when *Silastic L* RTV Silicone Rubber, during the curing process, comes in contact with certain contaminants. Among materials found to cause inhibition are sulphur containing and organometallic salt containing compounds, such as organic rubbers, and many RTV silicone rubbers.

Surfaces previously in contact with any of the above materials may also cause inhibition. If in doubt, test for compatibility by brushing a small amount of catalyzed *Silastic L* RTV Silicone Rubber over a localized area of the surface to be reproduced. Inhibition has occurred if the rubber is gummy or uncured after the curing period has elapsed.

Disposal Guidance

Cured mold making materials may be safely and economically disposed as nonhazardous solid waste under current US Environmental Protection Agency (EPA) regulations. Typically, regulations in other countries are similar to these, but always check local regulations before disposal. If it is necessary to dispose of mold making base and catalyst, it is recommended that they first be mixed together and allowed

to produce a cured nonhazardous solid material. Discarding unreacted catalyst or curing agent requires labeling as “hazardous waste” under current US EPA regulations. This necessity could result in added cost as incineration is typically the recommended disposal method. Unreacted base material is currently classified as nonhazardous waste if discarded alone. Specific regulatory information is provided in each product safety sheet. Contact your Dow Corning customer service representative for further assistance.

HANDLING PRECAUTIONS

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND MATERIAL SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE MATERIAL SAFETY DATA SHEET IS AVAILABLE FROM YOUR DOW CORNING REPRESENTATIVE, OR DISTRIBUTOR, OR BY CALLING YOUR GLOBAL DOW CORNING CONNECTION.

USABLE LIFE AND STORAGE

Silastic L RTV Silicone Rubber and its curing agent should be stored in closed containers at or below room temperature. The materials have a usable life of 12 months from date of manufacture. Refer to product packaging for “Use By” date.

PACKAGING

Silastic L RTV Silicone Rubber is supplied with *Silastic*® L RTV curing agent in matched-lot, 0.5-, 4.4-, 22- and 224-kg (1.1-, 9.9-, 49.5- and 495-lb) kits. All weights, net.

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 Product Safety and Regulatory Compliance (PS&RC) specialists available in each area.

For further information, please see our website, www.dowcorning.com or consult your local Dow Corning representative.

LIMITED 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 our products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

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