

RTV2 SILICONE RUBBER FOR JEWELRY



An Ideal Choice for Excellent Durability and Stability Silicone Rubber

RTV2 silicone rubbers are composed of a base and a platinum-curing catalyst. When mixed together, they create a pourable molding rubber that vulcanizes at room temperature. RTV2 silicone rubber is an ideal choice for creating jewelry molds. RTV2 silicone rubbers provide excellent durability over time, excellent stability over time, zero shrinkage, mixing ease and increased production speed.

Excellent Durability Over Time

RTV2 platinum-cured silicone rubber molds last significantly longer than urethane-based room temperature cured molding materials. It is common for RTV2 platinum-cured silicone rubber molds to retain their shape and detail for up to 20 years. Urethane-based products tend to soften in 2-4 years, even when carefully stored.

Excellent Stability Over Time

RTV2 platinum-cured silicone rubber molds are extremely stable after vulcanization. While other molding rubbers are affected by humidity, light and temperature after vulcanization, RTV2 platinum-cured silicone rubbers are not. RTV2 platinum-cured silicone rubbers maintain their dimensional stability over the life of the mold.

Zero Shrinkage

RTV2 platinum-cured silicone rubber molds demonstrate virtually zero shrinkage. There is no need to compensate for shrinkage when designing the pattern. Tin-cured room temperature vulcanized materials can shrink as much as 1.5%; which must be taken into consideration during pattern design.

Mixing Ease

RTV2 silicone rubbers are mixed in a 1:1 ratio, eliminating the need for expensive mixing equipment. In addition, RTV2 silicone rubbers are not as sensitive to errors in mixing proportion as non-silicone room temperature cured materials.

Increased Production Speed

RTV2 silicone rubber materials set in less than 4 hours, allowing you to inject patterns the same day the mold is created. Other silicone rubbers take 24 hours to cure at room temperature, delaying the actual pattern-making process.



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Typical Material Properties*

	RTV2 silicone rubber HT33	RTV2 silicone rubber HT42	RTV2 silicone rubber HT45
Mixing Ratio (Catalyst:Base)	1:1	1:1	1:1
Viscosity Pre-Catalyzation	7000-8000 cP	25,000 cP	8,500 cP
Mixing Time at 73 °F (23 °C)	1 minute	1 minute	1 minute
Working time at 73 °F (23 °C)	20-22 minutes	22-26 minutes	10-12 minutes
Setting time at 73 °F (23 °C)	3 hours	3 hours	1-1½ hours
Hardness After 24 Hours	33 ± 2 ShA	42 ShA	43 ± 3 ShA
Tensile Strength	4.7 N/mm ² (682 ± 29 psi)	6.5 ± 0.2 N/mm ² (944 ± 29 psi)	5.0 N/mm ² (730 psi)
Elongation at Break	430%	350 ± 20%	250%
Tear Strength	16 ± 2 N/mm (91 ± 11 ppi)	17.0 ± 1 N/mm (96 ± 6 ppi)	15 N/mm (85 ppi)
Color	Red or Translucent	Gray	Sea Blue or Translucent

*These results are based on the testing methods, frequency and procedures of Ransom & Randolph or its approved suppliers. The levels referenced herein are only for general guidance and do not constitute a firm specification.

Application Instructions

- Place a plastic container on a small scale, making sure to zero out the weight on the scale.
Note: Use a container that, during rise under vacuum in Step 5, will allow for material to expand to 4-5 times its resting volume.
- Pour catalyst into the plastic container, noting weight of material poured.
- In the same container, pour an equal weight of base on top of the catalyst (e.g., 100 grams of catalyst and 100 grams base).
Note: Within a 5% weight variance, the end result is not altered.
- With a clean, dry mixing spatula, mix energetically until the color of the product is homogeneous.
Note: Working time begins at this step. Mixing should take no longer than 1-2 minutes.
- Place container under vacuum and vacuum until material bubbles and rises. Release vacuum and repeat until bubbles are removed. Vacuuming should take no longer than 3-4 minutes.
- From a height of approximately 30 cm, pour the mixed silicone into the mold frame. Maintain the pouring stream in the same spot so as to minimize introduction of air bubbles into the mold.
- Allow the mold to sit, undisturbed, for at least 4 hours to ensure the silicone is fully cured.
- Remove the mold from the frame.



Step 2



Step 3



Step 4



Step 5



Step 6



Step 7



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- Cut around the pattern carefully to release it from the silicone rubber mold.
- Inject wax into the completed mold.

Important Recommendations

- The surfaces with which the material comes in contact must be perfectly clean, free of grease and dry.
- Close the bottles after use so as not to confuse the cap of the catalyst with that of the base when resealing.
- Be aware of possible cross-contamination; it's highly recommended to use only dedicated gear when processing poly-addition RTV2 silicone rubber (including degassing devices).
- Be aware that contact with certain material can inhibit the curing of the RTV2 poly-addition silicone rubber.

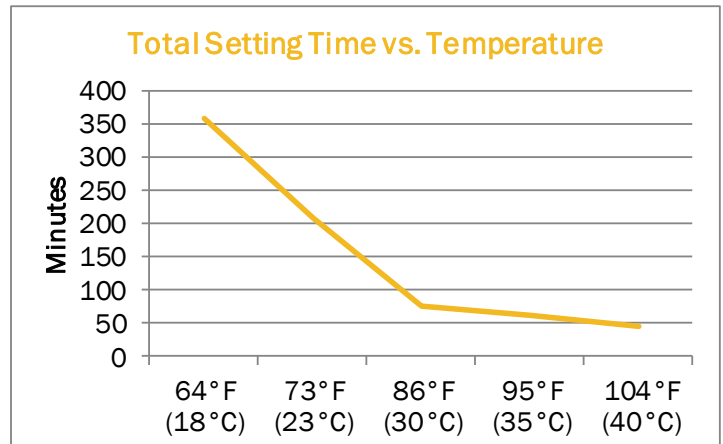
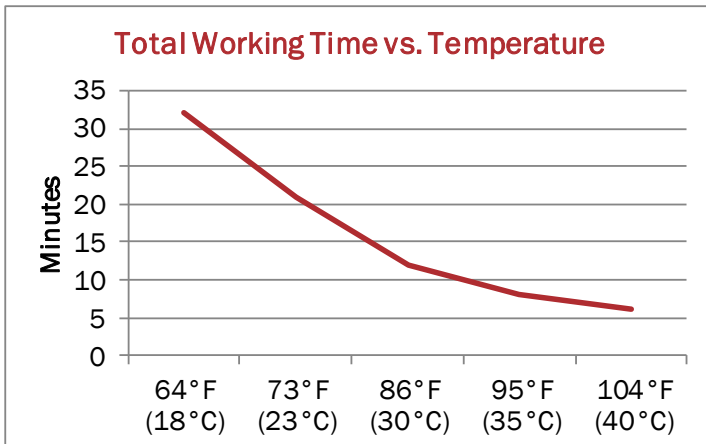
Common contaminants to be avoided include:

- Natural or synthetic rubber, vulcanized with sulphur derivatives
- Poly-condensation RTV catalyzed with metallic salts
- PVC stabilizing agents
- Amine cured epoxies
- Sulphur, tin and amines derivatives

In case of doubt, carry out a small test by pouring the mixture onto a small area of the object.

- Shelf life of the base and catalyst is 18 months, if stored correctly (at a temperature between 41-80 °F [5-27 °C]).
- Temperature of the material will affect Total Working Time and Total Setting Time of the materials.

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any



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Issue Date: March 5, 2024

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