

# Amazing Mold Maker

## Silicone Mold Making Material

### Product Description:

Amazing Mold Maker is an easy-to-use platinum-based silicone mold-making material that demolds in 30 minutes and picks up intricate details. Amazing Mold Maker is ideal for high-detail fast-curing molds. The material has a very low viscosity and a mix ratio of 1:1 by volume. The material features a 6–8-minute work time and will cure an opaque red color. Demold time typically ranges from 25 to 30 minutes depending on the mold temperature and the mass of the material being cast.

- Complies with FDA 21 CFR 177.2600
- Great for one-piece molds with undercuts
- Works for complex multi-piece molds
- Can be used for making delicate castings such as chocolate, fondant, and sugar

### Physical Properties:

Color	Opaque Red
Mixed Viscosity (cps)	4000
Hardness, (ASTM D-2240) Shore A	20
Specific Gravity	1.11
Shrinkage (in/in)	.002
Tensile Strength (ASTM D-638) (psi)	467
Elongation (in/in)	626%
Die B Tear Strength (pli)	148.2
Die T Tear Srength (pli)	52.8
Mixed Viscosity (cP)	3,800

### General Properties:

Color	"A" Side	Opaque Red
	"B" Side	Milky White
Mix Ratio		1:1 by vol.
Shelf Life		1 year
Open Time at 75 Degrees F (100g mass)		6-8 minutes
Demold Time at 75 Degrees F (100g mass)		30 minutes
Full Cure Schedule		24 hours

### Packaging:

16 oz	8 oz A/8 oz B
64 oz	32 oz A/32 oz B
1 gal	.5 gal A/.5 gal B

**Safety:** Read complete labels, SDS, and technical data sheet including instructions before using.

## Instructions

**Keep Amazing Mold Maker out of the reach of children, do not ingest, and do not use in any way other than it's intended use.**

### **Before Starting**

Make sure your work area is appropriate for measuring, mixing, and pouring mold-making materials as they can and will stain porous materials such as carpet and clothing. Also, make sure to use and store materials in an area where children cannot reach or access.

#### **1. Mold Preparation**

Before mixing and pouring your mold, there are a few things you can do to ensure a good mold.

Thoroughly clean and remove all dirt/contaminants. **Make sure your mold box and part are sealed to eliminate the possibility of leakage or silicone wicking into the part.** The silicone will leak out of any small cracks in your mold box you must make sure your mold box is sealed before pouring. If your mold box does leak, try using hot melt, super glue/accelerator, clay, tape, or any other material to stop the leak. This is not an easy task, as it is like trying to stop an oil leak, which is why it is so important to double-check your box seal.

Mold release is required when pouring against another silicone if you do not want the two to bond, as when making two-piece molds. Use Alumilite's UMR in combination with Rubber Mold Release or a thin layer of Vaseline are adequate for this application. Avoid contact with all porous materials such as fabric, clothing, carpet, and other non-sealed materials as the silicone will bond itself to these materials.

Make sure your master is fastened securely to your mold base to prevent it from floating.

#### **2. Calculating Material Needed**

There are approximately 21 cubic inches of volume per 1 lb. of silicone rubber. Therefore, to calculate your needed material, find the area of your mold box minus the area your master in cubic inches.

Check out our calculator at <http://www.alumilite.com/store/pg/12-Volume-Calculator.aspx>

#### **3. Mix Ratio**

The mix ratio of Amazing Mold Maker is 1:1 by volume. A graduated measuring cup with an accuracy to the nearest oz is recommended. Measure side A and side B in separate containers, then combine and mix thoroughly.

#### **4. Open Time**

The open time of Amazing Mold Maker is 6-8 minutes. The demold time varies from 25-30 minutes. Relative humidity, temperature, and pour size will affect the cure speed. The more humid and warmer the environment is, the faster your silicone will cure. Temperature alone will not accelerate the cure of Amazing Mold Maker or any other platinum-based silicone. Moisture/humidity is also required.

#### **5. Measuring and Mixing**

Make sure to use a large enough container with plenty of headspace to thoroughly mix the silicone. If you plan to degas/vacuum the silicone, be sure to use a container that is approximately 2-3 times the liquid amount of silicone you will mix. This will allow the silicone to expand in the container without overflowing into your vacuum chamber. Allow the silicone to rise and collapse under full vacuum to ensure you've removed all air introduced during the mixing process.

Once you have measured out equal amounts of each side into the mixing container, quickly mix the silicone for 60-90 seconds until no striations appear. Immediately pour your mold and allow Amazing Mold Maker to degas for remaining open time. The longer you wait to pour, the more likelihood of trapping bubbles in your mold. Helpful tips: Scrape sides, bottom, and stick off repeatedly when mixing. Use a plastic mixing container or paper cup with a flat bottom and sides without ridges. A mixing stick with a flat non-rounded bottom is also helpful when scraping the bottom.

#### **6. Pouring**

Once the material is thoroughly mixed, pour the silicone slowly into one corner of your mold box and allow the silicone to flow slowly and naturally around your master. This process allows the silicone to roll over your master, pushing away air that may be trapped underneath. Avoid pouring the rubber directly over or onto your master.

#### **7. Eliminating and Avoiding Air Bubbles**

If you cannot degas, there are a couple of techniques that will help ensure air will not become trapped against your master and show on your mold surface. First, is once you've mixed your rubber, brush an initial skin layer over your master using a disposable paintbrush. This will ensure the rubber wets out the surface of your master and will not allow air to stick or hold onto the surface of your master. Once the surface has been coated/wetted out, hold your mixed-rubber high above one corner of your mold box and pour a small stream of

rubber, slowly filling the mold box. The thin stream will stretch/pop any air bubbles as you pour. As mold is filled, the skin coat you painted will prevent any air from sticking to the surface of your mold.

## **8. Storage & Shelf Life**

Store in a cool, dry place. Unopened containers will have a shelf life of 6-months when properly stored at room temperature. Avoid high humidity areas and return lids to containers as soon as you are finished using them. If you are finished using the product for a period of time, purge opened containers with dry nitrogen before re-sealing and storing.

## **9. Mold Release**

The Amazing Mold Maker silicone has a high tear strength and the ability to bond to itself. Therefore, when making a multi-piece mold, it is imperative to use a minimum of 4 to 5 coats of Rubber Mold Release, a thin layer of Vaseline, or a combination of Rubber Mold release and UMR. UMR alone may not always release the Mold Maker product because of its high tear strength and ability to adhere to itself.

## **10. Mold Life**

Mold life expectancy is a variable of many different factors including but not limited to the type of resin being used in the mold, the length of time the resin is in the mold, the exotherm of the resin, cycle times, the design of the part, the intricacies of the detail, the force needed to demold, etc. Even with all of these factors, there are some things you can do to get the most life out of your molds. In no order, here are some popular ways to extend the life of your molds:

- Use a mold release such as Stoner or UMR.
- Avoid leaving castings in the molds any longer than needed.
- Allow molds time to cool from peak resin exotherms before pouring the next part.
- Use Silicone Oil to condition molds whenever you stop production for a day or two as well as condition molds with Silicone Oil before storing for periods of time.
- Integrate a bake-out process of 400-degrees for 2-hours and allow to cool back down before running more parts every 25% of the expected mold life (this process will draw silicone oil back to the surface of your mold rejuvenating what has been lost or depleted from the casting process).

## **11. Work Area & Cleanup**

Mixed silicones will absorb into porous materials and will stain! Avoid clothing, carpet, upholstery, and any other porous materials which will stain and will not come out. Mold making and casting is best done in a designated work area such as a basement, garage, or hobby room with adequate air movement or ventilation. Cover any surfaces including floors with plastic sheeting, cardboard, or plywood to prevent damage from spilled materials. To clean up unmixed or still liquid material, use rubbing alcohol on a rag or paper towel to quickly clean and remove. In some instances, such as spills and non-porous surfaces, it's easier to clean up silicone after it's allowed to cure – then simply peel away and discard.