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TECHNICAL DATA SHEET

Amazing Mold Rubber FLEX

Amazing Mold Rubber FLEX is a quick curing, extremely high strength, low viscosity silicone mold making material that picks up amazing detail. AMR FLEX is very easy to use, does not require degassing, and can be demolded in as little as 2-4 hours. Great for pouring one piece molds with undercuts requiring a strong flexible material for demolding parts or for making complex multiple piece molds. Vaseline works as an excellent mold release when making multiple piece molds.

PRODUCT SPECIFICATIONS	
Mix Ratio	10:1 by weight
Mixed Viscosity	15,000 cps
Working Time	45.0 minutes
Demold Time	12.0-18.0 hours
Hardness	10-15-A
Full Cure Time	7 days
Tensile Strength	550psi
Tear Resistance	400 pli
Elongation Strength	575%
Shelf Life	1 year
Color	Pink

BEFORE USE: Thoroughly read Safety Data Sheets, product labels and the "SAFETY" section in this Technical Data Sheet.

IMPORTANT: PLEASE NOTE

- Ensure that your frame or mold is watertight. Frames should be constructed from materials that can easily dissipate heat.

- Mold release is required when pouring against another silicone (e.g., when making two-piece molds) to prevent bonding. Use Alumilite's UMR in combination with Rubber Mold Release or a thin layer of Vaseline.
- Avoid contact with porous materials (e.g., fabric, clothing, carpet) as silicone will bond to these materials.
- Securely fasten your master to the mold base to prevent it from floating.
- Vacuum or pressure assistance is recommended for bubble-free, dense parts but is not required for simple parts.
- Your master must have a high gloss surface to produce a clear, glossy casting. If your master has a matte finish, the clear casting will have the same finish.
- Mold Preparation: To enhance the physical properties and curing of your cast resin piece, preheat the mold in a conventional oven at 120-150°F for 15 minutes, or microwave for 1 minute per pound of rubber on high. This helps the resin set uniformly for a consistent, fully cured cast.

BEFORE YOU BEGIN

Work Environment: The ideal working temperature is around 65-75°F in a clean, dry, dust-free environment. Avoid working in high humidity. If you are pouring in large volumes of 2 or more gallons, we suggest keeping room temperature closer to 65°F. We highly recommend keeping fans on your project to help dissipate heat.

Coverage: To calculate your needed material, find the area of your mold box minus the area of your master in cubic inches.

Materials: Be prepared with all necessary materials and tools before beginning your project.

- Stir-sticks
- Molds for artistic creation
- Misc. handling tools – scissors, pliers, a drill or Dremel tool, heat gun, blow torch, etc.

MIXING & POURING

1. Mold Preparation

Thoroughly clean your mold and remove all dirt and contaminants. Ensure your mold box is sealed to prevent leakage. If leaks occur, use hot glue, super glue with an accelerator, or other sealing materials. Use a mold release when pouring against another silicone surface to prevent bonding, such as Alumilite's UMR or a thin layer of Vaseline. Secure your master to the mold base to prevent it from floating.

2. Calculating Material Needed

One pound of silicone rubber covers approximately twenty-one cubic inches. To calculate the required material, subtract the volume of your master from the total mold box volume. An online calculator is

available at Alumilite Volume Calculator.

3. Mix Ratio
The mix ratio is ten to one by weight. A gram scale with one-gram accuracy is recommended. Mixing by volume is not recommended except when using the one-pound kit, which includes pre-measured cups and scoops.

4. Open Time & Cure
Open time is approximately twenty to thirty minutes at seventy-five degrees Fahrenheit. Demold time is between two to four hours. Full cure takes approximately seven days. Higher humidity and warmth can speed up curing, but temperature alone does not accelerate the process. Moisture and humidity are required for curing.

5. Measuring & Mixing
Use a container with two to three times the volume of the rubber to allow for expansion. Mix thoroughly, scraping the sides and bottom of the container. Repeat mixing to ensure complete incorporation. If available, degas the mixture in a vacuum chamber to remove air bubbles.

6. Pouring
Pour the mixed rubber slowly into one corner of the mold box and allow it to flow naturally around the master. This process helps prevent air entrapment. Avoid pouring rubber directly onto the master.

7. Eliminating Air Bubbles
If degassing is not possible, brush a thin layer of mixed rubber onto the master using a disposable paintbrush before pouring. This ensures that the rubber wets out the surface of the master and prevents air bubbles from getting trapped. Hold the container high above one corner of the mold box and pour a thin, steady stream of rubber to help pop any air bubbles as the mold fills.

8. Storage & Shelf Life
Store the product in a cool, dry place. Unopened containers have a shelf life of six months when stored at room temperature. Avoid humidity and seal lids tightly after use. If storing for an extended period, purge opened containers with dry nitrogen or Alumilite's Bloxygen before resealing.

9. Mold Release
The High Strength series silicone has a very high tear strength and bonds to itself. When making a two-piece mold by pouring fresh Amazing Mold Rubber FLEX over cured Amazing Mold Rubber FLEX, apply a minimum of four to five coats of Rubber to Rubber Mold Release, a thin layer of Vaseline, or a combination of Rubber to Rubber and UMR. UMR alone may not always be sufficient due to the strong bonding properties of the silicone.

10. Mold Life
Mold life expectancy varies based on several factors, including resin type, cycle times, exotherm, part complexity, and demolding force. To extend mold life, use a mold release such as Stoner or UMR. Avoid leaving castings in the mold longer than necessary, especially overnight. Allow molds to cool

before pouring the next part. Condition molds with Silicone Oil before storage and periodically during use. Every twenty-five percent of the expected mold life, bake molds at four hundred degrees Fahrenheit for two hours, then allow them to cool before resuming use. This process helps restore silicone oil lost during casting. Store molds in a clean, dry environment.

11. Work Area & Cleanup

Mixed High Strength rubber absorbs into porous materials and may cause permanent stains. Avoid contact with clothing, carpet, upholstery, and other porous surfaces. Perform mold-making and casting in a well-ventilated work area such as a garage, basement, or hobby room. Protect surfaces with plastic sheeting, cardboard, or plywood to prevent damage from spills. Uncured material can be cleaned with rubbing alcohol and a cloth. If spilled on a non-porous surface, allow the silicone to cure and then peel it away for disposal.

CLEAN UP & DISPOSAL

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 silicone-safe mold release
- 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).

Tools can be cleaned with Isopropyl Alcohol 99% or a residue-free cleaner. Do not use soap and water. Dispose of product and container according to Federal, State and local regulations. Store any remaining product in the original bottles, tightly sealed and locked up in a cool, dry environment.

SAFETY

Safety: Before use, thoroughly read Safety Data Sheets and product labels. Follow safety precautions and directions.

- Wear gloves
- Safety glasses

- Protect clothing with a work smock or other outer garment
- For cleaning surfaces, containers – use Acetone, rubbing alcohol or nail polish remover
- When stored separately, epoxy & hardener have long shelf lives – store in a cool dry area in tightly sealed containers

Part A: Keep out of reach of children. Wear impervious gloves, such as butyl rubber or nitrile rubber. Wash skin thoroughly with soap and water after handling. Take off contaminated clothing and wash it before reuse. If skin irritation occurs, get medical help. Wear eye protection, such as chemical safety glasses/googles. If in eyes, rinse cautiously with water for several minutes, removing contact lenses if present and easy to do. If eye irritation persists, get medical help.

Part B: Keep out of reach of children. Do not eat, drink, or smoke when using this product. If swallowed, rinse mouth and get medical help. Use with adequate general or local exhaust ventilation to minimize exposure levels. If needed, a NIOSH-approved respirator with organic vapor cartridge may be used. Wear impervious gloves, such as butyl rubber or nitrile rubber. Wash skin thoroughly with soap and water after handling. Wear eye protection, such as chemical safety glasses/googles. If in eyes, immediately rinse with water for several minutes, removing contact lenses if present and easy to do. If eye irritation persists, get medical help.

WARNING: THE CURE REACTION IS EXOTHERMIC. Do not apply in thicknesses greater than the recommended maximum application thickness for the product.

DISCLAIMER: The information contained herein is considered accurate; however, Alumilite makes no warranty regarding its accuracy. The user must determine the suitability of the product for the intended use and accepts all risk and liability associated with that use.