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## AeroMarine Products Food Grade Silicone Mold Making Rubber

### Product Description

AeroMarine Products Food Grade Silicone Mold Making Rubber is a two component, addition cure RTV platinum/condensation silicone rubber. The cured rubber has excellent mechanical properties and good shelf-life stability. AeroMarine Products Food Grade Silicone Rubber is designed for making chocolate, candy or other food molds. It has been tested to meet Title 21 (Food and Drug) Code of Federal Regulations Section 177.2600, Rubber articles intended for repeated use. Our Food Grade Silicone Rubber's mix ratio is 10:1 by weight.

**\*\*Our Food Grade Silicone is NOT suitable for making food storage containers!\*\***

### Key Features

- High tear strength
- Low viscosity
- Fast demold time
- Excellent dimensional stability

### Primary Applications

- Molds for food applications

### Typical Properties

Uncured properties	"A" component	"B" component
Appearance	Beige	Purple
Mix Ratio	10:1 by weight	
Catalyzed properties		
Cure time	24 hours	
Pot life	~45 minutes	
Typical cured properties (3 days @ 25C)		
Durometer	40A	
Tensile Strength, psi	750	
Elongation, %	350	
Tear psi	125	
Specific Gravity	1.25	
Mixed Viscosity, cps	25,000	

**Mixing Instructions** Mix 10 parts of A to 1 part B by weight. You can mix the 2 parts either manually or using automatic mixing equipment. Pour mixed silicone gently to avoid getting air into it.

### Food Applications

It is important to rinse the cured mold thoroughly before use.

**Cure Inhibitors** The following materials will inhibit the curing agent: sulfur compounds, organo-metallic salt-containing compounds, chloride solvents, amines, tin/condensation cured RTVs, and oil-based clays. Do not use latex gloves with this silicone. You can determine cure inhibition by brushing a small amount of the mixed silicone onto the surface and let it cure. If the silicone remains gummy/tacky after the cure time, then the surface is inhibiting the silicone's cure.

**Cure Characteristics** The curing process begins as soon as the catalyst is mixed with the base. Under normal temperature (77F/25C) and humidity (50% RH) conditions, the material will cure as described in the data above. Any large change in temperature (+/-5C) or humidity (>60-70%) may alter the cure profile of the material. You can accelerate the cure with mild heat; 150F at 1 hour per inch of thickness.



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## **AEROMARINE PRODUCTS Silicone RTV Rubber Mold Making 101**

Making a mold can be very simple or it can be an art. It all depends largely on the intricacy of your part. If you have never made a silicone mold before, it would be best to make a small mold for practice before making a mold of a complicated part. The good news is that silicone will not hurt your original.

You will need mixing containers, stirring sticks and probably a mold box into which to place your pattern while making your mold. Depending on the size of the pattern, 1/2" of silicone moldmaking rubber is the minimum thickness necessary for your mold. Making it too thick will reduce the flexibility of the mold- too thin will reduce the resistance to tearing.

### **There are 4 basic types of molds:**

1. BLOCK mold, one piece. The part usually has no negative draft or undercuts.
2. BLOCK mold, multiple piece. The mold must be taken apart to remove casing.
3. GLOVE mold, brushed onto the pattern. Usually peeled off the casting.
4. GLOVE mold, made by casting RTV into a thin layer between pattern and a backup layer.

**The BLOCK mold, one piece**, is often the easiest mold to make. The part must be mounted in a container so that the silicone can be poured around it. For a simple part, this could be just a plastic cup, a metal or wood box, or a Tupperware type container. You might need to fabricate a box to prevent wasting too much silicone RTV. A wooden box is ok, just remember to seal it if it is porous. You can also make a plastic box out of acrylic or Plexiglas.

**The BLOCK mold, multiple piece**, can be made in the same way as the one piece mold. Just cut the mold after it has cured to get the pattern out. Then use rubber bands to keep the two halves of the mold together. Instead of cutting the block mold apart, you can design it to be taken apart. One way is to partly fill the container with the silicone mold making rubber, let it cure, spread petroleum jelly as a release, then finish pouring the mold. When it has cured, you can take the mold apart.

**The GLOVE mold**, brushed onto the pattern, requires the use of our thixotropic catalyst. This is so that the silicone moldmaking rubber doesn't run off the surface of the pattern. It also builds up much thicker than the regular catalyst. This type mold is widely used in restoration of architectural designs on vintage buildings. The silicone rubber is brushed onto the surface, allowed to cure, and then removed. Back in the shop, it is then supported and used as a mold to cast additional parts.

This same technique can be used to make molds of rocks and sometimes even trees for landscaping purposes. It can also be used to make molds for small gift items as well.

**The CAST GLOVE mold** is made by making a void around the pattern in a consistent thickness. This is usually done by putting a layer of modeling clay around the pattern, then putting a hard shell around the clay. The shell can be made of fiberglass or plaster. After the shell has cured, the clay is removed. The void left by the clay is filled with silicone.

### **Mold Release**

Generally, silicone RTV mold making rubber does not stick to anything, and nothing will stick to it. The exception is that it will stick to itself and other silicones, and vice-versa. If you need to release silicone from itself, a thin film of petroleum jelly will provide a good release agent.

Be aware that silicone RTV mold making rubber may soak into a porous surface and lock in place. This is often the case when making a mold from a wood pattern. To prevent sticking, seal the wood so the silicone can't soak into it.



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