

# Shell Brush On Mold

## Products used in this How To:

- \* Petroleum Jelly
- \* UMR Mold Release
- \* Alumilite Shell Casting Resin
- \* Alumilite High Strength 2 Silicone Rubber
- \* Thixotropic Additive for silicone
- \* Excel Soft Handle Knife
- \* Stir Sticks
- \* Mixing Cups
- \* Paint Brush
- \* Cut up pieces from an old or marbles
- \* 2- 8" pieces of 2x4



In this How To we are going to demonstrate the process of making a brush on mold using Alumilite's High Strength 2 silicone rubber and a rigid mother mold using Alumilite's Shell Casting Resin for a quick and cost effective alternative to pouring block molds. We will then show you how to make beautiful hollowed out cast replicas. Here we are making a mold of a paper mache hand sculpted decorative pumpkin that can be hung either indoors or outdoors.



The original was made out of Ave's Paper Mache and is hollowed out on the back side. They are hung primarily indoors because of the sensitive nature of the paper mache.



Mount the pumpkin to a flat board.



Make sure to seal the bottom edges of the pumpkin to the board. This will make for a straighter edge and cleaner mold.



Using Alumilite's UMR release, spray the mold and wood to ensure a good release.



The initial coat of our silicone rubber will be straight High Strength 2 mold making rubber from Alumilite. This silicone is a flexible rubber with great tear strength.



We used approximately 1.5 lbs of base and .15 lbs of catalyst to paint on our initial skin coat. The High Strength 2 has a mix ratio of 10:1 by weight.



Mix the rubber thoroughly until absolutely no swirls are seen in the rubber or along the sidewalls of the bucket.



Once thoroughly mixed, begin to paint the silicone over the master.



Work the silicone into the detail of the master with the brush, making sure every bit of detail is coated with a thin layer of rubber. This initial coat ensures the detail is picked up in the rubber mold. The next steps are to add thixotropic additives to the following coat/s to build thickness behind the initial thin coat which will add durability and toughness to the paint on rubber mold.



Continue to paint on the initial thin coat of rubber until the entire piece and 1-2" of flange area is covered.



For your next step mix up approximately double your first coat and now add some Alumilite Thixotropic Additive to make the consistency of the rubber thicker. This will enable you to paint on a thicker layer of silicone to build up your wall thickness of your mold. Start by adding only a few drops of the Thixotropic Additive to the mixed silicone rubber. This will only make the mixed rubber thicker and does NOT affect the work or cure time of the rubber.



The recommended percentage is .5% Thixotropic Additive which is difficult to measure. Therefore start with a few drops, mix it, and evaluate the consistency.



If its not thick enough to build your wall thickness, add a few more drops and mix it in.



Continue this process until you achieve your desired consistency of the rubber that will allow you to paint on and build up your silicone rubber wall thickness.



You are now ready to start painting on your build up layer/s.



Make sure to cover all of the surface area with at least a 1/4" of rubber.



As soon as you are done painting on your build up layer, place some locators (here we used some small cut up sections of old High Strength 2 rubber molds) on the back side so the mother mold will properly line up with the silicone brush on mold. You can use glass marbles in place of the chunks of silicone if needed.



When the silicone cures, trim the excess flange area off with a knife. This will make a cleaner and straighter flange for the mother mold to mate to.



With some pieces, it may be difficult to remove the rigid mother mold from the original without first peeling the silicone rubber from the original to release the surface tension. Therefore, work the silicone up around the edges and peel it up off of the original on one side and then the other.



Then simply lay it back down into place over the original. Make sure all sides are released. This will make the removal of the rigid mother mold much easier.



Before painting on a coat of the Shell resin to make your mother mold, spray the UMR to allow for an easier release between the silicone brush on mold and the rigid mother mold. You can also use Stoner Mold Release if available.



It is a good idea to seal the wood base where the Shell resin will come in contact with Vaseline to ensure an easy release.



Mix equal amounts of the Alumilite Shell Casting Resin A and B side and immediately start to mix.



Within 30 seconds of the two parts coming in contact with one another, the material will start to thicken. As it thickens, it is not curing but rather building thickness to a brushable consistency.



You are now ready to start brushing a coat of Shell over the silicone mold. Be sure to cover the entire area evenly. We used two coats of approximately 3 lbs each to cover and complete the mother mold. Be sure to only mix enough material that you can work with in the 7 minute open time allowed.



Continue until the entire part and flange area is covered.



Before the material cures, set and paint in a couple of wood blocks that can be used as a stand or mounting area.



The mounting blocks will help you keep the mold flat when you flip it over and prepare to make your first reproduction.



Once the Shell resin has cured, using a putty knife, pop the mold and part off of the wood base.



Here you can see inside the back of the hollowed out original.



Begin working the edge around the mold and part to release the mold from the original.



Once you've worked the part loose, simply pull the original out of the rubber mold. This will be fairly easy since you've already peeled the silicone off of the original before painting the Skin Coat on.



You should be able to remove the original with very little damage. The silicone will not affect the paint or any part of the original as long as the original is not porous and does not allow the liquid silicone to soak into the surface of the original.



The brush on silicone rubber mold comes out of the mold very easily. It lays right back into place and the silicone square chunks we put on the back are perfect locating pins to make sure the rubber mold and Shell mother mold line up perfectly.



To clean the edge of the mother mold, use a hand saw, ban saw, trimming shears, or a sharp knife to trim the flange.



The silicone brush on mold and mother mold are now ready to start producing parts.