

Secondary Molds in Life Casting, Part II

by
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Photograph #1

Drawing the line to define the top edges of the side panels.

This is the second of a two-part article

Here is where I'm going to share another secret. I am going to tell you how to make quick and easy mother molds that are odorless, water soluble, non-toxic, inexpensive, yet very light and strong. In the beginning or once upon a time or at least 15 years ago, I was experimenting with different materials for making mother molds and I happened upon a great combination. I discovered that a particular kind of cloth dipped into Forton MG is all the above and can be used for almost any type of mother mold. The cloth is cotton batting and cotton batting with scrim binder. Only cotton batting with scrim binder will work for this purpose. The brand that I use, Heirloom, I can purchase from any number of cloth stores in my area and probably yours as well. But if you can not find it locally, ArtMolds carries it. Fiberglass cloth will work but is far more difficult to handle and it makes me itch. If you are not familiar with Forton MG, see "Mixing Forton MG simplified," July, 2003 S.J.

The steps in making this mother mold that I am about to describe may not make any sense to you until you have

seen the finished product. But if you will just read on, all should become clear. This mold will be made of three parts, left and right sides and a center section which will cradle the side panels holding them in place which will in turn hold the rubber so that it maintains its proper shape.

The first step is to take a marking pen and draw a line that will indicate how far in toward the center of the body that both the left and right sides of the rubber mold could be covered up with hard shells and the hard shells could still be removed. (See photograph #1.) Consider the undercuts. If there were no undercuts, you could cover the entire torso with a one-piece mother mold that would lift off the rubber. But because of the undercuts all around the torso, it should be obvious that the side panels must not be attached together.

Once you have determined the proper shape of the side panels, cut some strips of the cotton batting with scrim binder about four inches wide and in various lengths. The longest should cover the full length of the side panels as drawn. (Photograph #2) Take a flexible one gallon bucket

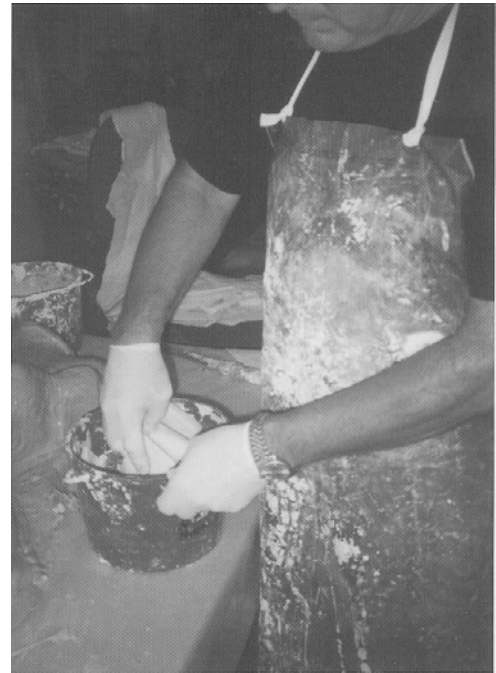
and pour in to it three pounds of the Forton MG liquid, VF-812. If you have blended the powders that complete the Forton MG, simply scoop out twice the volume of the liquid; i.e. for every scoop of liquid, two scoops of blended powders. Stir with a paint mixer attached to an electric drill. Pour out about an inch of liquid into another flexible bucket. Add a couple of tablespoons of accelerant to the second bucket. The accelerant is just 10 parts of aluminum-sulfate mixed into 100 parts water and left to dissolve. The accelerant will cause the smaller amount to begin setting up in a few minutes while the rest will stay liquid for about an hour. (This is not the same as the rubber accelerant.) Dip one of the longer pieces of cloth into the second bucket and with a gloved hand thoroughly soak it in the Forton MG. (Photographs #3 and #4.)



Photograph #2
Cutting the cotton batting.

Spread it along either side of the body so that its bottom edge just touches where the inch of rubber extends away from the body. The soaked cloth should stay in place. Smooth out any air bubbles. If the cloth is too long, don't bother to trim it, just fold it back over itself. Repeat for the other side. Add more Forton MG and accelerant to the second bucket as necessary. Once you have the two side strips in place, if you have any extra Forton MG in the second bucket, add some more from the first bucket and stir. Diluting it will prevent it from setting up and being wasted. About this time, the first two strips should have begun to harden. Adding more Forton MG and accelerant to the second bucket as needed, dip more pieces of cloth into the Forton MG and cover the rubber up to the lines. The newer pieces of Forton MG soaked cloth will bond firmly to the first one as long as they overlap at least an inch. Use smaller pieces of soaked cloth to fill in any gaps in the side panels. (Photograph #5)

Though the side panels are for the most part only one layer of cloth thick, they will be almost certainly strong enough. However, I will often take a strip of the cloth about 1-1/2 inches wide, soak it in the Forton MG, twist so that it becomes like a rope, and attach it to the bottom edge of the sides.



Photograph #3
Dipping the cotton batting into the Forton MG.



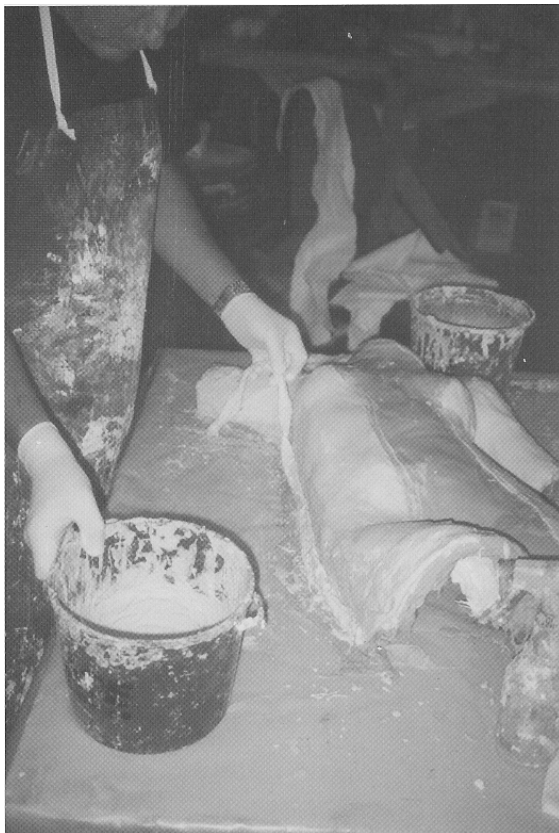
Photograph #4
Applying the first strips of the cotton batting and Forton MG for the side panels.



Photograph #5
Finishing the side panels.



Photograph #6
Soaking a thin strip of cotton batting.



Photograph #7
Attaching a thin strip along the base of the side panel to strengthen it.

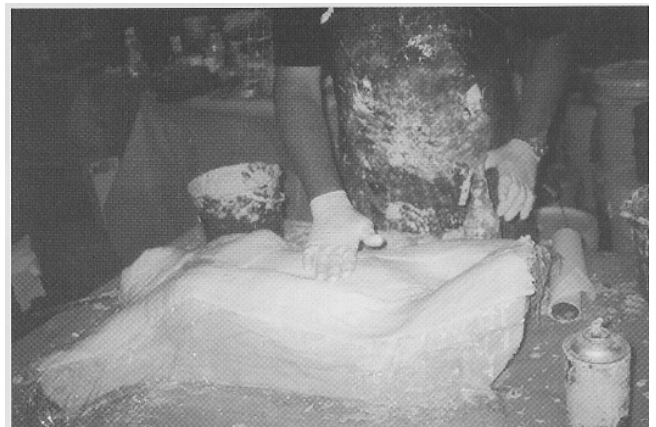
While rarely necessary, this does strengthen the side panels. (See photographs #6 and #7) Only two more steps to go.

What is now needed is a center section that will cradle the two sides and hold them in place when the mold is right side up and empty. The most important thing is that the center section not be attached to the sides. The easiest way I have been able to come up with is to cover the side panels with plastic food wrap. So that the plastic will stay in place, use a spray-on adhesive. (Photograph #8) Cover the side panels with plastic wrap and lay strips of Forton MG soaked batting over the center lengthwise. Be careful not to make the center section so wide that it wraps around into the undercuts locking it into place. (Photograph #9) Since it is from the bottom or leg end of the mold that the center section will be lifted off, I strengthen the end by adding a second layer of cloth about four inches wide. Expect to run out of Forton MG before you finish the center section. I usually have to mix another pound of VF-812 with twice that volume in powders.

A real advantage to a mother mold made of cotton batting and Forton MG is weight. The total weight of the three parts of this mother mold in less than 13 pounds. A plaster mold would have been many times heavier. In most places, this mold is only about 1/8" thick and yet is quite strong.



Photograph #8
Using the spray-on adhesive.



Photograph #10
Finishing the center panel.



Photograph #9
Covering the side panels with plastic wrap.

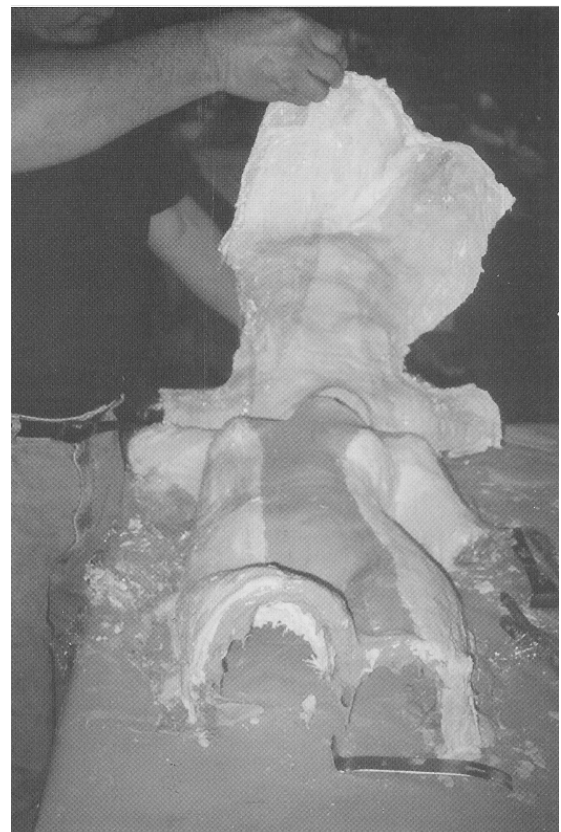
The very last step is a very simple way of locking the rubber into place making the mold easier to use. Remember the rubber extending out about an inch from the edge of the mold? Mix up about 200 grams of rubber using about twice as much thixotropic additive and rubber accelerant as normal causing it to thicken up in 15 to 20 minutes. Put a gob about the size of a walnut every 10 inches or so on the rubber that is extending out from the sides. Make sure that they are pressed tip against the side panels of the mold. When the mold is right side up and empty, these globs will anchor the rubber firmly in place. (Photograph #10)

While the Forton MG will have set-up enough for demolding in a few hours, I like to let strengthen overnight. Demolding is just a matter of gently lifting off the center section followed by the side panels. (See photographs #11 and 12) The first time is the most difficult, the panels are held on by suction if they have been properly constructed. If you crack a panel, you can patch it with cotton batting and Forton MG. One the greatest advantages of Forton MG is that it will bond to itself even after it has completely cured. Once the suction has been broken and in all subsequent demoldings, the panels will come off much more easily. After removing the panels and putting them back together right side up, peel the rubber away from the plaster. With scissors, cut off any extraneous rubber around the edges. On the inside, trim back to what was under the edges of the plaster. This will leave about 1/4 inch of rubber that will define the edge of the casting when the mold is used.

While this process may seem complicated and a lot of work; it really isn't. Once you have the plaster repaired, everything described above can be done in less than three



Photograph # 11
Putting on the rubber globs that will hold the edges of the rubber mold firmly in place to the mother mold.



Photograph # 12
Lifting off the center section

hours of work spread over about two days' time. If necessary, it could be done starting at 8:00 am and be finished at 4:30pm.

In photograph #14, I have started painting in the first of several coats of Forton MG. This face coat contains metal powder which will produce a very realistic bronze look. (See photograph #15) In a future article, I will describe in detail how to use this type of mold for casting different types of materials including Forton MG, resins, wax, and clays for some very professional looking effects.



Photograph # 13
The four parts of the finished mold.



Photograph # 14
Painting into the mold a layer of metallic Forton MG.



Photograph # 15
A casting from the mold in metallic Forton MG as it comes out of the SM. Once patined and buffed, it will look very much like bronze.

David Parvin is a Colorado sculptor whose primary subject is the human form in a variety of materials. He also teaches life casting workshops held throughout the year. He may be reached at 303-321-1074.