

How to Patina a Life Casting Made of Forton MG with Metal Powder

By David E. Parvin, A.L.I.

One of the great things about Forton MG or FMG is that very credible cold cast bronzes can be achieved by adding metal powders and then getting the right patina. (For a more information on FMG, see “Mixing Forton MG Simplified,” SJ, July 2003 by DEP.) While almost anything can be cast in FMG, it is especially useful for life castings. For this purpose, I prefer it to regular bronze because it is lighter, captures detail more precisely, is far less costly, can be used in one’s home or studio, and doesn’t shrink, expand, or distort. Resins, both polyester and polyurethane, have similar advantages, but FMG additionally is water soluble, odorless, and non toxic. Fortunately, the instructions for FMG include valuable information on applying patinas to FMG. but in this article, I am going to explain how easy it is to get a great patina on an FMG life casting. All that’s needed are:

1. Steel wool, preferably 0000 or extra fine.
2. A floppy buffing wheel attached to an electric drill.
3. “Tripoli” buffing compound, preferably the water soluble kind.
4. Glossy clear acrylic spray.
5. Several 2” cheap paint brushes.
6. One or more patina solutions.

In photograph #1, the alginate mold had just been removed from the model/subject, Ali. (It is just a coincidence that her name could stand for “Association of Life casters International.”) At that point, I could have made a positive casting in metallic FMG directly in the alginate mold; however, I was planning on sculpting the eyes open and modifications are less obvious if a second mold is made for the final casting. I initially made a plaster positive. Since opening the eyes requires adding as well as taking material away and since I use wax for this purpose which will not stick



Photo 1: The alginate mold being removed from Ali



Photo 2: Ali in plaster.



Photo 3: Ali in unpatinaed metallic Forton MG

to wet plaster, I allowed plaster Ali in photograph #2 to dry for a few days. After opening the eyes and correction a few small defects, I made a mold of plaster Ali in silicone rubber and cast her again, this time in FMG with copper powder, 500 RL, in the first two coats. Ali, held by assistant Audra in photograph #3 looked like pale chocolate (See “Secondary Molds in Life Casting, Part II, SJ,

Nov. and Dec. 2004, by DEP.) She was then ready for patina.

A logical question to ask here is why use copper powder rather than bronze powder. There are a couple of reasons. The first is that I have found that copper powder in Forton MG produces a more convincing bronze look than bronze powder does which, in my opinion, is too dark. The second problem is that a copper casting accepts a patina, as described below, much more intensely. A third consideration is that bronze powder is about twice as expensive as copper powder.

There are two patina solutions that I generally use, green called “Verdigris” and “Super Antique 40” for black. Both may be purchased from several of the advertisers of sculpting supplies in the magazine. The best known patinaest in Colorado where I live, Pat Kipper, gave me a recipe for Verdigris many years ago which I will share in case anyone wants to become one step closer to self sufficient. Just add one ounce (28 grams) of cupric chloride and six ounces (168 grams) of ammonium chloride to one half gallon (1.8 liters) of water. Increasing the amount of cupric chloride will make the patina more blue.

The sooner after taking a FMG casting from a mold that one applies the Verdigris patina solution, the more intense the color will be. Usually, I like the hair and the cloth to have more color than the flesh and apply the solution to these areas the day the piece is cast. In photograph #4, another of my assistants, Kelsey, is applying the Verdigris. If one waits a day or two before this step, it’s a good idea to buff the surface with steel wool to expose the metal in the FMG so that it will react better with the Verdigris. Leaving particles of the steel wool on the casting will cause them to react to the solution

making an antique rusty effect that can be quite nice. Another way to get the same effect is to rub steel wool on the casting while it is still wet with Verdigris. It may take a while for the Verdigris to react with the copper, just be patient. Remember, the patina solutions are not paint, any color changes are the result of chemical reactions with the copper. If a patina solution doesn't want to wet the surface, i.e. tend to bead-up, there is probably some oil on the surface of the FMG, Adding a small amount of strong cleaner such as "Greased Lightning," to the solution will solve the problem. In photograph #5, Ali has "cured" for about 30 minutes and the solution has dried leaving the hair and cloth green. I had taken a "Q tip" and dabbed a little Super Antique 40 into the irises making them black. Super Antique 40 reacts intensely and almost instantly with copper FMG. It can also be used to darken hair, provide shading, or to just turn an entire casting black.

As for the skin, I generally prefer a more metallic color. If I need the life casting finished in just a few days I apply the Verdigris and as soon as it starts to turn green, rinse it off. Then I reapply the patina solution to the hair and cloth and let dry. A great way to dry something quickly is to put it into a car on a sunny day and let the green house effect go to work. If I am not in a hurry and can wait a couple of weeks, copper FMG will take a really nice bronze patina all by itself because of the moisture, pollution, etc. in the air. If I have time, that is my preferred method.

In photograph #6, I am using a 6" buffing wheel attached to an electric drill. It is best to have a drill with variable speeds up to about 2500 R.P.M. and around 6 amps of power. It's a good idea to lightly go over the surface with steel wool to remove excess dried Verdigris prior to using the buffing wheel. I always use the steel wool outside so as not to breath the dust which contains chloride. With the drill, use water soluble Tripoli buffing compound which is also readily available. Be careful not to over polish especially if the FMG is no more than a few days old or you may polish off some



Photo 4: Applying the Verdigris patina solution



Photo 5: Ali's hair and cloth turned green



Photo 6: Buffing the entire surface



Photo 7: Ali and her finished casting

of the surface detail. Another caveat is to be careful not to catch the wheel on an edge of the casting or you may toss it half way across the room which may or may not damage it depending on weather it lands on the hard floor or a soft assistant.

The last step is to fix the color permanently by spraying on clear acrylic. If you don't do this, the copper will continue to react to whatever is in the air and the color will change over time. Be aware that the acrylic spray will mute or soften the green color made by the Verdigris. Often, I spray the skin and the hair but not the cloth allowing its color to change almost as if the patina there were "alive."

I would like to claim that I was the first to use Forton MG for life castings and I may have been, I did not get the idea to use it from anybody else and have been using it for somewhere around 20 years. However, any number of others may have made the same discovery. But the important thing to me is that a great deal of my work wouldn't have been possible without it. Certainly my life castings would have been less. Metallic FMG patinaed as described here definitely looks more professional than, say, plaster with a painted finish. Give it a try, I think you'll be surprised at how quickly you'll feel like an expert.

David Parvin is a Denver sculptor. He may be reached at 303-321-1074 if you would like to discuss art, fly fishing, flying, or grandchildren.

Sculpture Journal October 2006