

Casting Perfect Ears

By David E. Parvin A.L.I.

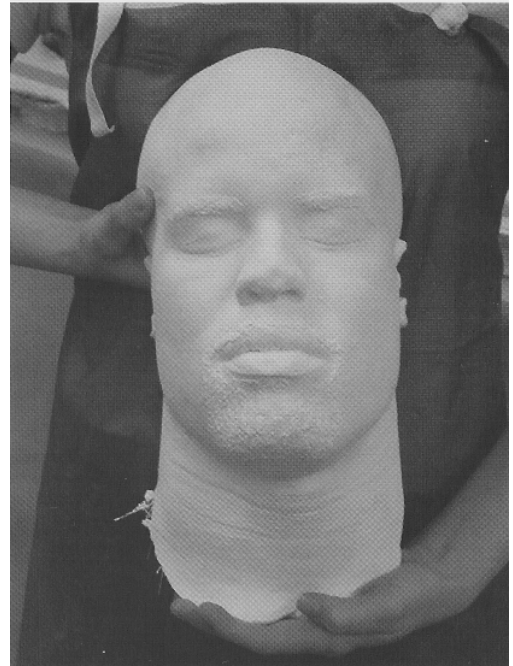
During the introduction part of my life casting work shops, I play a segment of a nationally distributed television program that shows the casting of hands, a pregnant belly, and the obligatory woman's chest complete with surgically enhanced assets. While it doesn't demonstrate the casting process for faces, it does show a collection of faces meant to illustrate the skill of the caster. But I can promise that even the least experienced person in my workshop will by the end of the week have more life casting knowledge and, with minimal practice, be better than that guy (and he was on national television!). How can I be so sure? There were four things that clearly indicated that his skills were rudimentary. Firstly, all the castings were either plaster (or something similar such as Hydro-Stone or Hydrocal) which had been left plain or with painted-on patina. None had been cast in a stronger, lighter, and much more professional medium such as bronze or Forton MG with metal powders and a chemically applied patina. Secondly, he had not opened any of the eyes. Thirdly, they all looked bald because he had covered the hair rather than cast it in all its glory; only bald people should be cast without hair. Lastly, none had a complete set of ears. While opened eyes are a matter of choice, nobody looks like him/herself without ears. (See photographs #1 and #2.)

In this article, I will explain how to cast perfect ears. Stay tuned, casting hair, opening eyes, and using the more professional materials and finishes will be the subjects of future articles.

Ears present one of the first speed bumps on the road to quality life castings. There are two problems: making perfect alginate molds of the ears and then getting the casting material to completely fill the void, stay in place, and be strong enough to survive demolding without breaking.

The biggest hindrance to molding ears is alginate that is too runny. Go back to Goldilocks, too runny and it all runs off, too thick means excessive surface flaws, the consistency must be just right. My preferred alginate is Fibergel E/FX made by ArtMolds. (For a complete evaluation of Fibergel FX, see "Testing a New Alginate..." in the May 2003 issue of Sculpture Journal.) I mix it at a ratio of 5 ounces (142 grams) of alginate to a pound (454 grams) of water. While some may think that this ratio is too thick and cause surface bubbles, I can assure you that it isn't and it won't.

One of several advantages of Fibergel is that I have found it to be more thixotropic, meaning that it stays in place better than other alginates of the same consistency. However, a very important point to remember is that you can not spread too thick layers of alginate on the model expecting the excess to run or drip off leaving just exactly the right thickness behind, the alginate tends to "avalanche" meaning when there is too much to resist the force of gravity, almost all of it slides off. Putting on only as much as will stay put requires some experience and a familiarity with the particular alginate one is using.



#1 Here is a simple plaster casting that only goes as far back as the front of the ears



#2 This is the same face as in photo #1 except that it includes well behind the ears (Plus the shoulders) and is cast in Forton MG with metal powder. Even without knowing who the person is, it is obvious that this casting must look much more like the subject and is a more desirable portrait. By the way, this person looks bald because he is.



#3 This ear belongs to ten year old Mitchell illustrating a totally free standing structure. Compare this to Photo #4.



#4 Notice how Mitchell's older sister's, Melissa's ear is filled in the back by hair.

Let me digress here for just a minute and discuss mixing alginate. Many life casters mix alginate literally by feel, adding alginate to water and stirring by hand until it feels right. The problem with this method is that it takes too long to get to the perfect consistency leaving less time to apply the alginate and insure a flawless impression before it gels. I strongly encourage measuring the alginate and water and mechanically mixing with a paint or "Jiffy" mixer attached to an electric drill. Even the drill is important, it should have enough power and speed. For best results, it should draw at least 4 to 5 amps and turn at a minimum of 2000 rpm's.

The exposed parts of the "cups" of the ears are not so much of a problem; alginate of the proper consistency will stay in place pretty well though it is important to carefully



#5 How much polyfill is needed? The volume will be reduced when soaked in alginate.

push the alginate into the ears and check it several times as the alginate gets the back and the underneath of the ears that are most problematic. This is especially true if the subject has very short or no hair. Look at photograph #3 where the ear sticks out from the head completely exposed. Alginate may tend to run or drip off from behind and below the ears even if properly mixed. The answer is to help the alginate stay in place. After the alginate has been applied over the entire surface to be cast. I take a small amount of polyfill or

Long hair tends to fill in the
space behind the ears so that
the alginate does not have to.
While this may not seem very
significant, it really is.

synthetic pillow stuffing and dip it in what is left of the alginate. I use about enough to cover the palm of my hand so that soaked it is about 3 inches long and 3/4 of an inch wide. (See phonographs #5, #6 and #7.) I then place this alginate "sausage" behind and below the ear. Care must be taken to keep from pushing the ear outward making a classic Dumbo look. So that I can concentrate on the alginate application as a whole, I usually have someone else gently hold the alginate/polyfill in place with his/her fingertips until the alginate has set-up. While this only takes a couple of minutes, I instruct the alginate holder to stare at what he/she is doing. If one looks away, there is a good chance that he/she will allow the piece to slide out of place.

These soft cushion "sausages" behind the ears provide another advantage, they make it easier to remove the mold. Since the head curves inward right behind and below the ears, a tightly fitting, rigid outer or "mother" mold over the alginate can make the entire mold more difficult and uncomfortable to remove without this padding.

Long hair tends to fill in the space behind the ears so that the alginate does not have to. While this may not seem very significant, it really is. With long hair, it is as if the ears were flat structures on the side of the head and only need to be covered over rather than wrapped around in alginate.



#6 Putting the polyfill/alginate "sausage" in place.



#7 Securing the "sausage" until the alginate sets up.

However, the area behind the earlobes and just below can still be a problem. I usually use a smaller amount of polyfill for this area as shown in photograph #8.

Let's assume that you have removed the mold and it appears that you have complete impressions of the ears. If your subject had long hair, you will have cast the ears and the hair and as you look into the mold you will be able to see pretty much all of the ears in negative. However, if the model had short or no hair, all you will see is about half of the ears. (Look at photograph #9.) I don't think that I had fully



#8 with longer hair such as most females have, less polyfill will be needed. This ear and hair belongs to Ariana. (of course, the polyfill is not applied until the head has been covered with and the polyfill soaked in alginate.)



#9 Notice how with a boy's ear, only about half of the impression of the ear is visible in the mold. Anyone with longer hair, more of the ear would be exposed.

appreciated just how thin, about 1/8 inch, ears are until I saw this for the first time. At this point, no matter how or with what you fill the mold, you may have two problems. The first is simply getting the material into such a narrow space completely and without bubbles and then remaining in place until it sets up. Just forcing in the material with your fingertips doesn't work very well because some of it will likely run back

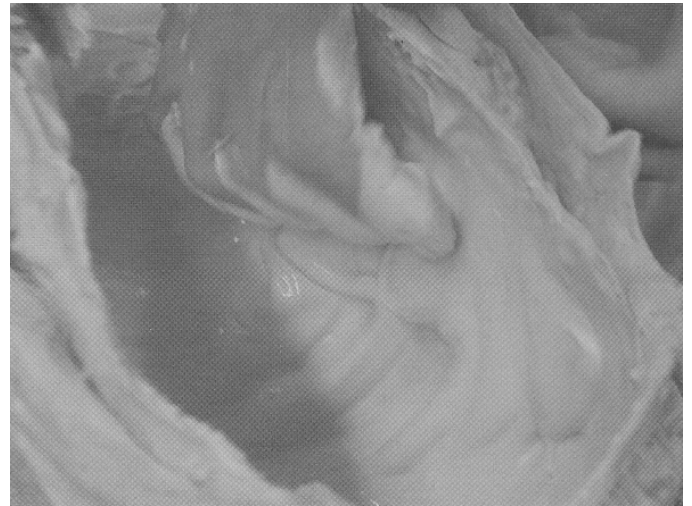


#10 Cutting some of the alginate away to open access to the ear cavity.

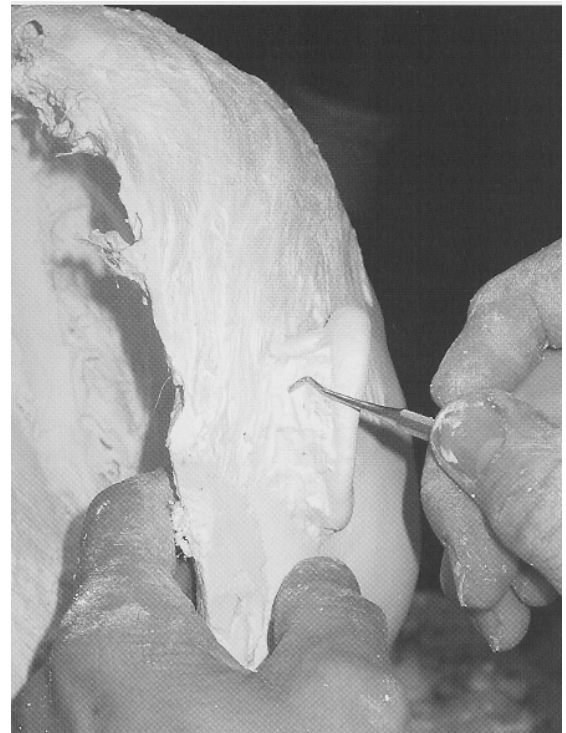
out. Even if you wait until the material has started to thicken up, it may be difficult to force it into such a thin area with fingertips that are wider than the space. And because the ears are so thin, even if you get them perfectly cast, definite care must be taken when removing the alginate. Even then the ears will always be the most fragile part of the cast, definite care must be taken when removing the alginate/. Even then the ears will always be the most fragile part of the mask and the most likely part to be damaged as the mask is admired and handled over the next, say, thousand years. There is a very simple solution.

All that is needed to provide more access for the material and strengthen the ears is to remove some of the mold material that filled in between the ears and the head. The space I am talking about is some of the same space that was filled with the polyfill/alginate sausages. You must use a very sharp blade such as a new utility knife or scalpel. The polyfill will resist cutting with a dull blade. Simply cut out most of this material without going beyond the ears. (Photograph #10) Remember, if hair has filled in part of this space, you may have to remove a little more alginate. Once opened up, there is enough room to push in the casting material with our fingertips. (Photograph #11) I have found that repeating this process as the material starts to set up usually results in the complete ear castings.

There is another way to get the casting material into the ear cavity that is only slightly more complicated but is very effective. You might be tempted to tip the mold on its side and fill the ear cavity, let it set up, tip it on its other side, fill up the second ear, and then apply your casting material of choice to the rest of the mold. Not a bad idea, one that may even work depending on the material. But there are two problems. The first is that some materials will not adhere to themselves well or at all if applied to some that has already set up. The second



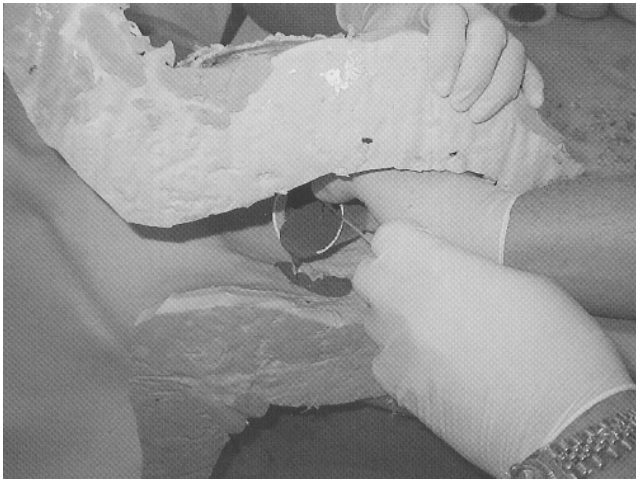
#11 Forcing plaster into the ear cavity of the alginate mold.



#12 Clearing some of the excess material from behind the ear

is that you are likely to get a noticeable seam where the older and newer materials meet. Just slightly change the procedure. Tip the model on its side and fill the first ear. Do not let it completely set up but just enough to stay in place. With some new material, paint over the exposed surface and the area around the first material. This will make the bond without a seam. Next tip the mold on the other side, fill the second ear and then apply the casting material to the rest of the mold. Add additional layers necessary for strength. (See photographs #13, #14 and #15.)

Caution, if you are using any standard gypsum product, additional layers should be applied before the previous layer completely sets up. As stated above, if one waits too long, the layers may not bond. In addition, since all gypsum products expand when they set up, the new layer may cause cracks in the first. But if the first layer is still somewhat "green," it will



#13 Pouring Forton MG with metal powder into the first ear. Here the Forton MG is liquid enough that I can just pour it from a cup. (The very astute reader may recognize that this mold is not alginate. It is, in fact, a silicone rubber mold that was made from the original plaster positive.)



#15 I have tipped the mold so that the second ear is now on the bottom. Here the Forton MG had become just a little too thick to pour so I am forcing it in with a paint brush. As soon as the ear cavity is filled, I will paint the entire mold's surface with Forton MG. Additional layers of Forton MG without metal powders but with fiberglass fibers will be added for strength.

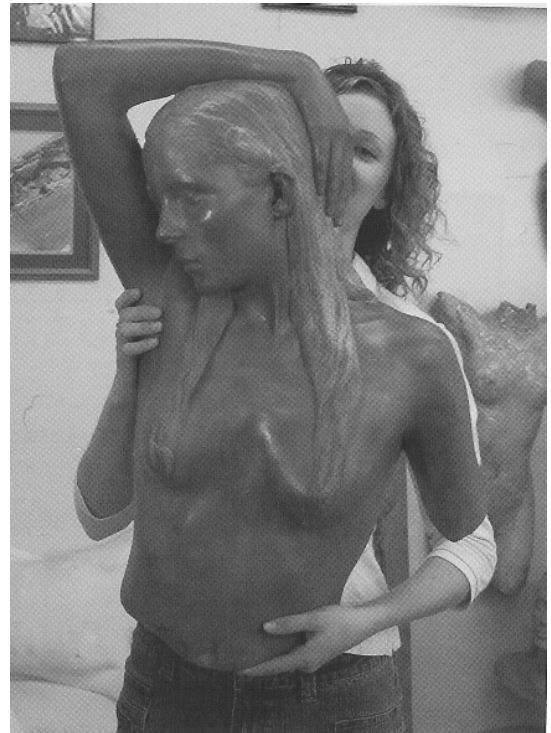


#14 Here the Forton MG has set up enough to remain in place (but not completely set up) and I am painting the area around this first ear with new Forton MG.

accommodate the expansion of subsequent layers. Don't break for lunch or go home for the night before applying all the layers. By the way, using Forton MG solves these problems, it neither expands or contracts and will bond to itself regardless of its age or state of curing.

Lets go back to where we have just demolded a set of perfectly cast ears. The obvious question at this point is that while the ears may look fine from the front and sides, won't they look odd from the back? The answer is "absolutely," but who cares? After all, if the mask is hung on a wall, the back of the ears are not visible anyway. Perfectly shaped ears that are strong enough to resist damage more than compensate for what you can't see. But if the casting is going to be displayed in such a way that the backs of the ears are visible, the extra material can be removed. (Photograph # 12) in this case, you will simply have to accept that the ears will be more fragile. It is far easier to do this than to repair ears that were only partially cast.

Remember, the world will always appreciate someone who can give a good ear...



An example of a completed mask.

Photographs by Elliott Summons. Special thanks to the models who thought that they were coming by the studio just to get their faces cast and were delightfully surprised to model for this story. Who knows what great career may have been launched here. David Parvin is a Colorado sculptor whose primary subject is the human form in a variety of material. He also teaches life casting workshops held throughout the year. He may be reached at 303-321-1074.