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Intro How To Cast a Face in Plaster

Making castings of things is a lot of fun, and casting a face is fun PLUS all the weirdness of having something looking like you lying around, hard, cold, and unmoving. Creepy! On a recent Build Day we cast Bilal's and Josh's faces, and this Instructable explains how.



There are 3 general body molding techniques: pat-on, dip-into, and pour-around. They're pretty self-explanatory. For a face you need to use the pat-on method, which is more annoying but allows you to make the all-important nostril holes.

Step 1- Prepare your work area

You're going to make a mess. Know this and prepare in advance. Lay down a drop cloth if you have one, or ensure that all nearby porous surfaces are covered with plastic or newspaper. Gather all your materials together as it will be difficult to get, say, another bucket when your hands are covered in alginate.

You will need:

- alginate, the stuff dentists use to cast your teeth. There are a couple different brands, we used Dermagel brand from [Douglas & Sturgess](#).
- three measuring cups of at least one quart capacity: one for the alginate, one for the plaster powder, and one for the water (don't get any of these materials mixed together at all until you are ready to use them)
- a bucket to mix the alginate in
- some plaster-impregnated cheesecloth, again from [Douglas & Sturgess](#)
- a couple of bowls for water, one for each helper
- two measuring cup
- a big bucket to mix the plaster in
- something to mix the powdered plaster with; a power drill mixer attachment is ideal but a metal whisk will do
- paper towels
- something to rest the mold in while you pour; a cardboard box with a towel or some packing material in it works well

- a brave volunteer! wearing an old t-shirt that can get tossed out afterwards (the castee will get very gloopy but the casters won't usually ruin their clothing)



Before getting started, cut some of the plaster-impregnated cheesecloth into strips, about an inch or two wide and three or four inches long. You need about 2-3 times as many as are in the picture. Also cut some much smaller pieces, an inch or two by a quarter inch, to use in the nostril area.

Step 2 - Prepare your castee

Make sure your castee is OK to discard the shirt they are wearing, as it will get alginate all over it and that is very difficult or impossible to get out.



Have your castee sit comfortably in a chair that is metal or plastic, or covered with a drop cloth. They'll need to keep relatively still for around half an hour to 45 minutes. In my internet research I always saw people rubbing Vaseline on eyebrows and around the edges of the hair, but I find that this does not help very much in preventing the alginate from sticking to the hair, and it darkens the plaster cast in spots if you don't get it all off the alginate before pouring. I call this optional.

Step 3 - Mix the alginate



Measure your alginate and water. You'll need about 350 ml each of alginate powder and water. The proportions should be close to 1-1 but err on the side of a little more alginate if you have to. Once you have measured your alginate powder, put your hands in it and fluff it up, breaking up any lumps you can find. This helps it mix better.

Pour the water into the mixing bowl or bucket first, then the alginate powder. Mixing is best done with the hands, a power mixer or whisk doesn't get the lumps very well. Squeeze lumps between your fingers to get them out. Mix as quickly as you can; when the water and alginate touch, the clock has started. You have approximately ten minutes to get the alginate on your castee's face.

We found that a good setup was to have the castee hold the bowl of alginate mix, and one helper would stand on each side.

Mix it like this:



water first



add the alginate powder to the water

Step 4 - Gloop the face



Slop some gloop on the castee's face. It will try to fall off. Push it back up. Obviously, be very careful around the nose area, both to avoid covering the nostrils and to make sure the bottom of the nose is covered as well as possible in the alginate.



Rub the alginate well into the eye cavities and eyebrows. Try not to leave any air bubbles between the face and the alginate. This is difficult as there is no way to tell by feel if there are air bubbles; your best bet is just to push the alginate around a lot. The eyes and eyebrows are the worst culprits for air bubbles. Little bubbles can be filled in after the mold is complete, but the skin texture will be lost so you want to do as little fixing as possible.



Push the gloop as close to the hairline as you can, especially at the center front. Also carry it well down onto the neck. It will try to fall into the castee's ears, as well; this isn't dangerous as it won't go into the ear canal without being pushed, but it makes a lot of people twitchy so prevent this if you can.



A good breakdown of responsibility between the two gloopers was to have one focus on the nose and eyes, and the other just slop the gloop everywhere else and keep picking it back up as it fell down.



Finally, remember that you have limited time, and that it is better despite everything to get the whole face covered even if it's a little uneven, than to get a perfect nose and eyes and have it set up before you can do the rest. You'll have a tiny amount of warning when it's going to set up, the consistency starts to get more cottage-cheesy, at which point you have between 30 and 60 seconds left.

nose here, not covered up, it's just the angle of the pic



careful around the nostril area



nose and septum covered well; nostrils clear.

cottage-cheesy texture. this is set up or very nearly set.

Obtained from
Omarshaintedtrail.com

Step 5 - Plaster the alginate



If you didn't cut up any plaster strips before you started, you can do it now - your castee will just have to spend a little more time underneath.



Each helper should have a shallow bowl with a bit of water in it. Take a plaster strip, dunk it in the water, squeeze out any excess, and lay it on the alginate. Cover all the alginate with strips of plaster, until you can't see any alginate blue through it. Three layers is a good amount.



Use smaller strips to cover the nose area. You want to support the alginate as much as possible while still leaving nostril holes for the castee to breathe. Try to push the plaster strips into the crannies of the alginate as much as possible, especially around the nose. You'll have to fill in the nostril holes later and having the plaster close to the alginate is very helpful.



The plaster takes about 15 minutes to set, during which it gets slightly warm and, of course, dries out. You'll be able to tell it's done by feeling its dampness and trying gently to flex it around the edges.

squeeze out excess water



needs a little more plaster here, but otherwise done



decoration is optional while you wait for the plaster to set. Sharpie works well.

Step 6 - Remove the mold



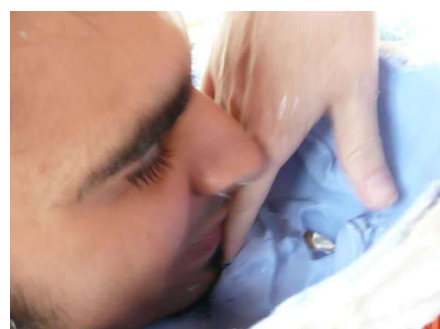
Carefully ease your fingers around the edges of the alginate. There will be some hair stuck in it (this is inevitable). You can tear or cut the alginate if it's too far past the hairline, or if it's only a little, pull it gently out. Once the edges are free have the castee blow out through their mouth and the mold should come right off. If the castee has facial hair you will have to do a bit more work in this area.

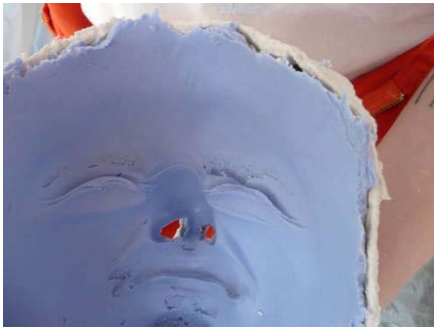


Place the mold somewhere it will be supported underneath, so you can pour into it. A medium sized box with some packing material works well; a scrunched up towel does too. Don't turn the mold over or try to remove it from the plaster, it may be hard to get it back in. You can look at it more thoroughly after you've done the casting.

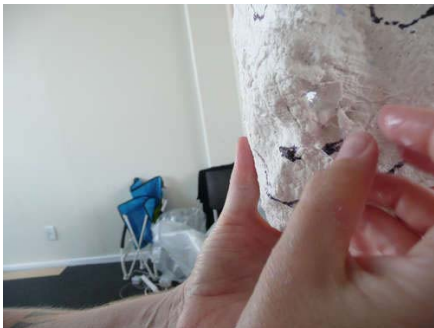


The alginate face mold looks just like one of those convex/concave optical illusions. At the right angle, with the right light, it's hard to see it as a negative image, even in real life. In a photo it's nearly impossible.





Step 7 - Patch the holes



Working from the outside, use a couple more small plaster strips to fill in the nostril holes. Do this from underneath so the mold doesn't have to turn upside down.

Once that's set, mix up a little more alginate (a teaspoon or less, really you need very little) and patch the inside. Cover the plaster that will now be showing through the nostrils - if your alginate is not too loose, you can build this area up a little to be more nostril-y and undercut.

You can also patch any areas where you had bubbles underneath, or where the alginate tore, or was a little too thin. The new set of alginate won't stick all that well to the set alginate, so it's not suitable for very large patches. But small patches work just fine and are much less noticeable on the finished casting than blobs of plaster sticking out into an air bubble.



Step 8 - Mix the casting plaster



Read the directions on your plaster to find the correct proportions of water. There's a fair amount of leeway here; more water makes a thinner slurry that takes a bit longer to set, but pours more cleanly and has fewer bubbles.

Estimate the amount of plaster you'll need by eye. The plaster sets much slower than the alginate, so if you don't have enough, there will be time to mix up a bit more. (You can even pour more plaster over cured plaster, although the color won't match exactly and you'll see a line.)



Again it is powder and water, but this time mix the water into the powder. Use a large bucket where you're unlikely to spill. If you have a power drill mixing attachment that works great, otherwise mix vigorously with a paint stirrer or other hefty stick. Scrape the sides, bottom, and corners frequently.



Here's what the mixing looks like:

(I unfortunately did not track the proportions we mixed, but I believe it was about 300 ml of plaster with about 150 ml of water.)

Step 9 - Pour the cast

Set up your mold somewhere stable - the floor is good, especially if your bucket o' plaster is large. Slow & steady is the key here. The plaster takes half an hour or so to set so there is no rush, and the slower you go the less chance you have of leaving air bubbles on the face.

When you've got it filled up, shake it gently to break loose any air bubbles you might have at the bottom. It doesn't matter if there are some bubbles in the middle, but any at the lower surface - the face itself - will be Unsightly. Tap tap tap!

Step 10 - Demold

Now, you wait. The plaster should cure in thirty minutes or so, depending on how thin you mixed it. It will heat up noticeably while curing. There is actually a chemical reaction going on that solidifies it, it's not just drying out. Once you can see it's no longer liquid, touch the back periodically to feel the temperature. When it's gotten warm and then cooled down to room temperature again, it's safe to take it out of the mold.



Pretty freaky, huh?

Step 11 - Cleanup

Extra mixed alginate or plaster is not really usable so be careful to mix as close to the exact amount as you can. Cleanup is pretty simple if you managed not to get any alginate or plaster into anything porous. Both substances will break or peel off the plastic buckets, most metal, etc.

Plaster is a bit harder to deal with in, for example, the mixing bucket - it's best to rinse it out before it sets. But don't pour it down a drain for it to set there... pour it into a plastic bag and let it cure, then discard the excess water and toss the bag in the trash. You will also want to rinse the mixing stick if it's not a throwaway.

For small splashes - and for any alginate cleanup - it's much easier to wait until it sets, than to try to clean up the wet mess. Alginate peels easily off skin once it has set, and plaster is only slightly more difficult.

alginate comes off very easily

Obtained from
Omarshauntedtrail.com