



Makeup-FX

Introduction:

Lars Carlsson runs “Makeup-FX.com” special makeup effects workshop in Gothenburg, Sweden. Lars has over 20 years’ experience in the art of makeup for theater.

In Sweden you’ll often find makeup artists who work combining makeup with wig making. Lars has a special love for three dimensional makeups. He frequently includes facial and body appliances for the stage. Lars creates all the life casts, sculpts, mold making, wigs and applies the makeup to complete the character he designed

CASTING AND MOLD MAKING FOR THEATRE:

Silicone master mold and Urethane Mold making
Silicon master mold:



Step 1: To make my urethane molds start by making a normal life cast in plaster using alginate or silicone.



Step 2: Try to identify all possible undercuts that can be a problem in the mold making. Typical examples of these are shown in the picture.

There are several other undercuts that should not be removed. Like undercuts at the nostril or side of the nose. If these are removed your finished piece will not fit your actor as well as it should.



All the chosen undercuts are removed by filling them with plasteline clay. Try to mimic the original texture of the face on these parts.

All other defects on the plaster cast are also fixed up.



Step 3 : On the finished corrected life cast create a master mold of the face.

Having a negative mold of your actor means you can create many positive molds to work on at the same time. Also you can make smaller molds. For example make a nose mold.

TO MAKE A MOLD:

Brush on a few layers of thickened silicone.

You may use more or less silicone for this. To stay safe stick with the same sort of silicone that you will cast your final pieces in. For this cast I used Platgel 10 from Polytek thickened with Poly Fiber II also from Polytek.



Polyfiber II from Polytek

There are many ways to thicken your silicone depending on which brand you are using but I have found the Poly fiber to be wonderful as filler. Poly fiber blends into most silicones with ease and will not cause too many bubbles.

We will also use it later to thicken our urethane plastic.



Step 4: The first layer of silicone is very runny. To avoid any air being trapped in the details for the second and third layer add about 10% (by weight) Poly fiber II to the silicone. As you can see I have drawn a red line on the board around the head. This serves as a guide on how far out my mold should extend. Later we will be drilling holes through this part to keep the mold together. It is very important to get it wide enough for this.



The finished silicone skin is about 1 cm thick and weighs about 300 grams. The silicone should be fully cured before you go on to the next step.



Step 5: Since the silicone is very soft and won't hold its shape it needs to be supported on the outside with about three layers of plaster bandage. Let the plaster set for at least 30 minutes before taking it apart.



Here is the master mold ready to be cleaned up and then filled with urethane.



The urethane used in this demo comes from Ebalta and is called SG130 and PUR11.

This system is a very simple 1 to 1 mixture ratio (weight or volume) and a three minutes pot life which makes it possible to make your molds with an incredible speed.

TIP:

These materials are incredibly strong and still a bit flexible which makes them more or less impossible to break.

The urethane system does not give up any bad smells so it is easy to think they are harmless but repeated contact may cause allergies.

Always work under forced ventilation or use a mask with the appropriate filters. Have your whole work area strongly ventilated so you will not be exposed to any dangerous materials.

Skin contact with the uncured materials can also cause allergies so gloves should be worn at all times.



Strengthen the urethane so you will be able to bolt the molds together strongly. I laminate it with two kinds of fiber glass.

- A) Fiber glass flocking. Every little strand of glass is about 1 cm long.
- B) Fluffy Fiber glass tissue that absorbs urethane easily.



The normal boat making fiberglass mats that you use with polyester will not work with urethanes. They simply don't get enough time to soak into the mat before the material is set.

You should cut this in 3-4 cm wide and 10-15 cm long strips for easy application later.



The positive face mold will be made in 4 layers of urethane.

Since our master mold is made from silicone there is no need for any release agent so you can get started right away.

Step 1 : For the first layer pour up 75 grams of the A component of the

urethane in a paper or plastic disposable cup and thicken it with 10% (7,5 grams) of Poly fiber II and stir that until it is fully mixed in. Then add 75 grams of component B and stir quickly until mixed fully.

Using a disposable brush cover the whole surface with an even layer of urethane. This stuff starts to set very quickly so it takes a little while to get used to working with it.



Step 2: The second layer will include our first fiberglass. For this we will use the fiber glass flocking.

After the first layer is dry allow to set for about 30 minutes. Mix up a new batch following the same recipe as previous layer.

Apply in the same way as before but as soon as you have brushed it out you start adding fiberglass flock to the surface using your gloved hands to create an even layer of it.



Wearing vinyl gloves pat the flocking down so it is laying neatly on the surface. Any flock that is sticking up will be hurting you later.

Be careful not to trap any air under the flocking. All air pockets will be weaknesses in the final mold.



Step 3: The third layer is once again mixed as the first recipe and poured into the mold.



But this time instead of flock we take the strips of fiberglass mat/tissue and push into the wet urethane.



The layers should overlap a little bit and cover the whole surface.



Step 4: To soak the matting with urethane prepare a mix of 100 grams A and 100 grams B (no polyfiber in this mix) and simply pour it over the matting while moving it around with your gloved hands. Vinyl gloves works best for this since nitrile gloves tends to stick to the material too much.



The plastic will soak through in seconds. Keep moving the material around until it starts to get sticky. You will at this point feel that you are destroying your mold but ripping the matting out. This feeling is your sign to take a step back and let the setting continue for a minute without touching it.

Now comes the most crucial moment of the whole procedure. You need to work very quickly. Using your gloved hands push the material together and get everything that sticks out to lie down. Sound tricky but after a couple of times this step will feel like second nature to you.

Keep rubbing the surface until it becomes nice and shiny.



Step 5: If you didn't get nice smooth surfaces you can always mix up a nice thick batch adding up to 20% of Polyfiber.



Using the thick mixture as you would patch up a wall you can get beautiful results and a mold that is nice to handle later.



Step 6: After letting the urethane set for about an hour you can de-mold it. Remove the plaster bandage support mold and then simply peel off the silicone master mold gently. Remember that this can be used many times so it should be cared for, cleaned and be placed back in its support mold.



As you can see the positive mold came out beautiful but needs a lot of trimming around the edges.



Step 7: Urethane resins may under high temperatures release toxic fumes so when working with power tools such as saws, drills or sanding equipment I always wear a gas mask to make sure that I do not get exposed to anything bad.



A Finished positive.

SCULPTING A NEW FACE:



Sculpt on the mold by brushing a thin layer of melted plasteline clay on the positive. This will form a well adhered clay layer that you can work on top of.

TIP:

One of the best ways to melt clay is in an in-expensive rice cooker. It will melt the clay plus keep it warm for the rest of your sculpt session. Do not lock the rice cooker on “cook”. This will kill your rice cooker and may be a danger to you and your whole studio!



Now the sculpt has been made and holes have been drilled in the eyes and around the outer edge of the mold. The holes are there so you will know where not to drill. Like into any sculpted parts when drilling the holes thorough the negative.



To put the molds together you will need a place where excess material can escape. This is called the overflow area. You create a void in the negative mold by adding a thick layer of clay outside of your sculpture.

This clay layer should have a sharp 90 degree cutting edge about 2-3 mm away from your sculpture.



The overflow should be as smooth as possible to avoid difficult removal of your prosthetics later on.



Almost done!

The drilled holes have been filled with clay. The whole positive has been attached to a board with more clay. Make sure that no urethane can leak in underneath the positive. Add small square clay pieces that will create nice little holes where you can open the mold.

A thick line of red permanent marker around the outer edge will make sure that you can find the seam when you take the mold apart.

STARTING THE MOLD:

Before starting the mold apply a small amount of release agent to both sculpture and to the surrounding board. You can use Epoxy Parfilm 5 or a wax spray. Both work very well and aids the cleanup of the molds later.



Layer 1

Layer 1: Urethane

Mix 75g A, 7, 5 grams Polyfiber II
Mixed with 75 gram B



Layer 2

Layer 2: Thick urethane

Mix 75g A, 7, 5 grams Polyfiber II
Mixed with 75 gram B

When layer 2 starts to set add fiber glass flocking and keep patting it down until flat and dry.



Layer 3

Layer 3: Thick urethane

Mix 75g A, 7, 5 grams Polyfiber II mixed with 75 gram B

When the mix has been spread around the mold add strips of fiber glass mat and push it down.

The negative mold follows the exact same procedure as making the positive mold.

Layer 4: Liquid urethane

Mix 100 g A with 100 gram B

Pour all over the fiber glass mat with gloved hands. Rub and pat until nice and smooth.

Add a fifth layer if needed.

Layer 5: Very thick urethane

Mix 75g A, 15 grams Polyfiber II mixed with 75 gram B.

When you are done the mold should be left to fully cure for a minimum of a few hours before proceeding. Rushing will warp your molds. All your work will be destroyed.



Waste material can run on the sides of the mold.

if you followed the advice of sealing the sides nothing will have run underneath the mold and clean up is easy.

Use a vibrating saw to get the cleanest cuts. The red marker line drawn all around the edge of the positive now comes in handy. As you saw the line becomes visible.

TIP:

When sawing in urethane the temperature of the material get quite high and as a precaution I always wear a full gas mask to protect both my lungs from gases and eyes from debris. And don't forget to protect your hearing too!



Before you take the mold apart it is important that you drill holes through the new negative too. Start drilling straight through the clay filled holes on the bottom half and keep drilling all the way through.

Do not forget the eye holes and any other holes that you may have added for stability.



The moment of truth is here! Most face molds should always be opened from the top. The reason for this is the nose. If you open the mold from the bottom your negative mold will most likely get stuck on the nose causing damage. Here the little clay squares at the top of the molds comes in handy. They provide a perfect place for screwdrivers to fit.

Open the mold evenly. If you open for example from the right you will put unnecessary pressure on the cutting edge on the left hand side.

Rushing this step will only make failure a reality.

To open a mold can be frustrating and time consuming. The clay inside the mold is hard and needs to be pried open slowly.

TIP:

Sometimes it can help to submerge the whole un-opened mold in warm water to soften the clay a bit.



Finally after about 15 minutes this molds opens without any damages or undercuts. Don't let this be a guide. Molds have taken me a day to open.



FINAL:

Clay can stick to the positive and negative. Separate the clay used for your face sculpt from the overflow sculpt. The reason for doing this is to give you a rough idea on how much silicone is needed to fill your mold.

CLEANING THE MOLD:

Cleaning the mold is a sad chapter of this tutorial

It takes a long time with a lot of elbow grease to get it clean.

First use soft sculpting tools and wooden spatulas. Then scrub the mold clean with dish brushes, tooth brushes or anything relatively soft. Add lots of Fairy liquid as you are scrubbing. Mostly try to avoid any solvents. Sometimes textures refuse to let go of the clay. Clean the molds with a bit of solvent that will dissolve your clay.

MAKING THE SILICON PIECE FOR THEATRE:



This particular sculpture weighed 255 grams which means that I will need about that amount of silicone too.



The silicone piece I am making here is a theatre piece. Silicone is easier to produce and is fast to apply during the performance. While doing prosthetics for a theatre you need to have 5-7 new pieces every week. Most of the time tomorrow's prosthetic will be made during a pause in the evening performance. Being fast and having a high rate of success is of greatest importance when working for theatre.

Before applying the silicone barrier layer spray a thin coat of Epoxy Parfilm on both mold half's.

For this demo use Platsil 10 from Polytek. This silicone has a very fast cure and almost never fails.

Step 1: Mix up a small batch of Platsil 20 grams A and 20 grams B in a small cup Add a small pinch of 2 mm Persian Red (Pantone 187C) nylon flocking. The flocking will give your pieces a lovely skin tone and that little lovely unevenness that will sell it as real.

Step 2: Using a polyurethane sponge evenly spread it all over the surfaces of the mold.

TIP:

It is very important to never use anything made from latex when working with silicone. The latex will inhibit the silicone and it will never cure.

This thin silicone layer will form an outer skin on the prosthetic. This also creates thin edges that we will glue onto the skin of the actor.



Step 3: We are now going to make the soft filling for the silicone prosthetic. For the filling use a third component to the mix.

This is called Deadner and was developed by the very talented Gordon Smith. The Deadner is a softening agent and slows the silicone in its reactions. You can add anything from 50% up to 250% deadner to your mix but I have found that a mix of 100% deadner is perfect for most of my uses.

For a 100% deadner the mix is:

1 grams A, 1 grams B (total of 2 grams silicone) and 2 grams of Deadner.

For a 200% mix it would be:

1 grams A, 1 grams B (total of 2 grams silicone) and 4 grams of Deadner.

To mix the 250 grams batch of 100% deadner:

To mix the 250 grams batch of 100% deadner mix that we need for this mask mix 62,5 grams of A with 125 grams of deadner.

The remaining 62, 5 grams of B do not add until adding color to the mix. Pigments will color your silicone into believable skin tones. There are a number of different products.

TIP:

For a long time my preferred pigment was mashed grease paint makeup and flocking. Sometimes oil paint would be used.

Now I mainly use silicone pigments from Mouldlife.co.uk and 2 mm Persian Red (Pantone 187C) nylon flocking from www.flocking.biz

TIP:

Test color intensity by dipping a clean wooden spatula with a black dot drawn on it into the colored silicone (Only Part A and Deadner so far).

Lift up until you just see the dot. If the edges are clear then add more pigments. If you can't see the dot at all you have added too much.



After you are happy with the color finish mixing the remaining part B silicone. Be careful not to get too many bubbles into the mix. Pour into your mold from as high you can reach in a small trickle.

Tip:

This will break bubbles in the silicone and get you a nice translucent silicone.



Slush the silicone in a thin layer around the mold. This will also ensure you have no trapped air bubbles.



Gently put your positive mold down in the negative mold.
Do not rush this! Let the positive slowly sink into the silicone and push any last remaining bubbles up and out.



Set your drill to the lowest torque setting .Bolt your mold together using wing nuts on the back.
Put every other bolt on the opposite side of the molds. This will put an even pressure on the edges of your mold.
These molds are very strong but if you over tighten the bolts it may still break.



When you are done just leave your mold to cure for 30 minutes to an hour depending on the room temperature.

TIP:

Since the silicone we are using is a platinum cure silicone it is easy to quicken the cure by raising the temperature i.e. in a low heat oven. 60 °C (140°F) is usually good. Doing so will decrease the cure time with half.



Another scary but intensely fun part is to open the mold for the first time. To aid in opening spray water into the openings this acts as lubrication.



Lars's first fitting with the mask. Flashing is still intact.

PIECES OUT OF THE MOLD:

Once happily out of the mold wash the piece with detergent. Put the piece back on the positive to dry.

TIP:

Very important! Never use any powder at any time of de-molding a silicone piece. You will lose the pieces transparency; the edges will be very difficult to blend with the skin.



Molds from Lars Noren's Orestien at Folkteatern Gothenburg 2010