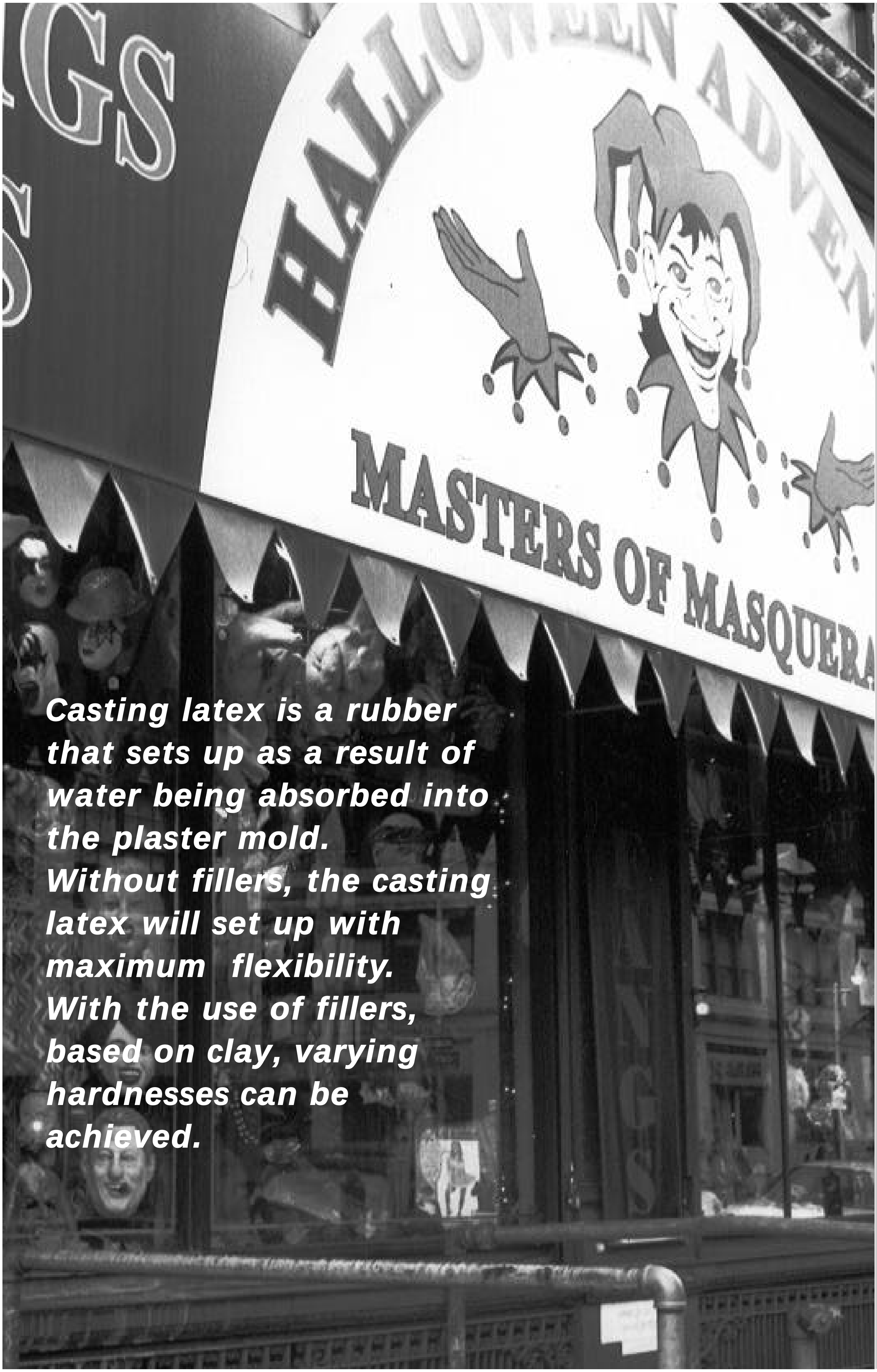
WORKING WITH L-200 CASTING LATEX



Casting latex is a rubber that sets up as a result of water being absorbed into the plaster mold. Without fillers, the casting latex will set up with maximum flexibility. With the use of fillers, based on clay, varying hardnesses can be achieved.

L-200 CASTING LATEX
and #64 Filler

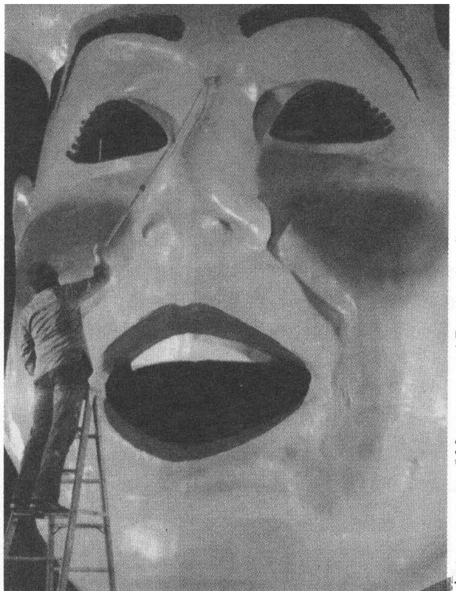


photo courtesy of Messmore and Damon, Inc. (New York, NY)

L200 and #64 filler are used extensively in the production of stage sets and flexible props.

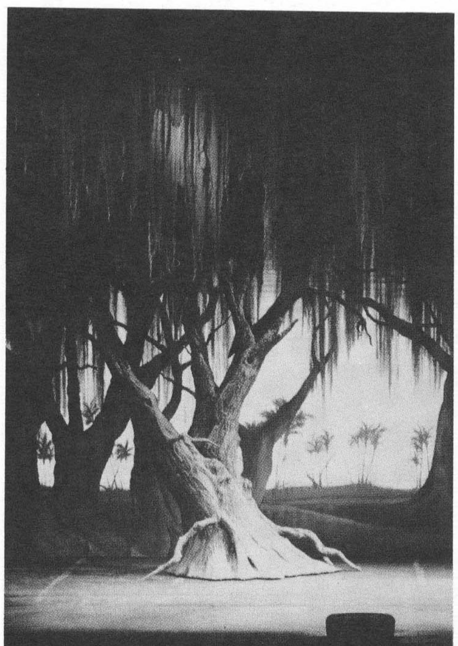


photo courtesy of Messmore and Damon, Inc. (New York, NY)

Stage Set—Porgy and Bess, Metropolitan Opera, New York City. The trees are made with L200 and #64 filler.

L-200
CASTING LATEX

L-200 is a prevulcanized casting Latex. It is very useful for the production of hollow molded rubber articles, toys, hot-water bottles, rubber balls, imitation pottery, masks, puppet heads, and display articles. It is also useful for coating polystyrene, texturing, and general special effects for theatre work. L-200 is especially useful in making flexible props. Using L-200 does not require any elaborate machinery or expensive metal molds. An ideal rubber for small studios.

Using L-200 consists of filling a porous plaster mold with either L-200 alone or with a mixture of L-200 and specific amounts of #64 filler. The plaster mold will absorb part of the water and deposit a wall of gelled L-200 (and/or L-200 and #64 filler mixture) on the mold surface. The excess L-200 is then poured out and collected for future use. It must be used in plaster. The curing process requires that the water be withdrawn.

The final steps include the partial drying of the deposited rubber, removing the rubber from the mold, and then drying completely in an oven.

SPECIAL FEATURES OF L-200

1. By varying the amount of #64 filler and L-200 Latex, a wide range of flexibilities in the final article can be achieved:
   1 part L-200 to ½ part #64 filler - very flexible
   1 part L-200 to 1 part #64 filler - flexible
   1 part L-200 to 1½ part #64 filler - medium flexibility
   1 part L-200 to 2½ part #64 filler - very hard

2. Plaster of Paris molds are not expensive to produce, and new designs can be easily made.

3. L-200 is 61% solids, and based on prevulcanized Latex. No vulcanization treatment (post curing) is required.

4. L-200 has been specifically developed to have the correct stability and viscosity for easy pouring and painting. L-200 has also been designed to give the proper buildup ina plaster mold.

5. The simplicity of operation enables easy training of operators.

photo courtesy of Messmore and Damon, Inc. (New York, NY)

The Mr. Peanut costume was made from a mixture of L200 and #64 filler mixed to make a rigid casting.

L-200
(Special Effects)

Originally compounded for casting, L-200 has been used by scenic artists to create special effects for the theatre industry for many years. The unique properties of L-200 prevulcanized Natural Latex lends itself to the following uses:

1. Coating pieces that are sculpted from styrofoam. The L-200 will shrink around an object and pick up every detail. The sculpted piece may then be spray-painted or finished in any fashion.

2. When you mix L-200 and 2 1/2 parts of filler #64, you can insert layers of burlap between coatings to achieve a very hard effect. It is best to use a burlap with a small mesh opening.

3. By using L-200 and #64 filler, flexible props may be created.

4. L-200 may be used to blunt sharp instruments such as spears or knives.

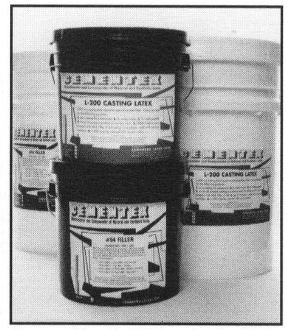
5. L-200 may also be used to texture garments to give various looks.

6. Masks for various productions such as horror movies are designed with L-200.

7. Animation.

These are just several of the major uses of L-200. Since L-200 is very versatile, you will probably find many more uses.

Masks by Richard Tautkus
of LUCAS LIVE Studios, NYC



MAKING PUPPETS WITH L-200

Using L-200 for making puppets follows some very simple procedures and is not really difficult at all. Depending upon how hard a cast you may wish to obtain, vary the amount of #64 filler with respect to the L-200.

The following combination should serve as a guideline:

1 part L-200 to 1 part # 64 filler	**soft**
1 part L-200 to 2 parts # 64 filler	**medium**
1 part L-200 to 3 parts # 64 filler	**hard**

This can be done either by volume or by weight.

Using pottery plaster or #1 Art Plaster, make a negative plaster mold. All seams should be water tight. Use modelling clay to close all seams.

Pour the mixed compound into the plaster mold slowly to avoid bubbles. Tilt the mold, if it has any undercuts, to allow the slurry to reach any hidden surfaces.

Depending on the thickness of the cast desired, allow a deposit time of between 10 minutes and one hour. THE HIGHER THE FILLER RATIO – THE SHORTER IS THE DEPOSIT TIME.

Drain the slurry into a container and keep covered for future use.

Allow the mold, with its deposited cast, to dry for several hours. You may hasten the drying time by drying it in a oven at between 100 and 120 degrees F.

There will be about a 5% shrinkage. Please allow for the shrinkage when preparing your model.

The cast must be quite dry before it is removed from the mold.

After you have removed it from the mold, further air or heat drying may be necessary.

The Puppets of Ron Kron

Over the years my work has happily gone into the collections of some of the people who's work has given me so much pleasure. Barbara Streisand, Barry Manilow, Angela Lansbury, Ann Miller, Bill Blass, Woody Allen, Jim Dale, Joan Bennet, Treat Williams, and most recently, Dolly Parton; all have portrait dolls that I have done for them.

My "discovery" of Cementex quite literally revolutionized my work by answering a number of questions concerning working in small quarters and working at greater speed.

About twelve years ago, I had been doing one-of-a-kind portrait dolls and puppets either out of papier-mâché, wood composition and/or carved wood. I had my work in the window of a Greenwich Village shop that Christmas. A woman stopped in to admire the "movie star" puppets and asked me what they were made of. As it turned out, she was also a sculptor and specialized in window display figures.She suggested I try latex. She gave me the name of Cementex.

Today I use latex for all the body parts of my figures. The bodies are made of 12 pieces (strung together on heavy elastic cord). The general effect is rather like a jointed, but stiff, marionette or an artist's mannequin. At first I had a little trouble coming up with the right formula to get the latex as hard as possible and to still maintain strength. Some early pieces were either too rubbery or tended to crumble or crack when I opened the molds. The mixture I have been using with success is about two cups of latex L-200 to three cups of #64 Filler.

I have been able to work in my apartment without the neighbors complaining about the fumes. And while the actual process of pouring is not too difficult in my kitchen, I have also expanded my workshop to the basement of my family's home in Minnesota. Cementex arranges to pack the latex and filler and has it shipped to the Twin Cities so when I arrive it's waiting and I can start production.

MASKS

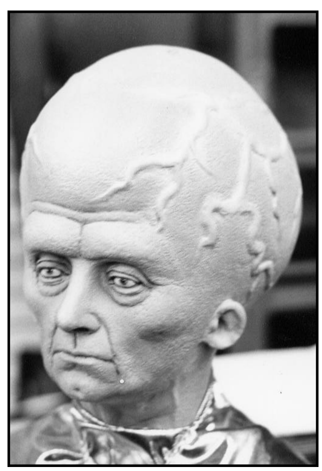
Masks have been used by people for as long as there have been people. They've been used for rituals, religious presentations, theater, and holidays, or carnival.
A mask is the familiar made unfamiliar. Or, sometimes, it is the unfamiliar made familiar. Most information we have about a person comes from our observation of the face. Transforming the character of the face alters a person utterly.

Masks can be made from anything. Throughout history, masks have been constructed from elements that have been available. The American Indians used carved wood and stretched skins that have been hardened into shapes. Ancient Greeks used large masks with trumpet structures built into them for voice amplification in their outdoor theater. Carnival masks have been constructed from fabrics and feathers and anything else available.

The unmoving features of a face, or a covering on the face, either enlarged or stylized, have a tremendous power. Anything worn over the face is a mask.

More recently, masks have been made from materials that are cast.

Masks that are molded and constructed with realistic features that suggest creatures or other people seem to have replaced other masks. In this country, Halloween and New Orleans carnival and Halloween are the most common uses for masks. Theater uses masks much less often than it once did.



Rubber (latex) is the most pliant and the most popular material available for a mask. It is also one of the simplest. Making the mask in latex begins with the construction of a plaster mold that copies, in reverse, the original model.

Features in the mask for the original model can be molded from clay or built with a variety of materials made into a model.

A model need only be something that is copied; something that when copied can be worn over the face. Although clay is the most common material for a model, it is not the only material.

A mask can be a covering for the face, or a covering for the entire head. It can be the same scale as the actual face

or it can enlarge the face and create an effect simply by size. The mask can suggest a face by using the same features as a face, or be a covering that suggests a face because it is worn where the face is located.

Although any material can be a mask within the practical limitations required so that it can be worn, the most common contemporary masks are latex. These masks are elaborate constructions with moveable features or, more commonly, unmoving features that fit comfortably over the face and roughly follow the movements of the actual face.
The actual model that is constructed can be anything. The process of converting that model into latex is being explained.

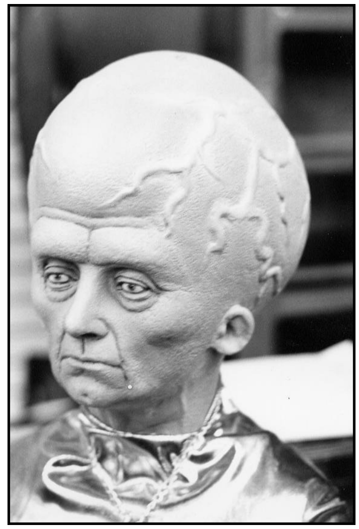
Depending upon how firm or flexible the actual mask will be, a mixture of L-200 Casting Latex and #64 Filler is made. Varying the ratios of these will vary the degree of rigidity and hardness of the finished mask.

By either volume or weight:
1 part L-200 to 1 part #64 Filler.....soft, flexible
1 part L-200 to 2 parts #64 Filler.....moderately rigid
1 part L-200 to 3 parts $64 Filler.....stiff, hard

For a complete head mask, the model is divided between the front and the back. What is ultimately needed is a "bucket" with the features on the inside that will be used as the mold. The L-200 and #64 mixture is poured into the "bucket" or the mold and allowed to set up, re-creating the detail of the model in the latex mixture.

To illustrate the process of making a mold, a photo of a fire hydrant will be used. **The picture of a fire hydrant will be treated as a picture of a mask. There is no reason why a fire hydrant cannot be used as a mask.** It can be altered, or copied intact, with L-200. It typifies all the usual problems. There are undercuts. There are details in the front and the back. It can look like a mask; it could actually be a mask. Potentially, clay or other materials could be added to the fire hydrant to make its features more interesting or bizarre, or it could be painted to look more interesting without altering its features. It doesn't matter. Building the mold to re-create the features in latex is the same process regardless of the model.

The first step is determining where the undercuts are so that appropriate parting lines can be made. The mold must be made from plaster, which is a rigid material. Since the plaster has no flexibility it must be made in parts so that it can be removed from the model.



In the fire hydrant, the bolts on the top will prevent a part from being pulled directly from the front. A separate mold that lifts from the top will work; it would reach down just to the undercut under the top. Another part would be required that could cover half the side spigots, on the left, separate from the right. The caps on the side spigots would have to be cast with separate plugs that pull off separately. Otherwise, the left and right front parts would lock against each other rather than being easily removed. The back half could be another split piece. The number of parts required for the fire hydrant -- seven.

The rubber sets up as a consequence of the moisture being pulled from the latex by the plaster. The mask builds up inside the mold in layers against the surface of the plaster.

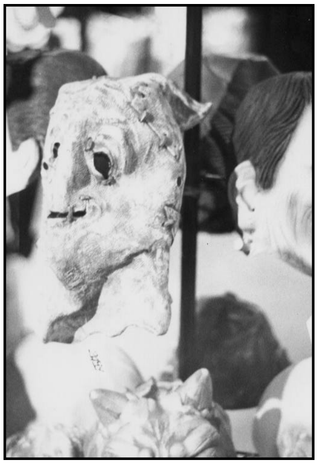
1 Create the model.

2 Make an appropriate part mold in plaster.
[See "Plaster Molds" for more detail on building a part mold]

3 Copy in plaster and remove the model. All the detail will be inside the plaster mold.

> **Build the plaster carefully so that it captures all the detail without air pockets and has an overall depth of about 1.5 to 2 inches.**

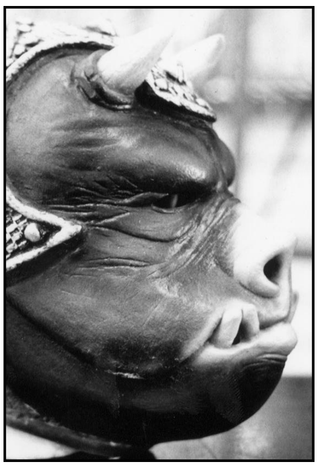
Plaster can be built without pouring. Mix the plaster and give it a few minutes to become creamy and to begin thickening. It will be warm. With a spatula, carefully spread it over the prepared model firmly and smoothly until the entire surface has been covered. Speed is essential. There will be only a short moment before the plaster is too thick to be spread. A first coat can be brushed onto the model while the plaster is still runny. It is more important to build a thin layer over the entire area and build subsequent depth with another batch of plaster than it is to build it over a partial area of the section to its full depth. If more than a single application of plaster is needed, be sure that the plaster that has already been set is still wet...or brush it with water so that it is wet enough. Plaster will adhere to plaster but the set plaster must be wet for this to occur.



4 Build the plaster shell over each part, being sure to create the locks between parts for concise registration.

5 After the model is carefully removed, check the inside of the shell mold to be sure that all the detail has been copied.

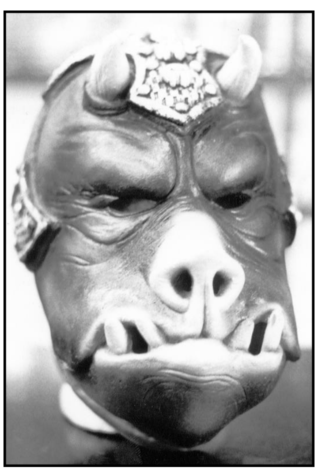
At this point, if there are bubble holes or broken detail, it can be repaired. Use a small brush and mix a cup of plaster. Using a small brush over the wetted surface of the plaster, slowly repair the mistakes or problems. The brush will deposit the plaster like paint. Rebuild slowly and carefully. Dripping bits of plaster will set up as well and become another problem itself.



Using the small brush, dip the bristles into the plaster and paint it into the bubble holes or whatever surface needs repair. Paint it in carefully, layer after layer. Be sure that the set plaster being repaired is wet.

6 Reassemble the parts and, using tape, or straps (Ace bandage or elastic straps work best), bind the parts together. Check the registration locks to be sure they are set perfectly. Be sure there are no leaks; if leaks develop they can be sealed with clay.

7 Pour the latex into the mold. Fill it. Let the latex set in there a few moments so that the walls build up with the setting latex. After a few minutes (keep watching), when the walls have reached an appropriate thickness, pour the excess latex back into its plastic bucket. There should be an even covering inside of the shell. If it is not thick enough, simply repeat the process until an appropriate thickness has built up.



8 Unbind the shell mold and carefully remove the latex copy. Allow it a few days to completely vulcanize first. Or use heat.

When the latex is removed it is ready to be painted or decorated. Latex colors are available that are designed to adhere to cast latex. Glue can be used to adhere decorations like feathers, glitter, or hair.

If the mask is to be worn, cut out with a sharp mat knife the holes for the eyes and small holes for the nostrils. When building the mask, deep indentations for the eyes and nostrils will make cutting them out more easy and more accurate. **Plan ahead.**

MAKING THE PLASTER PART MOLD

Plaster molds are a rigid form of mold. The process of constructing a plaster mold is essentially the same as the process of constructing a plaster back-up mold. Separate parts that can be pulled from the model without locking in undercuts need to be made. The difference between the plaster back-up mold and the plaster mold is that the mold is made directly on the model and the detail of the model will be copied directly into the plaster.

When it is completed, the plaster mold should be completely dry before it is filled with L-200.

Plaster will absorb water. This absorption is crucial in setting up L-200 (casting rubber). The water is pulled from the L-200 by the plaster cast and a coating progressively builds up along the inner walls of the plaster mold. This buildup is the finished casting.

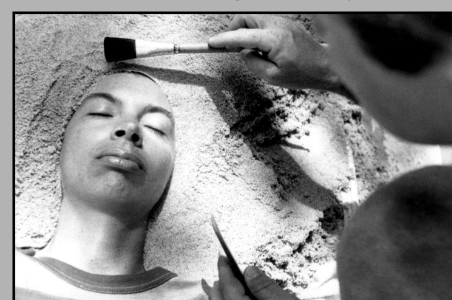
The first step in the preparation of a plaster mold is to determine where the part lines will be located. Unlike rubbers or silicones, plaster is not pliant. It is rigid. Any snags or undercuts will prevent the mold from being released. Parts have to be carefully determined so that each section will easily lift from the completed casting. Most molds can be constructed of two parts. Sometimes, depending upon the model, more parts might be necessary.

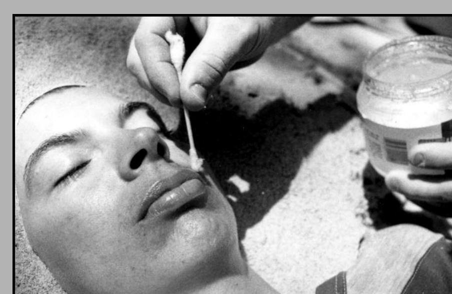
View the model from every angle. Since plaster is rigid, it must be pulled straight off the model. When determining the number of parts and where the part lines will be drawn, use your eyes. You should be able to see the entire surface that will become a part of the mold. Any depressions or hooks, or undercuts, that block the view of the surface will also block the mold and prevent you from removing it from the model. Using a pen or marker, draw lines to enclose areas. Define as few parts as possible, but be sure that, from the angle at which the part will be removed, all the detail can be seen. Once these lines are drawn, review the entire model to be sure that each part will remove, and that no more parts than are necessary are drawn in.

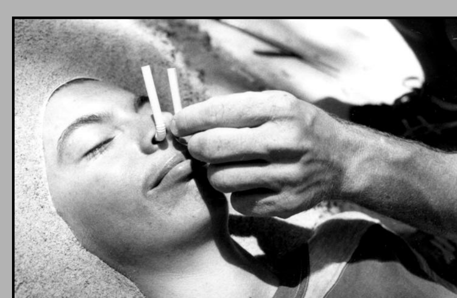
Determining the locations of the parts is the most crucial step. Whenever the mold is used it must be reassembled. The parts must fit together cleanly and exactly. Also, when the parts are removed, they must be pulled off the mold at 90° angles without getting caught at undercuts in the model.

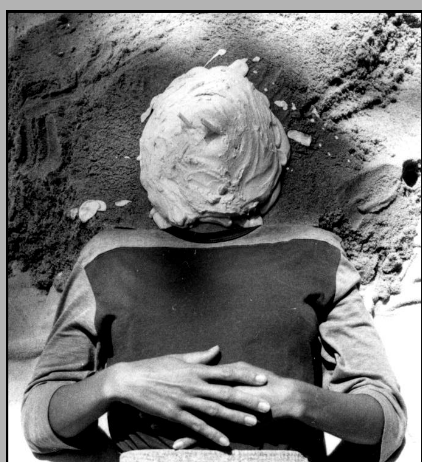
SINGLE MOLD FACE CASTING

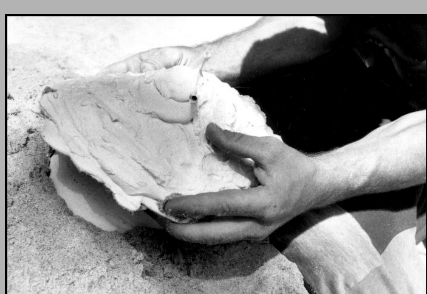
process by Bob Fetty, FL
photos by Laure Leber

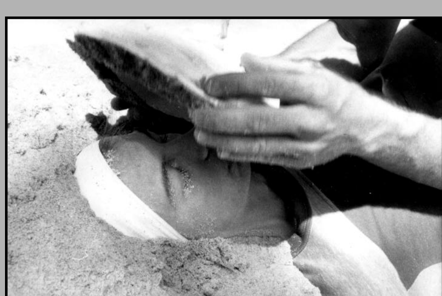












Once the parting lines are established, the mold is built one part at a time with a separator between the parts. Mount the model firmly, and isolate one of the parts with clay walls. The plaster will be built up between the clay walls. The plaster, when applied, should be about an inch thick as evenly as possible over the entire part.

Be sure the clay walls have an angle of 90° from the model, or the parts will lock up against each other. Press round depressions into the clay walls, about the size of a fingertip, as registration points along the edges of the part. When the adjoining part is poured, it will automatically copy the positive of the depressions to create these locking registrations.

Apply the plaster with a brush or spatula. Work quickly as the plaster sets. Begin applying when the plaster is creamy and slightly warm, being absolutely certain to fill all the spaces evenly and fully. Be very careful not to create air pockets under the plaster; air pockets will result in loss of detail and weakness in your mold. The plaster should be applied evenly and firmly.

When a part, or section, has set, after approximately one hour, remove the clay wall separating it from the next part. The next part will be applied directly against the plaster part that has already been completed. Plaster against plaster.

A separator between the plaster parts is necessary or the plaster will bond and the parts will not come off independently. Generously apply the separator in even and thin coats along the edges of the completed plaster part before beginning the next part. Commercial sprays and oil soaps are available.

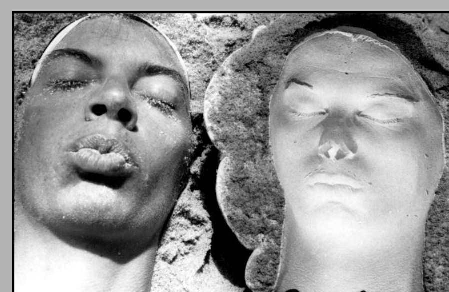
After the parting agent has dried, the next part can be applied. Continue this process until all the parts have been built.

When completed, the model will be completely covered in about an inch of plaster composed of interlocking parts that can each be removed, and replaced, separately. Carefully remove each part from the model and gently wash any clay or excess from the plaster. Reassemble the parts, binding them together with tape or elastic (an Ace bandage is perfect to hold the parts together while they are being poured into) so that all the seams are tightly joined. If there are more than two parts, it might be wise to number them. The indentations will help them register with each other in the correct place.

The base of the model becomes the pouring hole.

The pouring hole must be large enough to pour the L-200 into the mold, and to pour out the excess L-200 after it has thickened enough along the walls of the mold. Simultaneously, the pouring hole will be an open space into the casting that has no detail; the decision to be made about the size of the pouring hole and its location must be made model by model. If the base is sufficiently large, there is no problem. However, if a figure of a standing animal is poured, the base would be just the four feet. That is not enough for a pouring hole. Consequently, another part of the body would need to be left open to allow the L-200 to be poured. Potentially, the figure could be cast on its back with a funnel structure into its belly. Later, the belly could be plugged with a separately cast piece that is placed in the hole with a glue or binding agent.

Usually, the location of a pouring hole (at least 1 1/2 inches in diameter) is not a problem and can easily be accommodated by the base.



ADDITIONAL DETAILS ABOUT L-200

L-200 is a pourable latex that mixes with #64 Filler to form a flexible rubber (mannequin rubber) that builds up inside molds through a dehydration process. The L-200 mixture is poured into the mold, filling it completely. The mold is then shaken and rolled slightly so that all the air trapped on the mold walls is jarred loose and escapes. The rolling helps to release bubbles that collect under the shelves of undercuts inside the mold.

Depending upon the degree of rigidity required, the ratio of #64 Filler to the L-200 can be varied. A 1:1 ratio is usual for soft and flexible masks like those most commonly available at party stores. Often, a more rigid mixture is required. By intensifying the quantity of #64 Filler, the mixture can be made to set up like hard rubber, with almost no flexibility. Oversized masks, for example, would probably be most effectively made using a higher proportion of #64 Filler, which would enable the mask to stand without flopping over.

In pouring the mixture into the mold, it is often a good idea to brush a coat into the mold before pouring. This is another insurance against trapped air bubbles. Rolling and tapping the mold is also important.

Fill the mold. Give it time (from a few minutes to a half hour) for the L-200 mixture to set up on the mold walls. The thickness that is setting up is evident. Watch the thickness and, when a good layer has set up, pour out the contents from the mold back into the plastic bucket. Let it drain from the mold. Further coats can be poured if the first coat is too thin. It is better to pour several coatings than to make a coating too thick.

Leave the L-200 in the mold for at least a half day after the layers have been formed. Even so, when removing the mask from the mold, do so with extreme care. Vulcanization needs air exposure to complete itself. After the mask is removed from the mold, it should be left overnight to allow the rubber to completely solidify. During this finishing process, the mask should be placed so that it is in the actual final form. If the mask is set flat, or wrinkled, at this stage it could easily take on the shape that it has been left in.

It is best to store masks over a form that resembles a head so that it remains rounded. Anything will do, including wads of newspaper. After a period of time, this precaution becomes less essential, but, for at least the first few days, be very careful to preserve the general shape while it is in storage.

METHOD OF CASTING L-200

FILLING THE MOLD

The efficiency of the plaster mold is improved by fully drying it between uses. Immediately before use, the mold should be redampened. When using the mold, it should be slightly damp rather than bone dry.

After assembly of the parts of the mold, which are held together with rubber bands or clamps, the mold is filled by pouring through the pouring hole in the model. Incline the mold slightly while pouring, to avoid an entrapment of bubbles.

The mold is then left filled for a sufficient amount of time to give the thickness you want. During the period that the L-200, or L-200 and #64 mixture, is in the mold, the level may fall due to the absorption of water. To compensate for this, it will be necessary to “top off”.

DRYING THE MODEL

At the end of the build-up period, the excess L-200 should be poured out and saved for future castings, sealed from air in a plastic bucket.

When the mold is fully drained, place the mold in an oven at 110° F for about two hours.

REMOVING FROM MOLD

After drying, for soft castings, simply pull the two halves of the mold apart.

For hard castings, top the mold so that a rattle indicates that all parts of the mold are loose. Then pull with a straight movement.

Afer removing the article from the mold, soft articles should be placed on a wire rack to dry, to attain full strength.

FINISHING

Repair any flaws with soap, putty, clay, etc. Remove “flaws” by sanding or compressed air. Coloring may be attained by spraying.