

The Compleat Sculptor presents...

Making a Resilpom Liquid Silicone Mold from a Plaster Life-Cast

Once the alginate mold has been used to make a plaster cast of the torso, the alginate mold must be wasted, as alginate is not a permanent mold material. A permanent silicone mold can be made from the plaster cast for making multiple casts of the torso. This is one way of making a permanent mold from non-toxic mold materials.

Products used for this Project:

- | | | |
|--------------------------|----------------------|--------------------------|
| • Wooden Board | • Klean Klay Natural | • Resilpom Liquid |
| • Pre-cast Resilpom keys | • Disposable Brushes | • Thivex |
| • Cabosil | • AquaResin | • AquaGlass |

The mold in this Project Sheet was made in a way that allows not only brush in but also pour in castings by building up the sides (*Image #1*).

Prepare the Original

The first step is to mount the plaster torso cast level onto the mold board. Since the edges of the cast are uneven and the cast was made by brushing into the mold the uneven edges were filled in with Klean Klay; a non-sulfur, medium soft modeling clay (*Image #2*). It is very important to use a non-sulfur clay because silicone is inhibited by sulfur and will not cure in its presence. Use Nitrile or Vinyl gloves for your mold making.

Measuring & Mixing

Resilpom Liquid is a mold material that is mixed by weight (10 Part A base to 1 Part B catalyst) therefore an accurate gram scale should be used to measure the correct amount of base and catalyst. **Stir the base thoroughly and shake the catalyst vigorously before using.** Measure the base into a clean mixing cup (be sure the “tare” the cup on the scale before weighting out the base). Roll the base around in the cup to coat the sides so that catalyst is not absorbed into the cup. Weigh the proper amount of catalyst into the cup then mix. For example: 100 grams of base should be mixed with 10 grams of catalyst. Variations in the mix ratio can lead to undesirable results such as a brittle final cure of the rubber. Mix the base and catalyst until a uniform color is achieved without any streaking or variation in color.

At this point, once the torso cast is prepared, the pre-cast keys can be made. The keys will help the rubber fit into the mother mold without movement that may cause distortion. Mix a small amount of Resilpom Liquid and pour into small containers. Small cups or ice cube trays work well. Fill each small container to about ¼ full and let cure.

A Word About Keys

Brush-on molds are made thin – this is an advantage because less rubber is used and the mold is very flexible. However this also makes the mold susceptible to “flopping” out of shape. The registration keys applied to the mold and the flange will ensure that the rubber “locks” into the mother mold. Therefore the sides will not “flop”.

Brush-On the Resilpom

Brush the mixed **Resilpom Liquid** onto the plaster model (*Image #3*), the clay sides and about 1" onto the board to make the flange (*Image #4*). Once the first layer has become tacky brush on a second coat and place the de-molded, cured keys onto the rubber. Brush over the keys with a next layer, embedding them within the rubber layers. Be sure that the key shapes do not have undercuts in them that will make putting them in and getting them out of the mother mold difficult. **Resilpom Putty** can also be used to fill in undercuts or to sculpt the keys directly onto the **Resilpom Liquid** mold (*Image #5 & 6*).

After the first two coats are completed subsequent mixes can be thickened to achieve the desired thickness and to fill any undercut areas that may “lock” the rigid mother mold onto the mold and cast. Build the mold thickness to at least ¼" all over and let cure for 24 hours.



Image #1
Clay sides



Image #2
The prepared plaster casting.



Image #3
Brushing on the rubber.



Image #4
The first coat of Resilpom Liquid.



Image #5
The keys added.



Image #6
Detail image of the keys.

Mother Mold

The next step is to make the mother mold. The mother mold is the rigid outer structure that will hold the flexible mold in the correct shape during casting. AquaResin was used for the mother mold in this Project Sheet because of its strength, ease of use and light weight characteristics. Other mother mold materials can be used with **Resilpom Liquid** molds such as; plaster and burlap, plaster bandage or resin.

Apply a Release

No release agent is needed to separate the mother mold from the silicone rubber mold however a release agent is needed to insure that the mother mold material will not adhere to the board that the original is mounted to, since the mother mold should extend pass the silicone flange by approximately one inch. For this AquaResin mother mold we brushed Sepr-8 onto the board, a mold release made especially for AquaResin.

AquaResin was brushed onto the entire surface of the silicone mold (*Image #7*) and 1" beyond the flange. AquaGlass fiberglass veil was cut into manageable squares, applied to the wet AquaResin layer and more AquaResin was brushed on over the fiberglass. (*Image #8*) (The matt can also be dipped into the AquaResin and then applied or chopped strand can be mixed into the AquaResin then the mixture can be troweled on.) This process was repeated until the mother mold reached ¼ inch thickness (*Image #9*).

Legs

Level legs were sculpted out of thickened AquaResin onto the mother mold so the mold would have a stable, level base to stand on making casting into it easier (*Image #10*). This step is optional but very helpful. If you do not wish to make legs for your mold you can cradle the mold on sandbags or wedges of clay during casting.

De-Mold

After the mother mold material has cured, use a metal spatula to separate the mother mold from the board. Once the mother mold has been removed gently pull the mold rubber from the edges towards the middle off the plaster cast. When the rubber is free of the original put it back into the mother mold, taking care to be sure that the keys are seated in the mother mold and you are ready to cast (*Image #11*)!

Storage

The optimal way to store a mold is with a plaster cast in the mold. This will prevent distortion of the silicone while not in use.

Please Note:

Keep in mind that there are many mold rubbers, mother mold materials and various techniques for making a mold of this type. If you have any questions regarding which material or method is right for your projects, please call our Technical Support Hotline at (212) 367-7561 and a member of our Tech Staff will assist you in finding the appropriate materials and techniques for your individual project.

Tips:

- Tinting every other layer of the rubber (with silicone pigments) and the mother mold material (Mixol for plaster or AquaResin) will help ensure that each layer is completely covering the last.
- Gloves should be used with Fiberglass as it can cause skin irritation.
- Be sure that there are no thin areas of your mold rubber. Thin areas are likely to tear during casting.
- Mix in small batches – (1 pint covers 100in²) – to avoid wasting excess material curing before it can be used.
- Powders such as plaster, AquaResin “S” and Cabosil can present a dust nuisance therefore do not agitate these excessively; a dust mask should be used while dispensing and mixing.
- Common sense is always a worthwhile practice!



Image #7
Brushing on AquaResin for the mother mold.



Image #8
Adding the AquaGlass fiberglass reinforcement.



Image #9
Building up the mother mold.



Image #10
The finished mold with legs.



Image #11
The mold demolded and ready to cast into.

Upcoming Project sheets:

- Casting into the Silicone Mold
- Draping with Paverpol
- Finishing Options for Life Casts

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