

The Plaster Handbook

Sharp Instructional Shops



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Brief History of Plaster. Plaster has been used for over 5000 years and is one of the oldest forms of sculpture that has remained relatively unchanged in process and product. It is not only a great way to build and cast forms, but also creates a surface ready for decoration.

Options for constructing objects with plaster. There are many ways to use plaster in object construction. Mold making can create multiples with good detail. Plaster can be used to cast an object within a mold. Armatures can be used for an additive building process, which can also be carved away.

Note on creativity. The options end only when you stop thinking of new options. Be innovative and create your own technique.

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The Supplies



Key Terms

Mother Mold - an outer mold that holds together an interior mold that has more than 2 sections

Mold Release - insures the cast object does not adhere to the mold

Mold - a form that creates a negative to cast materials into

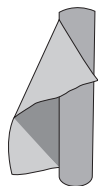
Shims - creates the division between mold sections

Registration Marks - a indentation and extrusion mark that line up two mold pieces accurately

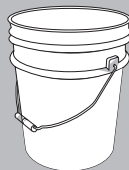
Sprue - a disposable extension from the object that creates a space which allows plaster to travel into mold cavity

Set Up

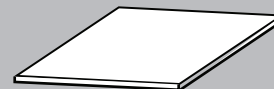
A. Place brown paper on work surfaces and floor.



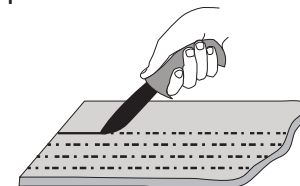
B. Have slurry bucket for waste materials and cleaning tools accessible.



C. Use a small plywood square as a portable work surface.



D. For easy dismantling, clay shims must be very clean and precise.



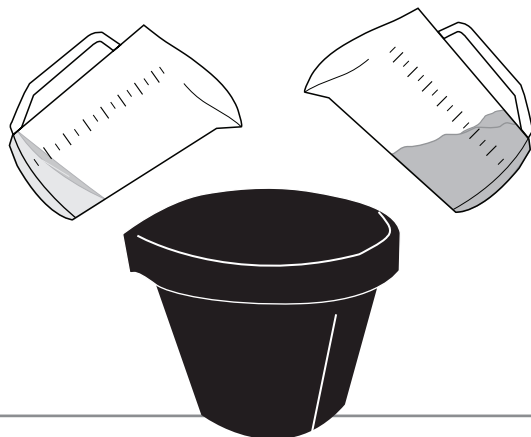
Mixing

1. Determine the amount of plaster needed.

**2. 2 parts plaster into 1 part water.
Ratio 2 : 1**

3. Pour water into the mixing bucket.

4. Pour plaster into the water in small amounts.

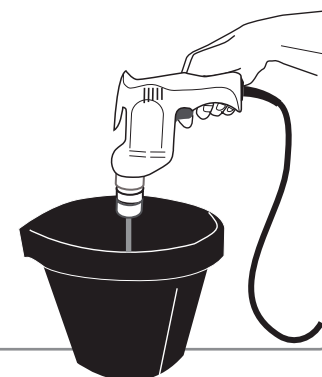
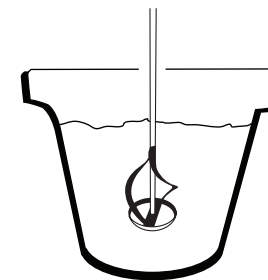


5. With the mixer fully submerged slowly mix the plaster.

6. Mix until plaster is milky and smooth.

7. Clean mixer bit immediately in slurry bucket.

***Never empty plaster in sink.**

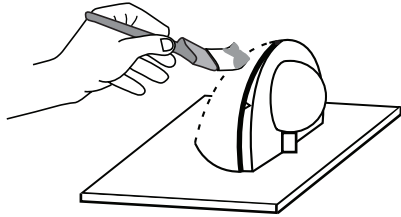


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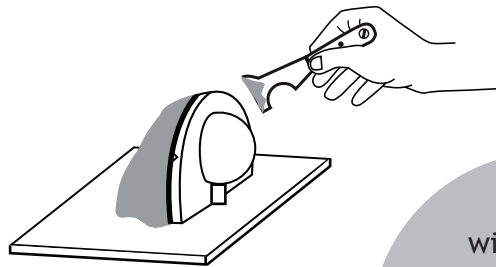
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Lay Up

1. With small brush, paint plaster onto object and shims to insure detail.

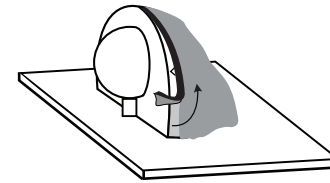


2. As plaster starts to harden use the putty knife to layer plaster onto object.
Minimum thickness: 1" thick walls

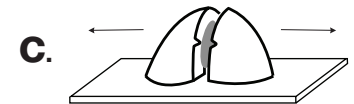
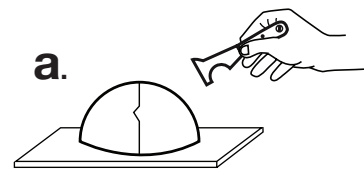


Plaster will become **HOT** as a chemical reaction is taking place to evaporate the excess moisture content.

3. Remove the clay shims and repeat process for the second side.



4. After plaster has hardened, scrape the crack between the two sides and tap with a rubber mallet till the two pieces separate.

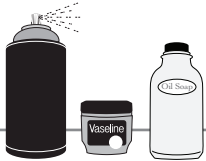


Remove the interior object.

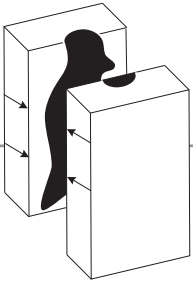
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Casting

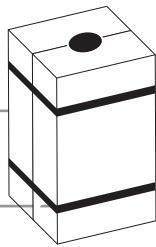
- 1.** Coat the inside surface of mold with a mold release.



- 2.** Place sections of the mold together so the registration marks line up.



- 3.** Use large rubber band or duct tape to secure the 2 sections together tightly.



- 4.** Pour plaster into mold.

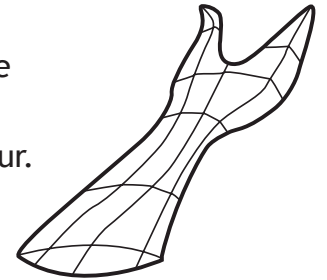


*Never empty plaster in sink.

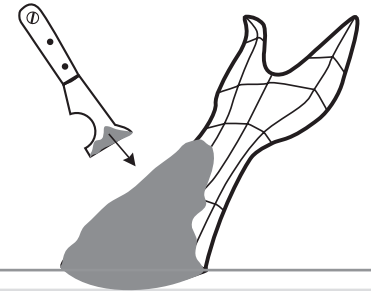
The Plaster Process

Additive/Subtractive Process

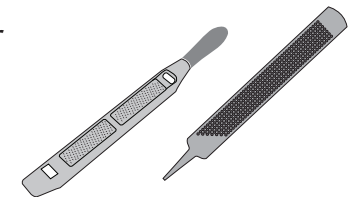
- A.** Additive Process
Build an armature or basic wire structure. Dip cloth strips in plaster and drape over armature.



- B.** When plaster starts to thicken, use putty knife to layer the plaster and build form.



- A.** Subtractive Process
Carve and finish the plaster with rasps and surform.

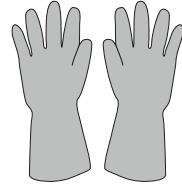


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Safety

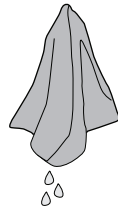
1 Wear gloves.



2 Wear a dust mask.



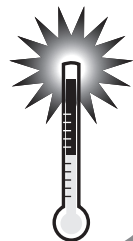
3 Do not leave plaster dust on surfaces. Clean with a wet rag.



4 Clean wet plaster spills with a scraper after they have dried.



5 Plaster creates heat during setting. **DO NOT pour wet plaster on body parts.** Instead, use plaster gauze strips which are available at art supply stores.



NEVER empty plaster in sink.

To strengthen an appendage of the cast, dip a wire into plaster where strength is needed.

Never use wood for an armature. The wood will soak up the moisture and cause cracks to occur.

To reduce weight of a cast make a hollow cast. Pour excess out. Repeat until walls thicken.

Finishing:

Wax - try mixing in pigment.

Paint - make sure plaster is dry before painting. Plaster will need multiple coats of paint.

Notes

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Design Considerations

