

HOW TO CAST PLASTER INTO PLASTIC MOULDS

We recommend the use of Casting Plaster as opposed to the other commonly available plasters such as Plaster of Paris as sold by hardware stores, Pottery Plaster as sold by ceramic studios and Dental Plaster. Plaster of Paris is more of a builders utility plaster, Pottery Plaster is made to absorb the water in ceramic slip and while Dental Plaster could be used it is unnecessarily expensive.

Casting Plaster made by Boral and CSR is economic and available through plasterboard businesses in your area. These businesses can be located in the yellow pages of the phone book. For Sydney metropolitan customers we carry stocks of Casting Plaster in our factory at all times, however for interstate and country customers local purchase is to be preferred as freight is expensive. Casting Plaster is designed to dry with a hard exterior surface to prevent chipping and to make it easier to decorate.

For a few often handled objects such as chess board pieces, it is advisable to use the harder plasters or as they are correctly known gypsum cements. They were made in Australia by Boral but are now exclusively imported from America under such names as Drystone and Hydrostone. Due to increasing freight charges they have become very expensive approaching the \$50.00 a 22.5kg bag price.

Most plasters are mixed three parts of plaster to two parts of water by weight. The gypsum cements however are formulated to be used with less water to increase hardness and manufacturers instructions should be followed.

It is often necessary to mix plaster without ready access to accurate scales. To cater for this eventuality the trade developed a method that gives excellent results and is the method we have used for 25 years.

Step 1: PREPARING THE MOULDS FOR POURING



Rinse the moulds with a surfactant mould release and shake dry. An alternative is to use a teaspoonful of dish washing liquid to a litre of water.

Ensure that the table where you are pouring your moulds is level. If you are only pouring a few moulds you can ensure they are kept level by positioning them on some material. This can be gathered up under the moulds to ensure they

remain level. An alternative is to half fill a large open plastic container with sand and level the moulds on the surface of the sand for pouring.

After years of frustration we designed the "Level Caster" which accepts all our small hobby moulds and ensures they can cast level with a minimum of trouble.



Step 2: ADDING WATER TO THE MIXING BOWL

The mixing bowl should be made of a flexible polyethylene to assist in cleaning. For smaller batches we use one of those one dollar poly buckets with a spout as sold in all hardware stores.

To measure the amount of water required, fill each mould with water and tip into the bowl. Use cold water as it gives you a little extra time to work before the plaster sets up. Only fill the bowl or bucket half full to allow easy mixing.

Step 3: **ADDING THE PLASTER**

ALWAYS ADD PLASTER TO THE WATER - NEVER WATER TO THE PLASTER

Slowly sift the plaster into the water until all the available water is filled with plaster and a dry mound of plaster about 3cm high, can be seen above the water line. Now leave the container untouched for 2 to 3 minutes while the plaster absorbs the water. We use an egg timer for a standard 3 minute wait.



Step 4: **MIXING THE PLASTER**

Use a flat bladed plastic bowl scraper found in every kitchen and mix slowly to avoid beating air into the mix. You can use your hands for small batches wearing latex gloves. It is very easy to feel lumps and remove them this way. Mix until you have a smooth creamy mixture. Tap the mixing bowl several times when finished to bring any air bubbles to the surface where they can be removed by wiping the surface of the plaster mix with a piece of cardboard.

For larger batches use a slow revving electric drill held beneath the surface at angle of about 15 degrees to the horizontal to create a vortex in the mix in order to promote thorough mixing without beating in air.

You should not need more than 30 seconds to achieve a good mix. Overmixing will cause the plaster to set up quicker often before you can pour it into the moulds.

Step 5: **FILLING THE MOULDS**



Pour the plaster into the moulds slowly until full. Give the mould several taps to help bring air bubbles to the surface. If overfilled the excess plaster can be removed by wiping over the surface with a flat bladed paint scraper.

If pouring a wall plaque, wait until the plaster has commenced to set and insert the hanger or hook at the top of the casting with the ends pushed into the plaster. The plaster will support the hanger at this stage and it will dry in its correct position.

Leave the moulds untouched for the plaster to harden. This will take 10 to 15 minutes.

Step 6: **REMOVING THE PLASTER CASTS**

Wherever possible we leave the casts in the moulds to harden and partially dry overnight before removing them. It seems to make removal easier.

We cover the table with cloth or towels to prevent the casts from breaking as they fall out of the moulds onto a hard surface. We gently tap the edge of the moulds on the cloth surface one side at a time going right around the mould if necessary gently flexing the mould as we go. Sometimes several rotations are necessary to find an edge that will allow the vacuum between the mould surface and the cast to be broken. No force should be necessary as this damages the moulds and often breaks the casts.

Step 7: **CLEANING UP THE CASTS**

While the casting is still damp is the time to trim up any sharp or uneven edges. Use a plaster knife.

Allow the casting to dry completely by placing it on a rack where the air can circulate around it. This can take a day or so depending on the size of the casting. When work is required urgently we place castings on top of an oil heater and this cuts the time down to hours.

Final cleaning and smoothing can now be done using a sanding sponge available at any hobby ceramic studio where they are used to clean off seam lines.

IMPORTANT: Never pour excess or waste plaster down a drain. Allow it to harden in the mixing bowl. Then flex the bowl and it will come away cleanly and can be wrapped up and disposed of with your garbage.