

Casting Instructions

How To Cast Blocks

Get your materials together. You will need:

1. **A casting material.** Here's a few you can choose from:
 - **Plaster of Paris-** It's the cheapest and easiest material to find. It's also not very strong and will chip easily.
 - **Dental Plaster-** The video (above) shows me using a dark gray version. Dental plaster is the best material available. It's also more expensive. I have a review of it on the Dental Plaster page.
 - **Others-** These include Hydrocal, Durham's water putty, Rockite, and many other types of patching plasters and cements. For a list of these products, check out the Customer Reviews page.
2. **A silicone rubber mold-**These molds will create extremely accurate blocks to build with. To see the available molds, check out the Molds Page.
3. **Cheap plastic cups-** I get mine at wal-mart. You want flexible plastic so you can easily remove dry plaster from them. I like the clear plastic ones myself.
4. **A 4 inch wide putty knife-** I don't like the plastic kind. Metal ones are straighter, more durable, and clean the molds off better.
5. A **spoon**, a **cooking timer** or wristwatch, a roll of **paper towels**, and an easily cleanable **work surface**.
6. If you want to use the **wet water** method shown on the video, you will need a small **spray bottle** and some **Jet dry** rinse agent. For more information on the wet water method, chick out the Advanced Casting Instructions page.



Mixing and Pouring Plaster

Put about **1/2"** of water in one cup. Fill a second cup with dry plaster. Please note that we are **not going to use all the dry plaster** in the cup, It's just handier to pour it from a cup than a big box. We are going to **lightly shake** (sift) some dry plaster into the water. As you shake some in, you will notice the plaster sinking to the bottom

1.



As more plaster sinks to the bottom, it will start to pile up. Keep adding **until you see a lumpy texture form on the surface.**

2.

Here's a close-up of the plaster. You'll notice that all the particles are wet but the surface is lumpy. At this point, the water has soaked up all the plaster it can and you've mixed it perfectly.

If you have a mound of dry plaster that the water can't soak up, than **you've added too much plaster** (add water).



Using a spoon, **gently stir** the plaster to remove the lumps. It should be the **consistency of a thin milk shake** or pancake batter. Getting the consistency just right will take a few casts.

3.

If you mix it **too thin**, it will pour into the mold easily, but **will have no strength** when it's dry (it will crumble). If you mix it **too thick**, it will be nice and strong, but I doubt you will be able to pour it into the mold without air pockets forming.



Spoon the plaster into each pocket of the mold. Pour enough plaster in so it **slightly humps up** in each pocket. When finished, wipe off the spoon.

4.

Pound your fist on the work surface. This will jar the plaster and release air bubbles (it's also great for getting out those frustrations). You can make a simple work surface using a small piece of plywood with a piece of kitchen sponge under each corner. Check further below on how to make a simple work surface.



Scraping the Mold

Set a timer (or look at your watch) for **6 minutes**.

1. Sometimes after 6 minutes you'll see a layer of water form on top of the plaster. To make scraping the mold a little neater, you can lay a paper towel over the mold to soak up this excess water. Save the paper towel to wipe off the putty knife later on.



Setting time for the plaster may vary depending on the **type of plaster** you use, **how thick** you mixed it, and the **temperature of the water** while mixing. Warmer water will help the plaster set up faster.

2. When the **plaster reaches the consistency of toothpaste**, gently scrape over the mold with the putty knife. The plaster should **stick to the knife**. Wipe off the knife with a paper towel and repeat the scraping until the **top of the mold is clean** and the **top of the blocks are all level**.

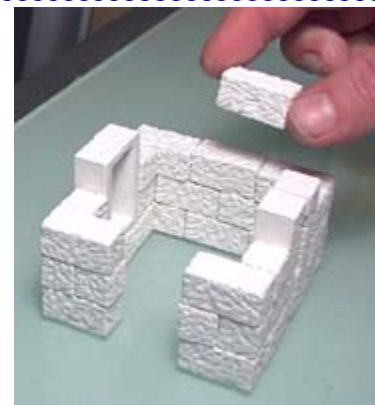


3. Let the mold set for at least **20-25 minutes**. Afterward, simply flex the mold and pop the bricks out. **Each brick is perfectly detailed** and should be **extremely accurate** in size.



4. Let the blocks **dry thoroughly** before gluing and painting. I got a food dehydrator one Christmas and I wondered "What the heck am I ever going to use this for?" Now it makes a wonderful block dryer which dries them in about 3 hours. Another way to speed up the drying process is to put them in the oven and bake them at a **low temperature** for a few hours, or place them in front of a fan overnight.

Most any glue can be used to assemble the bricks with. **Anything that can glue porous material** will work. My favorite is Tacky glue that you can get at wal-mart or any craft shop. For steps on how to build and finish your model, check out the models at the bottom of the Home Page.



Making a Work Surface

A work surface is helpful for removing air bubbles. You can pound your fist on the table, but it won't be as effective as using one of these. To make one, you'll need a **small piece of plywood, a kitchen sponge and some duct tape**.

1.

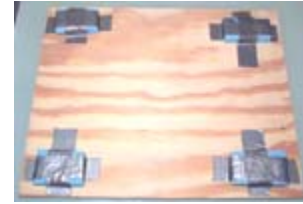
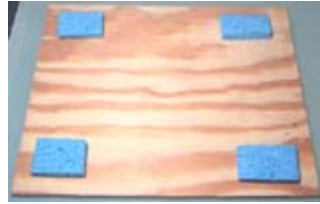
Usually a **1 foot square piece of plywood** will do, but you can make it larger depending on how many molds you want to cast.



2.

Cut the sponge into 4 squares and place one on each corner.

Use the duct tape to hold the sponges in place.



3.

Flip the board over. Now when you pour plaster into the mold, you can pound your fist on the board and it won't shake the whole table. The work surface puts a lot more force into jarring the mold and releasing air bubbles.

If you get plaster on the work surface (and you will), simply scrape it off with the putty knife when it dries.



If you're using only one small mold, making a lot of blocks can take a while. It's best to do this while working on other projects. For example:

1. I'll pour one mold and set a timer for 6 minutes.
2. While I'm waiting, I'll paint a base coat on a miniature I'm working on.
3. When the timer goes off, I scrape the mold and reset the timer for 25 minutes.
4. While the blocks are setting up, I'll paint base colors on the miniature until the timer goes off.
5. I remove the blocks, pour a new batch and continue the process all over again.
6. At the end of the day, I have enough for a building while getting other projects done.

Another way to **increase the amount of blocks** you can make is to simply buy more molds. **Many times I have up to 9 different molds going at once.** While three molds are setting up, I'm pouring the next three. In a couple of hours, I have enough to build a mansion.