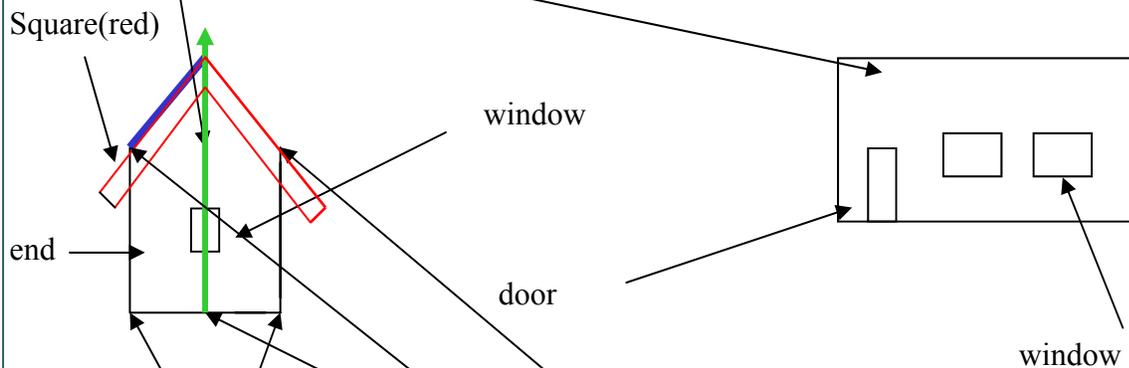


How to make poured cement buildings

Start by making a paper pattern of the building you wish to make. Determine the length and height of the walls. Determine what windows you will be putting in and their position.. Next draw your ends and decide whether you are putting in windows or not.

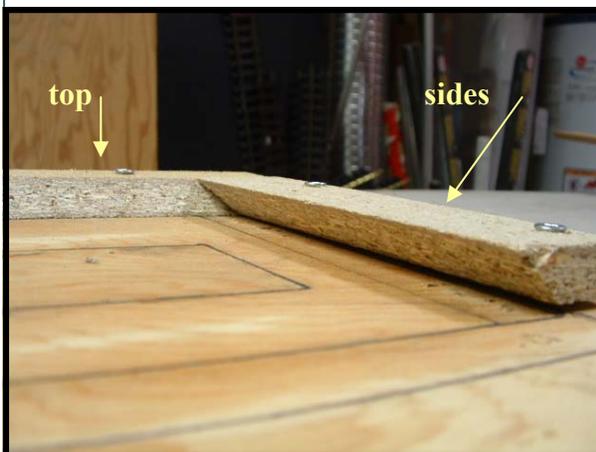


To get a 45 degree angle to your roof which is the easiest to do, measure the distance between these two points Find the middle and mark it. Now take your square and draw a line up (green) up from the mark. Put the point of your square on the green line and slide it up or down until the sides of the square meet the top of the end wall here and here You now have a 45 degree angle. Draw 2 ends and 2 sides. Cut out your patterns

Make sure you have a piece of plywood big enough to accommodate all the pieces of your house.

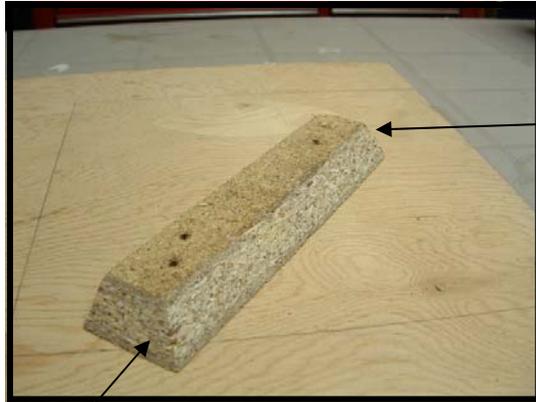
Time to make the wooden jig. I use 1/2 inch plywood for small building jigs, 3/4" plywood for larger buildings.

The tricky part is to make the sides and top of the jig for your walls at a 45 degree angle.



It is easier if you cut long strips of plywood at a 45 degree angle on your table saw then simply cut the length you require.

Diagram 1



The piece for both sides should look like this

This end is cut straight

Diagram 2

This 45 degree angle will rest against the piece at the top of the jig see diagram 1



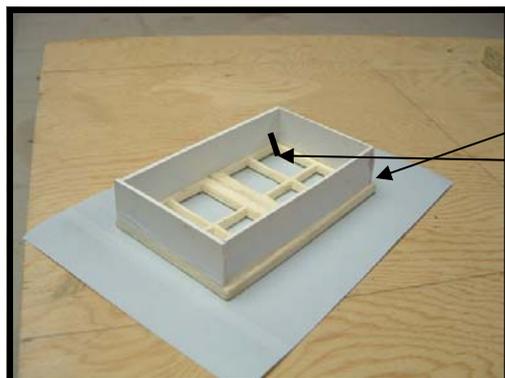
Diagram 3

The completed jig for the sides should look like this. Screw all pieces together except the bottom piece and mark the outside of the jig with a magic marker. This will make it easier for you to place your jig down for the next building you make of the same size.



Cut a piece of Precision sheet plastic(with a pattern of your choice) to the exact size of your walls and insert it from the bottom. **Wrong side up** screw the bottom piece in to complete the jig.

Diagram 4



Using styrene make a simple box and glue it to the window as shown here

Nails in each corner

Diagram 5

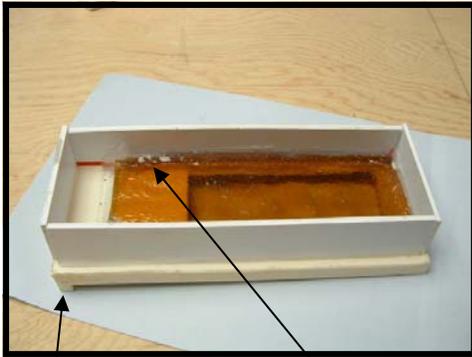


Diagram 6

Door sill

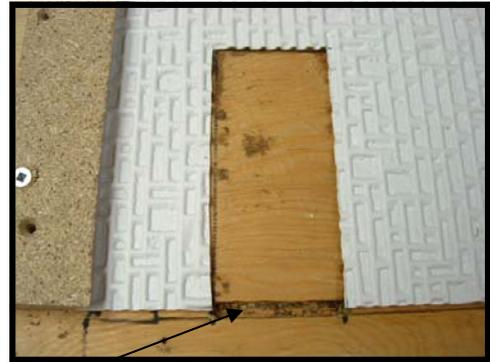


Diagram 7

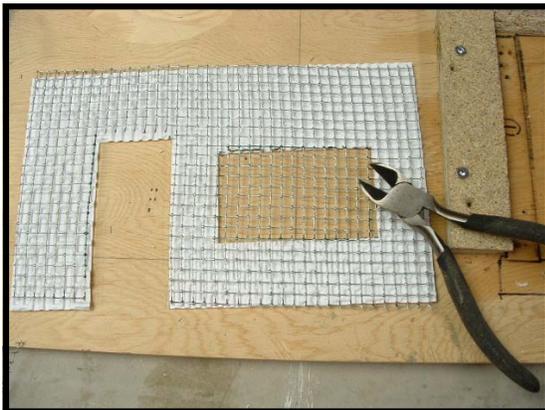
If your door has a door sill you must make an indentation in the plywood to accommodate it. I use my "Dremel" to do this, if you don't have one use an exacto knife.

Place your door in its proper place and cut an opening in the Precision Plastic. Make the indentation as shown in **diagram 7**

When you put the door in it will stay put because you will put the sill in the groove you made on your plywood.

You may now cut your glass for the door and glue it in with clear silicone, making sure the silicone is only on the outside perimeter of the glass here

Place your window on your Plastic to see how it looks, cut a square opening to fit the window. Use finishing nails in each corner of the window to secure the window so it doesn't move when you pour the cement. **see diagram 5**



Using your paper pattern for the size of your walls cut a piece of 1/4" hardware cloth available at Home Depot. Cut the openings for your windows and doors. Make sure it fits over the windows and doors. Set this piece aside.

Diagram 8



Your jig should now look like this

Diagram 9

Oil the jig including wood and plastic with any vegetable oil. Use a paintbrush to do this and try not to have an excess of oil on the plastic as this affects the cement to some degree.



I use ordinary sand mix cement to do this. I mix it to the consistency of a thick cake batter. It must be wet enough to get in around the windows and not create air pockets. I also use “Welbond” glue in the water that I use to mix my cement. This adds a lot of strength to the cement. Proportions are about 1/2 cup mixed in a litre of water.

Diagram 10

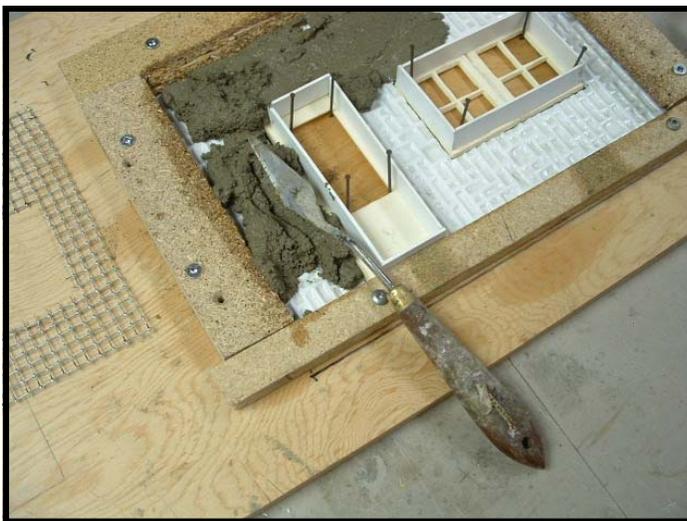


Diagram 11

Put in the first 1/4” of cement all over as shown. I use a spatula to get into the tight spaces around the windows. Make sure you cover the whole plastic..

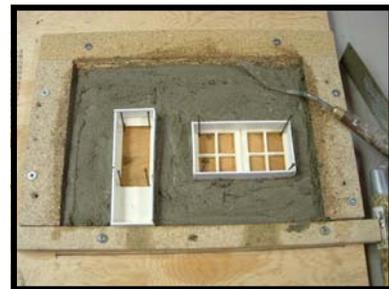


Diagram 12



Place the hardware cloth in.

Diagram 13



Place the second 1/4" of cement on top of the hardware cloth and when you have finished it should look like **diagram 14**

Make sure the top is nice and smooth with no bumps and level all the way

Diagram 14

To be on the safe side let the cement sit for 2 days before you take the jig off.

Unscrew the jig and gently lift the piece out, remove the plastic and the inside should look like **diagram 15** →





The outside should look like this.

At this time you may take your exacto knife and gently remove the flashing around the edges of the windows and sides. Here and here

If you wait you will not be able to do it as the cement will become too hard.

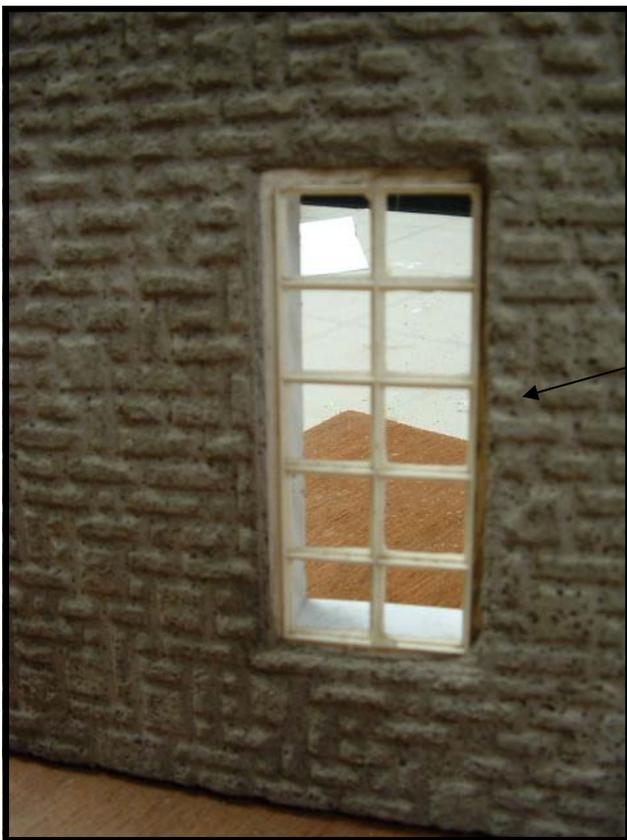


Diagram 16

Your finished window should look like this.

Now, cut your glass, I use stained glass available at any stained glass studio, I put the pattern side to the inside of the building. The smooth side is facing the outside. When the building is lit, the pattern stops anyone seeing the inside but the light shines through and gives a nice glow. Use amber glass it warms the building at night.

The smooth side assures that you will be able to clean the windows easily. Working on a flat surface lay the glass in pattern side facing up. Put a bead of glue around the perimeter of the window. Let it dry.

Diagram 17

Follow the same method for the walls and ends.

Roof

To get the height of the roof measure this distance and add at least 1/2 “ see [blue line on the front page on the first diagram](#).

Next, measure the length of the walls (**not the height**) and add at least 1/2”

This is the size of the roof.

Make the jig with 1/2” thick plywood with no angles. **All straight edges**

Proceed as with the walls and ends but use a shingle pattern or your choice of Precision Plastic

Once all your pieces are done make sure they cure for at least 21 days.

Then use PL Premium Construction adhesive to glue the pieces together. Use a square when assembling your building.

Add a chimney. Use styrene to make the form . Make sure it is water tight. use the same sand mix but this time mix the cement more “soupy” so that you are really pouring the cement. This will make sure you get a nice finish.

Seal your building with 4 coats of Concrete Sealer available from Home Depot.

GOOD LUCK!



You could make this engine shed with this method.

