



# FREE

**StyroHome Building Instructions,  
Plans, and Cutting template.**

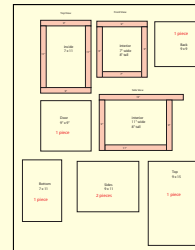
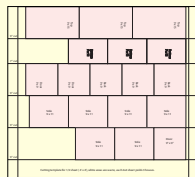
<http://elwood.longlines.com/~jobob1/>



I designed the StyroHome for spaciousness and more box-like to make assembly much easier. The removable front panel makes nest checks or nest replacements simple by undoing the two homemade thumbscrews.

I used 1" pink styrofoam panels bought at a Home Center, I felt that the Owens Corning was smoother and more compressed than the blue stuff found elsewhere. I needed to cut the 4 x 8 sheet in half at the store in order to get it home. Therefore, the cutting template reflects this fact and you will get 6 complete houses from one full sheet of styrofoam.

The plans/cutting template are pages 6 and 7 of this pdf.



Cutting the styrofoam is difficult with any device that uses teeth to cut. I found the best method was to use a large utility knife blade. This rig I devised worked well running along side a straight edge such as a 4' level. I sandwiched the large blade at an angle between two pieces of 1 x 2 using 1" drywall screws to tighten the blade into position. It was really hard to cut all the way through in one pass, so I adjusted the depth to about 3/4". Then, I could use another knife to finish the cut. This worked extremely well, as I could make a straight perpendicular cut which I couldn't achieve by hand.



The other way I cut the material was to fasten a blade to a piece of wood and then to my table saw, this way I could use the fence to cut all the similar cuts so the houses would be consistent and relatively square. Once again, I adjusted the depth of the cut to 3/4" for ease of slicing the styrofoam. My wife helped shove the 4 x 4 sheet through. Finished the cut by hand using another utility knife.



The glue I used is PL polyurethane and made for foam, etc. It is waterproof. Needs 24 hrs. to be full strength. Larger bottle and less expensive



### Step 1

Glue the two 9 x 11 sides to the bottom 7 x 11 piece. Use a 7" spacer to keep it square, you'll regret it if you don't. I used blue painters tape to help hold pieces while they set. As with Gorilla Glue, it swells, bubbles, and oozes as it sets. The tape also helped to keep the oozing under control to a certain extent, later on I just trimmed the excess off with a utility knife.



### Step 2

After the 24 hour setting time is over, clean up your work, remove excess, etc.  
Glue on the 9 x 9 back panel, be sure back is flush with the top of the sides so the roof will fit properly. May want to use your 7" spacer inside again to keep it square.  
If the back is not exactly correct, let it float long or short on the bottom end.

No Pic

### Step 3

After the 24 hour setting time is over, clean up your work, remove excess, etc.  
Glue on the 9 x 15 roof panel.

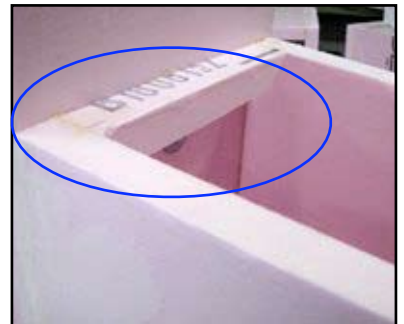
Pic on right shows assembly. Except that we haven't installed the pvc vent yet.



### Step 4

After the 24 hour setting time is over, clean up your work, remove excess, etc.

Now we need to glue in a 1" strip under the roof so the door has a stop to keep a good seal when door is mounted.



### Step 5

We can install the eyebolts. I believe I used 5/32" x 2 1/4", or such. Since I am using 3/8" rods to hang the houses, I had to make sure that the interior measurement of the eye was also 3/8".

I used large 1" washers on top and under the roof so that it wouldn't break the styrofoam when under stress from wind, etc. I used a regular nut on top and an acorn nut with built-in neoprene washer on bottom that would prevent the nut from working loose.

I only let enough thread exposed beneath the roof for the nut to fit, didn't want the birds banging their heads on the threads.



### Step 6

After the 24 hour setting time is over, clean up your work, remove excess, etc. Now we can install the vent.

Using an exacto knife, cut a hole for the vent about 1/2" below roof line.

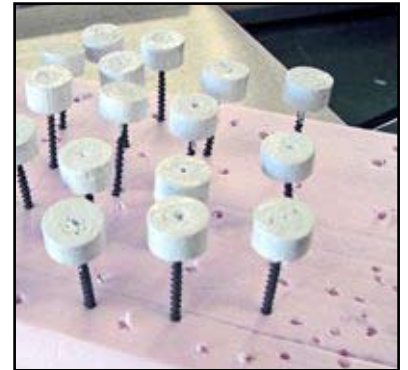
I used Phenoseal pictured to the right. It is also an adhesive and is paintable.

I also smeared it into all the outside joints due to gaps caused by the oozing PL polyurethane. It creates a good seal and paintable surface.



### Step 7

To make the thumbscrews that hold the doors on, I used 3/4" dowel cut into 1/2" lengths. Drilled a hole slightly smaller than the diameter of the 2" drywall screw and countersunk the hole so the screw was flush or slightly below the dowel. Be sure to use screw with threads that go all the way to the head. Squirt glue into dowel hole, screw the screw in, and let stand till glue has set. Paint wood dowel.



### Step 8

Make the holes in front door for the thumbscrews. Measure down from the top of the door panel 4.5" and 1/2" from edge on both sides. Create a hole for the sleeve to fit snugly.

I used 1/4" rubber drip irrigation tube as my sleeves to prevent the thumbscrew from tearing up the foam.



### Step 9

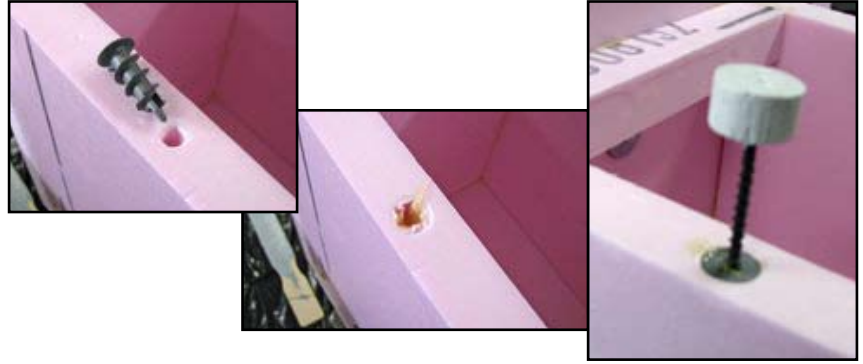
Mark the hole position for the anchors by pushing the Thumbscrews through the door panel.



### Step 10

Enlarge marked hole. Screw in the drywall anchor flush to foam. Remove the anchor and fill hole with glue. Now reinstall the anchor in the hole and let it set.

After it sets up use the thumbscrew to create threads in the anchor so it goes in and out easily.



### Step 11

Place door panel in position, mark opening and cut out for the tunnel.

The position of the cutout takes into consideration of the 1/4" thick nest tray and allows another 1/4" for them to step down into the home.

Note: Make sure that you use a 3/4" washer beneath the thumbscrew so as not to roughen up the foam when removing the thumbscrews.



### Step 12

Make holes for machine bolts to align with tunnel holes. Floor of the tunnel was mounted flush with the cutout.

I used #8 x 1.5" and 3/4" washers on both sides.



Note: When hanging the houses, I used this dampening system consisting of styrofoam pipe insulation. I placed the foam between the house and the rod, creating a circle and then joined two of them together with short piece of pvc pipe and duct tape to hold them together. This inter-locking of pipe insulation stopped the wild swinging of the houses and seem more stable than the old gourds we used.



### Step 13

Remove tunnel, Prime, Paint, or decorate as you please. I used a latex primer and Rustoleum latex gloss white paint.

This is what I did. I may have left out something, but you martineers are truly inventive and will come up with even better ideas to make it work for your particular application.

The two sheets of Styrofoam was about \$21.00. The hardware was triple that, more or less. The tunnels were bought from S & K Mfg in Missouri at \$4.00 each. When all was said and done, the 12 StyroHomes probably cost somewhere in the neighborhood of \$12-\$14 each, but supplied a lot of fun this winter.

Don't forget a nest tray of some kind.



Visit our web pages and Good Luck!



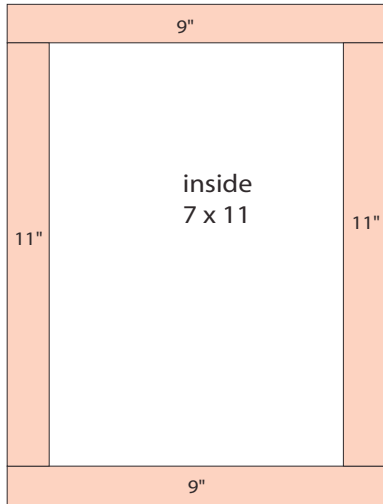
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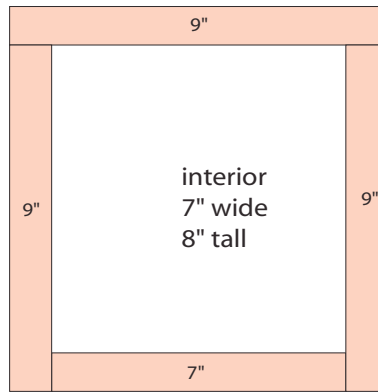
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# Dimensions and Elevations of StyroHome

Top View



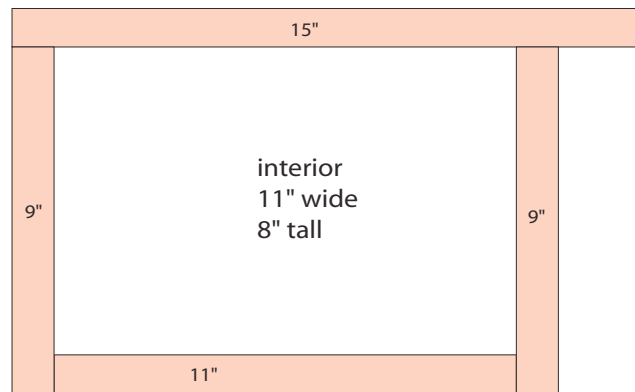
Front View



1 piece

Back  
9 x 9

Side View



Door  
9" x 9"

1 piece

Bottom  
7 x 11

1 piece

Sides  
9 x 11

2 pieces

Top  
9 x 15

1 piece

# Cutting Template

