

MAKING AN ALL-GLASS TERRARIUM



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What can be nicer than making your own terrarium? For me the answer to this question is: introducing the animals for the first time.

At home I've got seven terraria, all of which I built myself. Four of them have been made to fit their particular location in the house. The last three are made of glass and are relatively simple and cheap to make yourself.

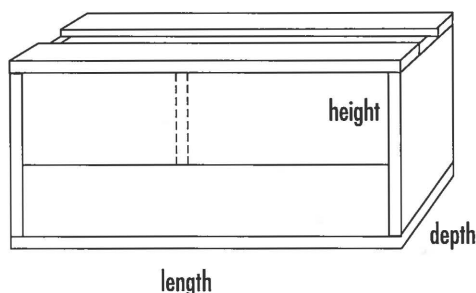
When you buy glass at a store it's more expensive than getting it from an acquaintance that cuts glass (old or new that cannot be used anymore for the original purpose) to size for a pleasantly small fee. Cutting glass yourself is a trick, that, when you get the hang of it, makes it even cheaper, because there always a store that sells panes of (used) glass.

When you design the cage you need a good construction plan. In my designs I always let the sides rest on the bottom plate. The top plates rest on the vertical side plates. Furthermore the design includes to sliding plates at the front and a ventilation panel (aluminium or iron with holes, available at good specialist reptile stores) on top.

You need to pay attention to the thickness of the glass you want to use. This depends on the size of the terrarium and the species of snake you want to keep in there. I think 6 mm is a good thickness for cages with maximum dimensions of 80 cm.

As a rule for the surface area I use the following: length + depth of the cage = maximum length of the snake. The type of snake, terrestrial or arboreal, determines the height of the cage.

When you have determined the size of your cage (length, depth and height) you can use the measurements and drawings below.



To determine the size of the glass plates in the model above you can use several formulae. The meaning of the letters in the formulae is as follows:

t = thickness of the glass in mm
l = total length of the cage in mm
d = total depth of the cage in mm
h = total height of the cage in mm
hv = height of the front plate below the sliding doors in mm

I chose to make a gap of 80 mm (= 8 cm) between the glass plates on top, so that if you

Formulae to determine the proper size for each glass plate:

	<i>General formula</i>	<i>Example (mm)</i>
Total length	l	800
Total depth	d	700
Total height	h	600
Glass thickness	t	6
Height of the plate beneath doors	hp	150
Bottom	$l \times d$	800 x 700
Left vertical plate	$d \times (h - 2xt)$	700 x 588
Right vertical plate	$d \times (h - 2xt)$	700 x 588
Back	$(l - 2xt) \times (h - 2xt)$	788 x 588
Front	$(l - 2xt) \times hv$	788 x 150
Top 1	$l \times [(d - 80):2]$	800 x 310
Top 2	$l \times [(d - 80):2]$	800 x 310
Sliding door left	$(h - hv - 2xt - 10) \times (0,5xl+20)$	428 x 420
Sliding door right	$(h - hv - 2xt - 10) \times (0,5xl+20)$	428 x 420

glue a 100 mm wide, metallic, perforated plate on top the overlap will be 10 mm on each side. In the example the exact measurements are shown for a cage of 800 mm x 700 mm x 600 mm with 6-mm glass and a 150-mm high front plate beneath the sliding doors.

The height of the sliding doors depends on the kind of rails used. I always use the well-known plastic rails that can be bought at any DIY centre. The rails with the deep grooves are glued to the top, those with the shallow groove to the bottom. When you want to place the sliding doors, first insert them into the top groove, then lower into the bottom one.

The rails have a certain thickness themselves and you also need a little room to insert the doors. Therefore you subtract 10 mm from the distance between the lower front plate and the

top of the cage to determine the height of the sliding doors. Those 10 mm are incorporated in the formula.

When closed, the sliding doors should overlap. The number 20 in the formula makes the overlap $2 \times 20 + 2 \times t$, which, with a glass thickness of 6 mm, results in an overlap of $40 + 2 \times 6 = 52$ mm. This is an ideal size for a sliding lock.

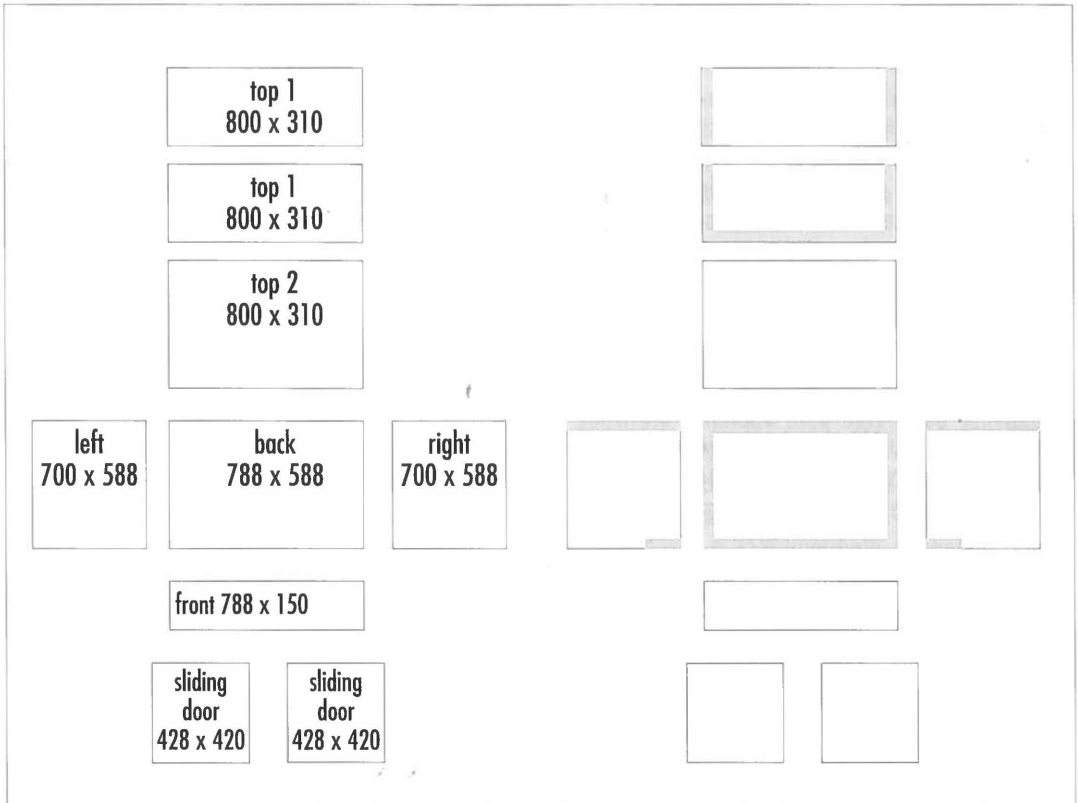
RESULT FOR THE CAGE IN THE EXAMPLE:

In order to glue the cage together you can use the following methods:

Tape every plate in such a way that after glueing the glass together 8 mm remains between the tape and the glass. With 6 mm thick plates you should tape 14 mm from the edge of the glass.



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Place the bottom on a smooth surface and make sure that on all four sides strips of tape stick out to the side from the bottom of the pane.

Apply silicon glue to all edges of the bottom pane and the appropriate sides of the side and top plates. You can use the drawing above as a guide.

Glueing it all together is easier with another person's help.

- Place the left sideplate on the glue on the bottom plate.
- Put the backplate on the glue on the bottom plate and press it against the glue on the left side plate.
- Take the right side plate, place it on the bottom and press it against the back plate.
- Position the front plate on the glue on the bottom and insert it between the left and right side plates.
- Attach all the plates to one another with a strong kind of sticky tape.

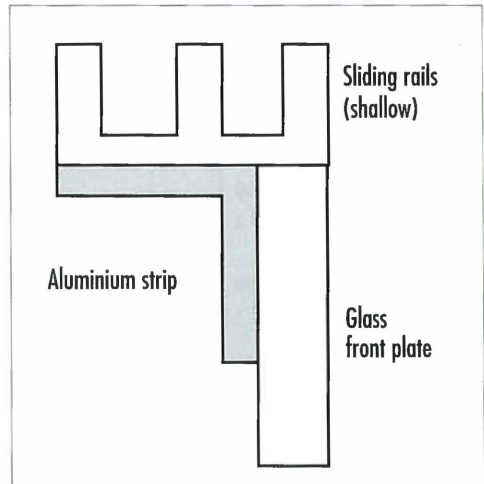


- Put the top plates in their place and attach them to the sides and back with tape.
- Apply glue to all corners on the inside of the cage and smooth the glue by streaking along the sides with a wet finger. The tape you applied earlier makes sure you don't smear the glue all over the glass.
- When everything looks finished, remove the tape along the edges of the glass while the glue is still wet.
- When the glue has hardened enough (at least 24 hours) you can remove the pieces of tape that held everything together.

In order to facilitate the attachment of the bottom rail I use an aluminium strip of 15 x 15 mm. I attach it with silicon glue to the inside of the glass front plate. The (shallow) rails are then glued to the aluminium strip and the glass front plate. Use clamps when you attach the rails, but do not touch the glass with those. Insert a piece of board or wood.

To ventilate the terrarium I use perforated aluminium sheets. From the sheets I cut pieces that are 100 mm wide and the length of the cage plus 30 mm (in the example above that comes to 830 mm). I bend the outer edges of the strip in such a way that the strip fits symmetrically over the top plates. Attach with Bisontix or a similar glue (silicon glue will also do.).

I always use ceramic lamp holders. To attach two holders I make holes in the aluminium vent in such a way that the top part of the holder is on the outside of the vivarium and the



bottom part inside. I run the electrical cords through a plastic tube to the desired location. You often see that the edges of vivaria have been finished with plastic strips. I don't think that this is necessary if the work was done well. Attaching those strips can, however, be nice if their colour adds a nice touch to the interior of the room they are placed in.

I hope this article wasn't too technical and that it will inspire you to try and make your own vivarium. Don't, however, go blindly by what I've written. Plan your construction well and make accurate drawings. Even I managed to do it.

Finally, decorate everything according to your wishes with bark, wood chips, plants, branches, lights and a waterbowl, then introduce the animals and enjoy your own achievement. Good luck!

Translated by *Ron Winkler*
Corrected by *Chris Mattison*

