

Studio Acoustic Construction

Overview

We will be building two different absorbers – broadband and bass.

Broadband

These are slabs of Tontine Acoustisorb3 or CSR Martini Absorb (**2400x1200x100mm**)

(These are for a pack of 3-[https://](https://www.bunnings.com.au/csr-martini-absorb-hd-r2-7-2400mm-x-1200mm-x-100mm-8-64m2_p0811173)

[www.bunnings.com.au/csr-martini-absorb-hd-](https://www.bunnings.com.au/csr-martini-absorb-hd-r2-7-2400mm-x-1200mm-x-100mm-8-64m2_p0811173)

[r2-7-2400mm-x-1200mm-](https://www.bunnings.com.au/csr-martini-absorb-hd-r2-7-2400mm-x-1200mm-x-100mm-8-64m2_p0811173)

[x-100mm-8-64m2_p0811173](https://www.bunnings.com.au/csr-martini-absorb-hd-r2-7-2400mm-x-1200mm-x-100mm-8-64m2_p0811173)) in a frame, then covered in fabric. This is then fixed to the wall at sitting head height, or suspended from the ceiling.

Ideally, they are spaced 100mm from the wall or ceiling, but can be flush if needed. If they are to be mounted flush to the wall, the rear surface need not be open. The 100mm sides are better to be open, but can be covered with wood or metal if needed for stiffness.

We can add a layer of chicken wire to the front if we are worried about sagging. We can also do half size panels (1200x1200mm) if that is easier.

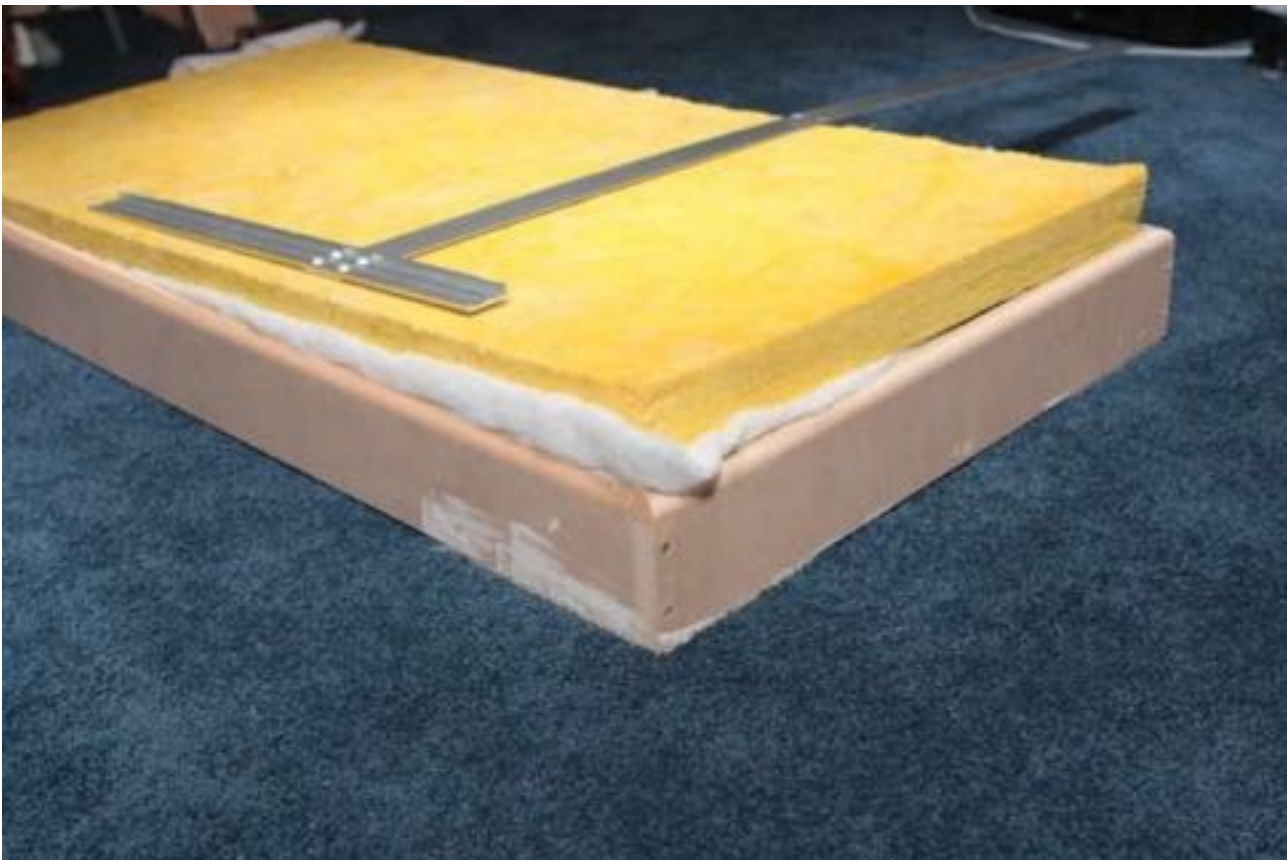
Here are some construction examples:













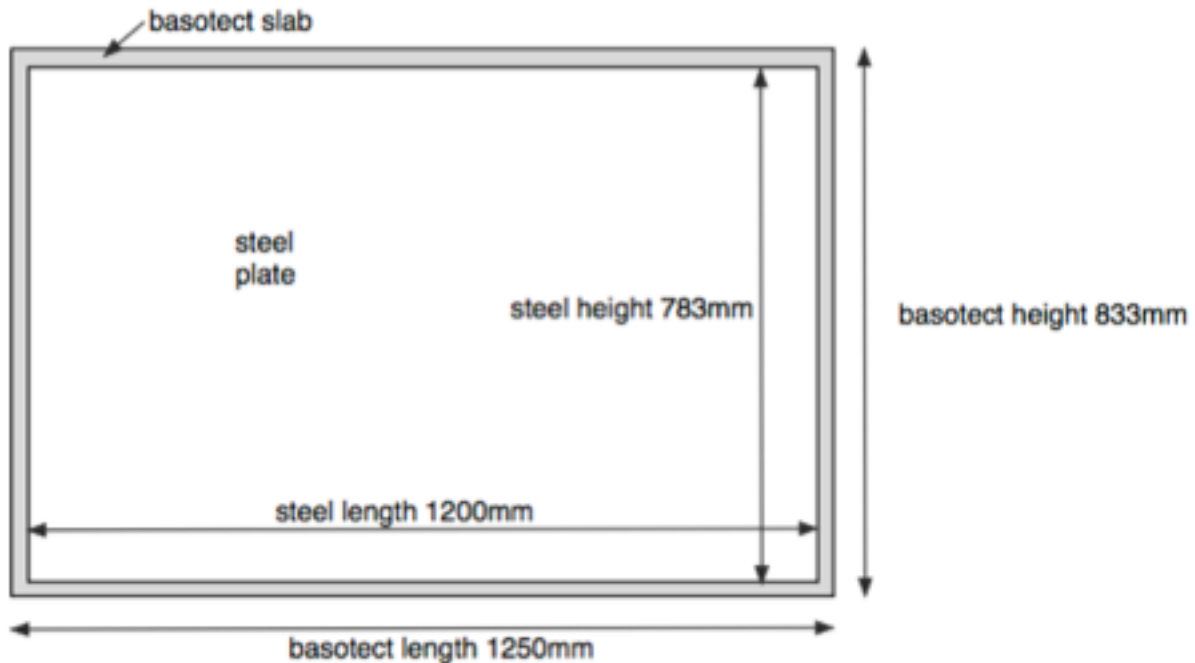
Bass Absorbers

These are trickier. It is a 1mm sheet of steel glued to a slab of Basotect. We design it so that the steel is never closer than 25mm from the edge of the foam. Our best size is as follows:

basotect slab

Our Basotect comes in slabs of 2500x1250x100mm. We slice that into 3 slabs of 1250x833mm. Therefore, our **steel sheets are to be 1200x783mm**. ColdRrolled is fine, and we can use ColorBond for aesthetics.

The commercial products are usually 1500x1000mm. However, if this is too big for the side walls (it would push our broadband absorbers up out of



their most effective position). We do incur a slight penalty for making them smaller in the 20Hz region.

The glue we use is very important. Ideally, a very thick PVA glue (so that it soaks into the foam). But Liquid Nails should also work, but we will have to check and confirm. The steel sheets will be 7.5kg each.

The rear of the foam can be attached to mdf for ease of mounting, but is not necessary for the acoustic design.

The commercial products based on this design are surrounded by a frame with a lip that extends just over the steel sheet without touching. Like this:

It would be safer (in the event of a plate detaching) but would dramatically increase our costs. If we were to do this, the sides must be open to the air. Here are some construction examples, however, some do not conform to our specs:

