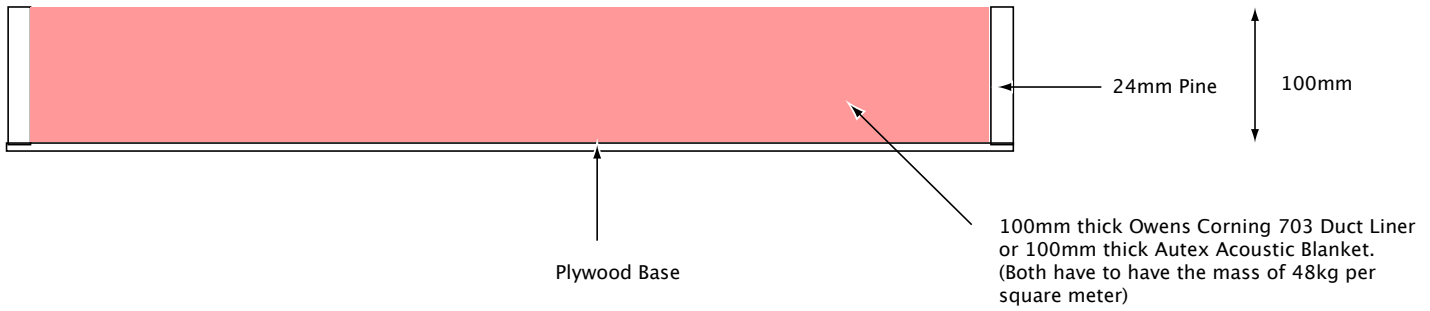


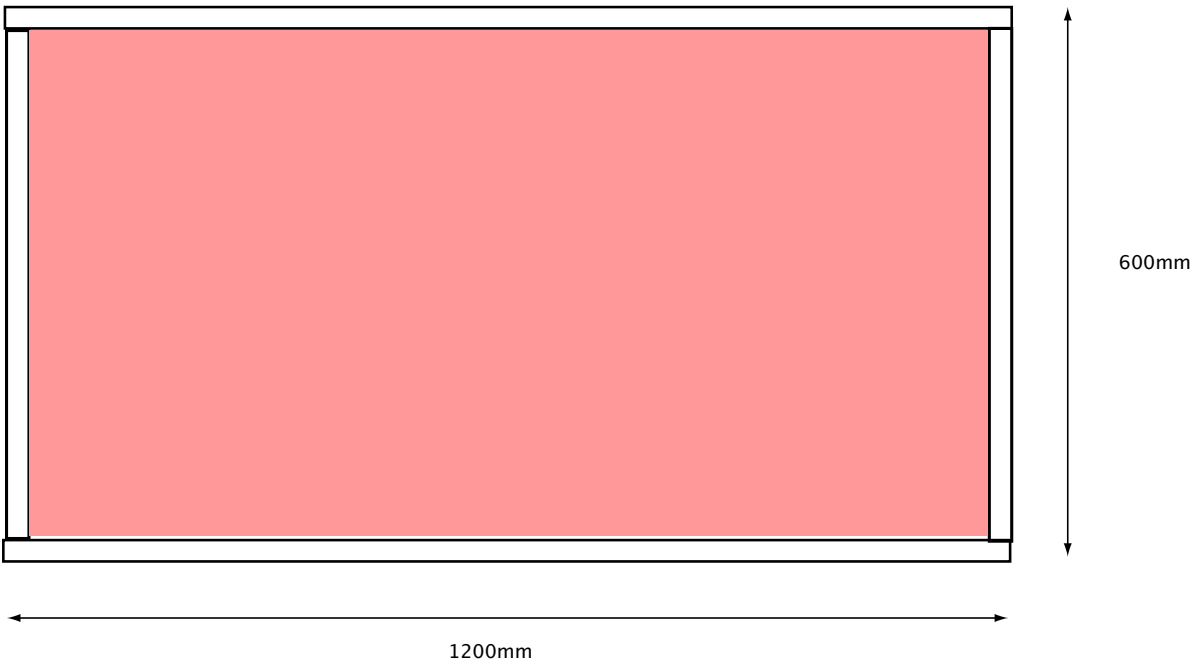
# Wideband and Helmholtz Absorbers Suitable for Acoustic Correction.

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Wideband Absorber side view



Wideband Absorber front view



This was the method of housing the Autex in my studio, however I have seen installations where the Autex has been simply glued to the wall. I would not recommend this as it gets dirty quickly. I built frames that I upholstered with a cloth covering and velcroed these to the from of these panels to provide a suitable cosmetic appearance. If you use fibreglass 703 you will have to do the same as fibreglass is not "people" friendly. 2 layers of 50mm 703 will be fine if 100mm 703 is unavailable.

## Absorption Coefficients

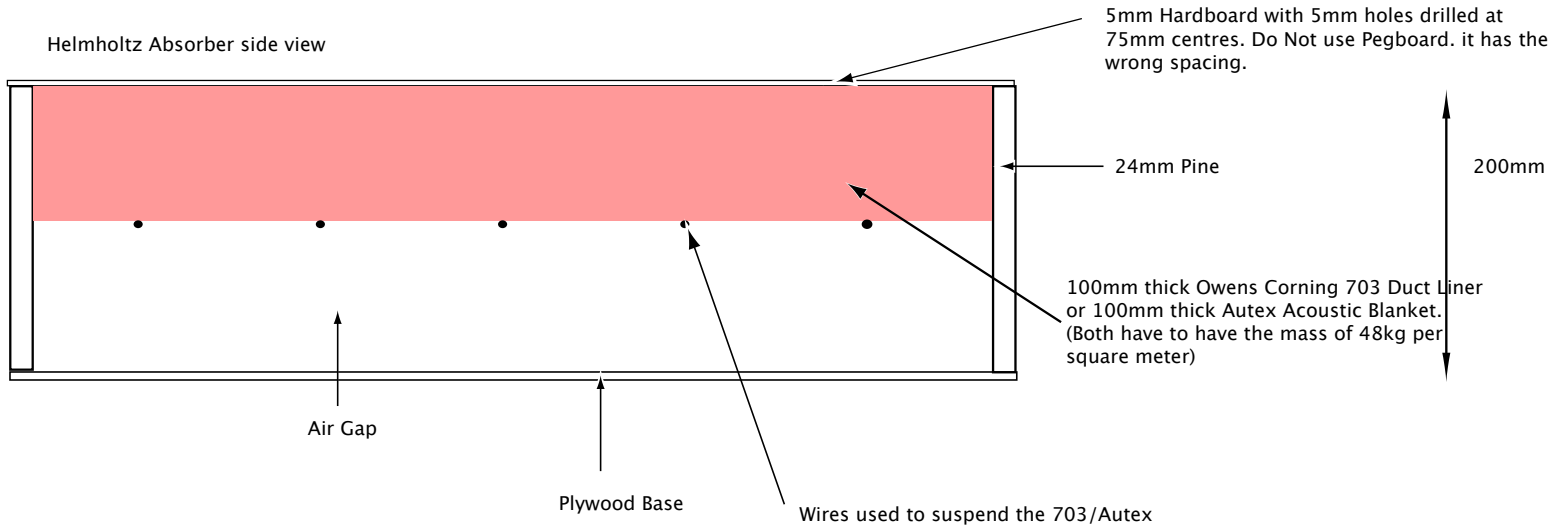
Freq	125	250	500	1000	2000	4000	NRC
200mm 703	.99	.99	.99	.99	.98	.98	.95
200mm Autex 25-100		.50	1.00	1.10	1.05	1.05	1.00

As can be seen the Autex is not as good as the 703 at the bottom end so correction for this will have to be made with Helmholtz Resonators.

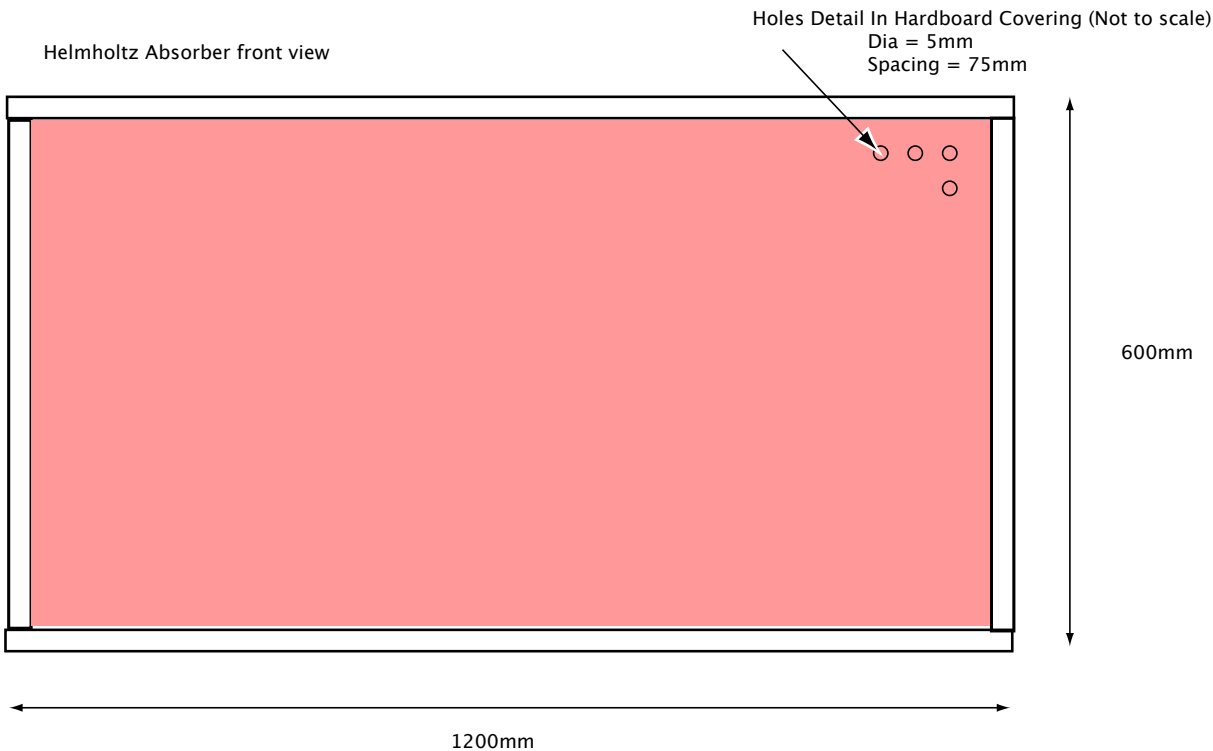
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Helmholtz Absorber side view



Helmholtz Absorber front view



703 or Autex can be used in the Helmholtz and it's characteristic will be about the same in either case as it's function is to damp resonances in the box. You can see the Hardboard has lots of 5mm holes spaced at 75mm centres and there is a temptation to simply use pegboard. Don't. Pegboard is 5mm holes spaced at 25mm centres and this alters the resonant frequency of the resonator to a much higher frequency which is no good. Avoid making the Helmholtz resonators any larger than 600mm wide x 1200mm as bigger boxes have modal resonances that can make the absorbers less effective. The large Helmholtz in my studio roof is actually an array of 600 x 1200 Helmholtz's not one huge one. 2 layers of 50mm 703 will be fine if 100mm 703 is unavailable.

## Absorption Coefficients

Freq	125	250	500	1000	2000	4000
HelmHoltz	1.0	.68	.39	.17	.13	.10