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Fabric Wrapped Fiberglass Panel Installation MADE A HUGE DIFFERENCE IN SOUND QUALITY of Residence House

By Ted Weidman

Residential acoustics are difficult because of the desire to remain aesthetic. Surfaces that look like sheetrock are generally hard and will reflect sound. Surfaces that are soft and absorb echo almost always require some creative thinking to get them into rooms while not totally altering the look and atmosphere of the room. I tell people all the time that rooms are like people, what is going to work in one room probably isn't going to work in another and it is best if each one is approached as it's own entity.

I will make a few recommendations by including some links to a few different products below. Once you have had a chance to review them, feel free to contact me with questions. The products listed below are in order of popularity in similar, previous situations – the top product being the most popular.

- **Fabric Wrapped Fiberglass Panels**
- **Walmate® Stretch-Wall System**
- **Sound Silencer™ Wall/Ceiling Panels**
- **Echo Eliminator™ Wall/Ceiling Panels**

Most home owners don't have thousands of dollars to invest into a project like this which is totally understandable. Therefore we need to find a solution that people can afford as well as one that looks like it should be in the space since you will be looking at it all the time. The **Fabric Wrapped Fiberglass Panels** are the most expensive but also absorb the most sound of the four listed above (NRC: 85 = 85%). The price depends on the overall size and color of each panel, so quantities and dimensions are needed to come up with a cost here. I usually tell people to ballpark about $7.00 per square foot for the product (not including shipping)

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Continued on next page...

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but I have seen residential panels with special fabric and labor sell for $15.00 per square foot.

The **WallMate System** ends up looking just like the fabric wrapped panels but is more costly. The disadvantage here is that this product requires the most amount of labor considering it is a site fabricated system. Because this product uses the cotton as the acoustical core, it is cost effective, and I will go into that in a second. Sometimes this is a problem, sometimes it's not at all.

The **Soiund Silencer** is a middle-of-the road product when it comes to the cost, but it is also the least absorbent (NRC: .45 = 45%). The **Echo Eliminator** is the most cost effective and will absorb nearly the same amount of sound as the Fabric Wrapped Fiberglass Panels (NRC: .80 =80%). It looks like felt and the most common issue or complaint is that this product is not finished looking enough. This is understandable because that is not the intent. It is supposed to be a cost effective, yet high-performance "nuts-and-bolts" type of product. These panels are almost always put into boxes and shipped via UPS Ground.

Another question is *"How much do I need?"* This is ultimately going to be up to you, but my recommendation has worked very well in the past. It is not a guarantee or an absolute, but this formula is just a starting point to open the conversation. Multiply the height, width, and depth of the room to determine the cubic volume of the room. If the ceiling is pitched, average the ceiling height and use that. Then, multiply the cubic volume by .03 (3%). The value that you are left with is the approximate square footage of paneling that you need to install in your room, this will get you down to a comfortable reverberation time and take out the echo.

"I am SO much happier with our acoustics. It's a very discernable difference."

Example: If your room is 15' x 25' and the walls stop at 9' and go to 12' you would use the following equation.

Ceiling: (9 + 12 =21) (21 / 2 = 10.5)
15 x 25 x 10.5 = 3,937.5
3,937.5 x .03 = 118

This room would need approximately 118 s/f of paneling somewhere in the room.

Location is totally up to you, so depending on which product you are looking to install, the location of that product is an aesthetic call. The placement of the product is not dictated by acoustical performance. As long as the sound can hit the panels, they will do their job. I would not suggest putting the panels behind a cabinet or entertainment center or even behind artwork. The sound needs to be able to hit the panel and be absorbed.

Hello, Ted!

Our installation is finally complete. It came out great and made a huge difference in the sound quality of our house. It took us 3 days (all together) and it was tedious to work overhead and make sure every measurement was right.

Overall, given what we accomplished – a really good straight forward solution – this was, for us, quite do-able and I am so much happier with our acoustics. It's a very discernable difference.

David and I think the timing, given the economy, is not quite right, but with all the carpetless, vaulted construction out there, your company could have a purely residential division that could do very well. It wouldn't make the money per job, of course, as commercial, but it certainly could provide a much needed solution. The visibility just isn't there for residential. It was hard for us to find a solution. But what a solution!

David and I talked about this midway through the project. Yes, it's fine to use our photos. I would like others to be able to fix this issue in their own homes. You might let them know that if they try several designs to maximize use of the sheets of fiberglass (less waste = less cost) and choose a fabric that allows them to forego the underlaying fabric, it will bring their cost down considerably.

Take care Ted.
Regards, Theri

If you have any questions or need any information about any of the products or applications discussed in this article, please feel free to contact me. I would be happy to do my best to help you.

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