



Acoustical Surfaces, Inc.

SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS

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We Identify and S.T.O.P. Your Noise Problems

Fellowship Hall...

~ Acoustics ~

Do you have a fellowship hall? Do the noise levels in your fellowship hall rise to uncomfortable levels when it is filled with people? Have you been lucky enough to be the one chosen to find out how to fix this? Will you have an entire committee to report to? Do you have a limited budget but need to come up with a solution that is aesthetically pleasing enough to pass a committee vote? Well, this is the article for you.

I get quite a few calls from people doing research on how to acoustically treat fellowship halls. These types of rooms have a few things going against them from the beginning. Almost all fellowship halls have hard, tile floors, and either sheetrock/drywall or concrete walls, which both reflect a large amount of sound. These large, spacious rooms are also intended to house a lot of people. When these rooms are full and people start talking, the noise level rapidly increases. This causes people to increase their voice level and talk louder so they can be heard over the background noise. From here the problem gets exponentially worse.

Acoustical panels are really the only way to control the noise-pressure levels in these types of rooms. This means some of the walls or ceiling surfaces need to be covered. There are a lot of different options on the market for acoustical wall or ceiling panels and each of these options offers it's own advantages and disadvantages. For this example, I am only going to talk about one solution.

The WallMate high-tension fabric system is the product that was chosen to treat the fellowship hall of the Oakwood United Methodist Church, here in Minnesota. This is a do-it-yourself system where we provide the pieces and parts for the system and the panels are built on site. The WallMate track frames each panel very similarly as a canvas stretcher for a canvas painting – pulling tension in all directions at once. The absorbent core is made from very cost-effective and absorptive Echo Eliminator panels. These panels are ashed directly to the wall, inside the track. The fabric is then put in place and help with a temporary, two-sided alignment tape. Finally, the top track is clicked shut followed by the bottom, and then each side. Like anything else, there is a bit of a learning curve to the installation but once that is done the install should go pretty quickly.

The advantages of this option are quite plentiful in situations like this. **1. First, and most importantly, the cost – the WallMate is the lowest cost, yet still decorative, acoustical panel system on the market. The pieces and parts can be shipped by UPS Ground at low quantities, which is cheaper than shipping on a pallet.** **2. Second, because the panels are built on site, the customer is able to fabricate panels of any size. You are only limited by the size of the fabric bolt so the installers are able to get as creative as they want.**

3. Third, the acoustical core is VERY cost effective, easy to use, recycled, and formaldehyde-free. The panel can be cut
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with a sharp pair of scissors and easily glued to the wall.

4. Fourth, the fabric can be swapped out or replaced at any time by simply popping the track open, putting new fabric in place and snapping it shut. If the look of the room needs to be modified, or if someone hits the panel with a dirty volleyball, you do not have to completely replace the panel. 5. Last, the performance. Because the cotton has an NRC of .80, it is a very effective product for controlling echo and reverberation.

Just about every congregation out there has a contractor or two, about six handy-men/women as well as a few pretend handy-men who are willing to help as well. This product is able to be installed by two out of three of these kinds of people. Using some simple skills and common sense, almost any one can learn to install Wallmate. As always I am happy to field installation questions as you plan how to tackle this job. I always suggest that you purchase an extra stick or two of track and the installers build a small 1'x1' or 18"x18" practice frame on a piece of plywood before starting on the wall. This will help you learn the two things that require tactile experience and trial and error – the pre-tension on the fabric and tucking the corners. These two things will require the most practice and skill.

Fabric – just about always a topic of debate when it comes down to the final decisions. I've talked to hundreds of people who were selected or appointed the task of finding an acoustical treatment for fellowship halls and the topic that is almost the most discussed is the fabric. Here's the deal with the fabric – listen to whomever wears matching clothes the most often – they are going

to probably make the best choice. I don't have much to offer when it comes to color, but years of doing this have taught me that it's best to not try to match the walls – use a complimentary color. If you try to match the walls, the color will be just close enough to look bad. Like wearing two black socks that were purchased a few months apart. They're both "black" but not the same black.

"How many panels do we need?" Although I am going to spit out a simple one, the answer to this question can vary greatly. There isn't a cut-and-dry or "always do this" way to acoustically treat a room. I commonly tell people that the rooms and acoustical treatment are just as different from one place to another as are the people that use the rooms. Not all spaces are created equally. The exact square footage, which perfectly suits one room, will change from room to room. With that disclaimer out there, here is the simple equation that I have used for years and been very successful with. Cubic volume of the room x 3% = square footage to install. Multiply the height, width and depth for the cubic volume. Multiply that number by .03. What ever number you are left with, the total area of your acoustical paneling should be close to that number.

$$\text{Square Footage to Install} = \frac{\text{Height} \times \text{Width} \times \text{Depth}}{0.3}$$

From there, it just comes down to a point of fine tuning the room once these panels are installed.

To "take the edge off" and just lower the echo and reverberation of the room, the important thing is how many panels,

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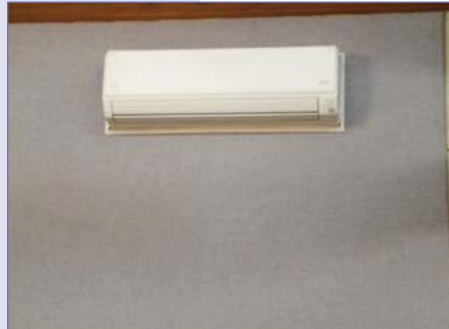
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not necessarily exactly where they are located. This leaves you with a lot of freedom when it comes to panel location. You don't have to put the panels in any specific location for them to work properly. If you were building a recording studio, my answer here would be different but in

cases like a fellowship hall, put the panels wherever you want so they will either look the best or blend in with the rest of the room. Your acoustics will be more balanced when you spread panels throughout a room rather than putting them exclusively on one wall.



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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