



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 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 adhered directly to the wall, inside the track. The fabric is then put in place and held 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, Wallmate is the most cost effective, decorative, acoustical panel system on the market. The 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 panels can be cut with a sharp pair of scissors and are**
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Fellowship Hall Acoustics Cont.

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. Lastly, the cotton has an NRC of .80, which makes which makes it 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 volunteers who are willing to help as well. Using some simple skills and practice, 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: the pre-tension on the fabric and tucking the corners.

Fabric – just about always fabric is 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 whom-ever 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 has taught me that matching your walls is not the best thing to do. Use a complimentary color instead. 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 throw 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 treating a room. I commonly tell people that the rooms and acoustical treatments 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 with the next. With that disclaimer out there, here is a 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. with the number you are left with; the total area of your acoustical paneling should be close to that number.

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

Next it 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 most important thing is how many panels, not necessarily exactly where they are located.

Continued on next page...





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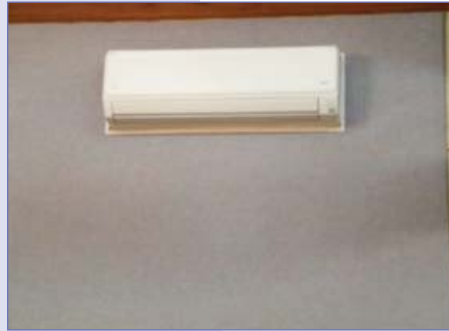
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Fellowship Hall Acoustics Cont.

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. In cases like a fellowship hall, install 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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