Give your customers QUIET

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Creating Quiet

Your clients can have QUIET

Noise is a major issue in both residential and commercial construction. Many times it is not considered until there is a problem. Potential noise problems are best addressed upfront in both existing and new construction. The cost to retrofit solutions after-the-fact is multiple times more expensive than doing it during the construction or remodeling phase.

Solutions should include anticipated use, design of space, choice and location of material, installation method, and desired performance.

Until recently, insulating a wall was considered an adequate sound control method. While insulation is an important first step it must be used with other materials to achieve acceptable acoustic performance.

Below are some rules and suggestions for design of common sound walls.







"Do's and Don'ts" for Sound Walls

- The best sound walls are extreme mass such as concrete; but, are mass-air-mass assemblies (Wall or floor/ceiling assemblies that have an air space between the 2 sides.) are the best solutions for all construction types.
- 4 material attributes are essential to reduce noise. (Mass, Damping, Absorption, Isolation). Most common materials have only 1 attribute.
- **Do** install mass on each side of a sound wall. Gypsum is the most common mass material for sound walls and ceilings. One or 2 layers of gypsum are effective at reducing sound when placed on each side of a wall. **Don't** add additional layers as they provide little to no additional improvement.
- **Do** add absorption in the air space (cavity) between the mass layers. **Don't** over insulate wall or floor cavities. 2" inches for walls and 3.5 " is all that is needed. Additional thickness is in effective. Fiberglass is as good as Rockwool unless low frequency sound is an issue.
- **Do** add damping which can be provided by utilizing several available materials, mass loaded vinyl, damped drywall (QuietRock, SoundBreak), viscoelastic adhesive (Green Glue). **Don't** use more than 1 type of damping as additional damping material will provide little to no additional improvement.
- **Do** add isolation to wood framed wall if greater than STC 50 is required. Common isolation materials are resilient channels and Isolation clips. Floor ceiling assemblies require isolation to work effectively. **Don't** use soundboard to provide isolation as it is ineffective.
- **Do** use light gauge metal framing as it makes much higher performing sound walls. **Do** frame sound walls at 24" oc to achieve higher STC ratings.

For designs requiring specific STC or IIC ratings see the contact information on the back cover.

JWB Acoustical LLC services include design reports, acoustic calculations, and field assessment and verification as needed.