

GacoProFil[®] SYSTEM

The Ideal Noise Reduction Solution

ENERGY-EFFICIENT.

STRONG.

HEALTHY.

RESPONSIBLE.

QUIET.



The little boy with a new drum set.



The lonely dog whining in his kennel ... and then happily barking when his owners return home.



The late night party when you have to work tomorrow.

*These kinds of next door nuisances can take away the peace that is supposed to be enjoyed when at home. But through proper design and materials such as **GacoProFill** open cell foam insulation, noise between rooms can be absorbed so neighbors aren't disturbing neighbors. Ahhhh ... bliss!*

What is STC Rating?

The STC or Sound Transmission Class is a single number rating used to indicate the effectiveness of a construction assembly in resisting the passage of airborne sound. **The higher the STC rating, the better the sound insulation performance of the construction.** Compliance of a certain assembly to the established STC requirement is verified via tests conducted in accordance with ASTM E 90 "Standard Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions."

Residential STC Requirements

Residential structures built under the International Building Code (IBC) (apartments, condos, etc.), require minimum STC ratings of 50 for partition, wall, and floor/ceiling constructions that separate certain building areas and occupancies.

Noise Reduction Coefficient

In addition to STC, Noise Reduction Coefficient (NRC) is another method for determining effectiveness of a material's sound absorbing ability. NRC ratings can range from 0.0 to (perfectly reflective material) to 1.0 (perfectly absorptive material). Simply described, NRC ratings can be seen as a percentage of sound coming in contact with a sound absorption material and subsequently not being reflected back into the room. A NRC of 0.6 would indicate that 60% of sound waves are absorbed by the material. The Noise Reduction Coefficient is calculated by averaging how absorptive a material is at four different frequencies: 250hz, 500hz, 1000hz and 2000hz.



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The key difference between NRC and STC is that NRC is used to rate a material's ability to ABSORB sound while STC is used to rate an assembly's ability to control sound.

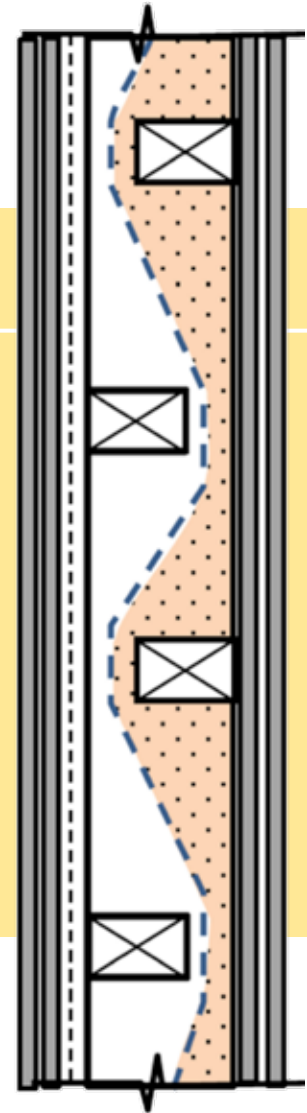
Architects can use STC and NRC ratings as they plan and design buildings, and contractors can use these ratings as they quote jobs for remediation of existing buildings where occupants are not satisfied with the current noise level between living spaces.

Gaco Western conducted research and testing to determine the best assembly to meet the requirements of STC 50 using GacoProFill open cell foam.

***GacoProFill
Noise Reduction
Coefficient (NRC): 0.65***

The assembly illustrated to the right has a STC 54 rating:

1. 5/8 Type X Gypsum mounted on resilient channel per manufacturer recommendations.
2. 2x6 top and bottom plate with 2x4 studs @ 24" o.c. offset to each side.
3. GacoProWeb membrane attached to studs toward receiver face of the wall.
4. GacoProFill open cell foam applied at 3.25" nominal depth.
5. 5/8 Type X Gypsum
6. 5/8 Type X Gypsum
7. All Gypsum fastened per IRC Table 702.3.5
 - a. First layer – 1-1/4" #6 screws – Type W or Type S at 12" o.c.
 - b. Second layer – 2" #6 screws – Type W or Type S at 12" o.c.



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about spray foam insulation.**

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