

NOISE BARRIERS[®]

STC RATING GUIDE



WHAT IS STC?

STC stands for **Sound Transmission Class**. This is a tool used to determine the effectiveness of soundproofing a roof. It's an integer rating that tells us to what degree a building partition (such as a wall or ceiling) reduces the force of airborne sound. In sum, STC tells you how much a ceiling or wall might stop sound.

STC is a term more predominantly used in soundproofing projects. As a quick reminder, sound absorption refers to reducing the reverberation and flutter echo that occurs in a particular environment, whereas soundproofing has to do with ensuring that a room (or entire building) is resistant to the passage of sound. This can be both sound entering and leaving a given setting.



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STC PRECEPTS

In order to better conceptualize STC ratings beyond the basics described on page 1, it's important to have a working understanding of decibels, transmission loss, and frequency.



Decibels

Indicated at dB, a decibel is a measurement of how loud a sound is. To the human ear, 50 dB is fairly quiet and is the equivalent of a quiet conversation at home or a bird call from off in the distance. 100 dB is quite loud, and is in the range of how loud a power lawn mower, motorcycle, or jackhammer might be.



Transmission Loss

This is a measurement of the difference in volume, or dB, on either side of a particular wall. If in one room, called the source room, we have a 75 dB noise level while on the other we measure 25 dB. This would indicate a transmission loss of 50 dB, meaning that 50 dB was absorbed through the wall.



Frequency

It is important to note that changing the tone, or frequency of the sound will severely impact the performance of a wall or other partition. Frequency, written as Hertz or Hz., is the measurement of the tone of a sound. A high pitch, perhaps one coming from a flute, might be in the range of 2000 Hz., while a low pitch, perhaps emanating from a double bass violin, is measured around 45 Hz. Most humans can hear between 20 Hz. and 20,000 Hz., although this range shrinks as we age.

DETERMINING AN STC RATING

Before your head starts spinning from all the industry jargon, allow us to keep things relatively simple. Because STC measures how much sound a wall will block noise from getting to an adjacent side, we can take the transmission loss values and test them at the most common frequencies, between 125 Hz. and 4000 Hz. Taking this information, a curve is made which is then compared to standard STC curves. If your curve matches other fixtures in the range of 50, for example, you'll receive a similar STC rating. The higher the rating, the better that material is at attenuating sound transmission of the most common frequencies.

To learn more about STC ratings, visit noisebarriers.com.

