



Sound Transmittance

When it comes to selecting new windows for your home, there are a number of factors to consider—everything from the type of window and color to configurations and energy-efficiency. **One factor that many homeowners forget is acoustics—the amount of sound their windows will let into their home.** In most cases, a window's acoustical performance will not affect the appearance or efficiency of your home, but it will most certainly impact its overall comfort and tranquility.

ACOUSTICAL RATING SYSTEMS

To determine how much sound is transmitted through a window, manufacturers conduct testing to calculate ratings for two primary sound control systems—Sound Transmission Class (STC) and Outdoor/Indoor Transmission Class (OITC).

STC is the oldest and most widely recognized sound control rating system in the window industry. STC ratings are measured as a difference in decibel levels, where a higher rating indicates more complete sound absorption and sound deadening performance. STC was originally developed to measure the sound transmission between interior walls.

OITC is a newer rating system developed specifically for measuring sound transmission of low- and mid-frequency noises through exterior walls. While not as well known as STC, OITC is a more appropriate measure when comparing the true sound-control performance of a window.

HOW ARE STC AND OITC MEASURED?

STC: A sound transmitter and receiver are set up on either side of the window being tested. Sounds are then played at pre-determined frequencies to account for noises often heard inside the home; these frequencies range from 125Hz to 4000 Hz. The sound is then picked up by the receiver, which measures how much sound was transferred through the window. The difference in the initial sound level to what was picked up by the receiver, measured in decibels, is the STC rating. For example, if a transmitter played a sound at 60 decibels and the receiver picked up 30 decibels, the STC rating would be 30.

OITC: Similar to the test for STC, a sound source generates sounds at predetermined frequencies and the receiver measures what it hears. These frequencies have a wider range—80 Hz to 4000 Hz—in order to account for lower-level noises often heard outdoors, such as traffic, construction, and airplanes.