



Sound Transmission Class (STC):

The Sound Transmission Class (STC) is a single-number rating of a material’s or assembly’s barrier effect. Higher STC values are more efficient for reducing sound transmission. For example, loud speech can be understood fairly well through an STC 30 wall but should not be audible through an STC 60 wall. The rating assesses the airborne sound transmission performance at a range of frequencies from 125 Hertz to 4000 Hertz. This range is consistent with the frequency range of speech. The STC rating does not assess the low frequency sound transfer. Special consideration must be given to spaces where the noise transfer concern is other than speech, such as mechanical equipment or music.

Even with a high STC rating, any penetration, air-gap, or “flanking” path can seriously degrade the isolation quality of a wall. Flanking paths are the means for sound to transfer from one space to another other than through the wall. Sound can flank over, under, or around a wall. Sound can also travel through common ductwork, plumbing or corridors. Small cracks, holes and leaky seams could forfeit the rating. In a stud wall, the metal stud is behind the seam of the gypsum and is the primary preventer of acoustic leakage.

STC- is based on a barrier preventing the passage of sound.

Mass is for low frequency noise reduction and stiffness is for high frequency noise reduction. In a drywall assembly there is no stiffness or negligible mass to a thin layer of compound.

In a firewall assembly, there is a first layer of gypsum board that is attached to a stud. The next layer of type x (5/8”) gypsum board is affixed to this board where any seam is off center so that there is a solid mass of gypsum panel behind the seam.

For more information on Sound Transmission Class, visit STCratings.com.

Below are typical construction profiles of non-fire rated assemblies

3 5/8" metal studs, 5/8" gyp (2 layers total), No insulation	38 - 40	
3 5/8" metal studs, 5/8" gyp (2 layers total), Batt insulation	43 - 44	

Typical fire-rated assembly

2x4 stud, 5/8" gyp (4 layers total), Batt insulation	43 - 45	
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Double metal stud walls –the highest STC rating of drywall assembly

2x4 studs, 5/8" gyp (4 layers total), Batt insulation	58 - 63	
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ASTM E119 confirmed that flame and heat transference using Blazeblocker Ice Firewall tape is as effective as previous methods; at minimum in such assembly requirements, this product is acceptable for retarding sound transmission as any known method of joint sealing.

Dura-Tape International warrants that **BLAZEBLOCKER ICE Firewall Tape** is an acceptable building material component to achieve the above drywall assembly STC ratings.