

## STC - SOUND TRANSMISSION CLASS

### Quick Explanation

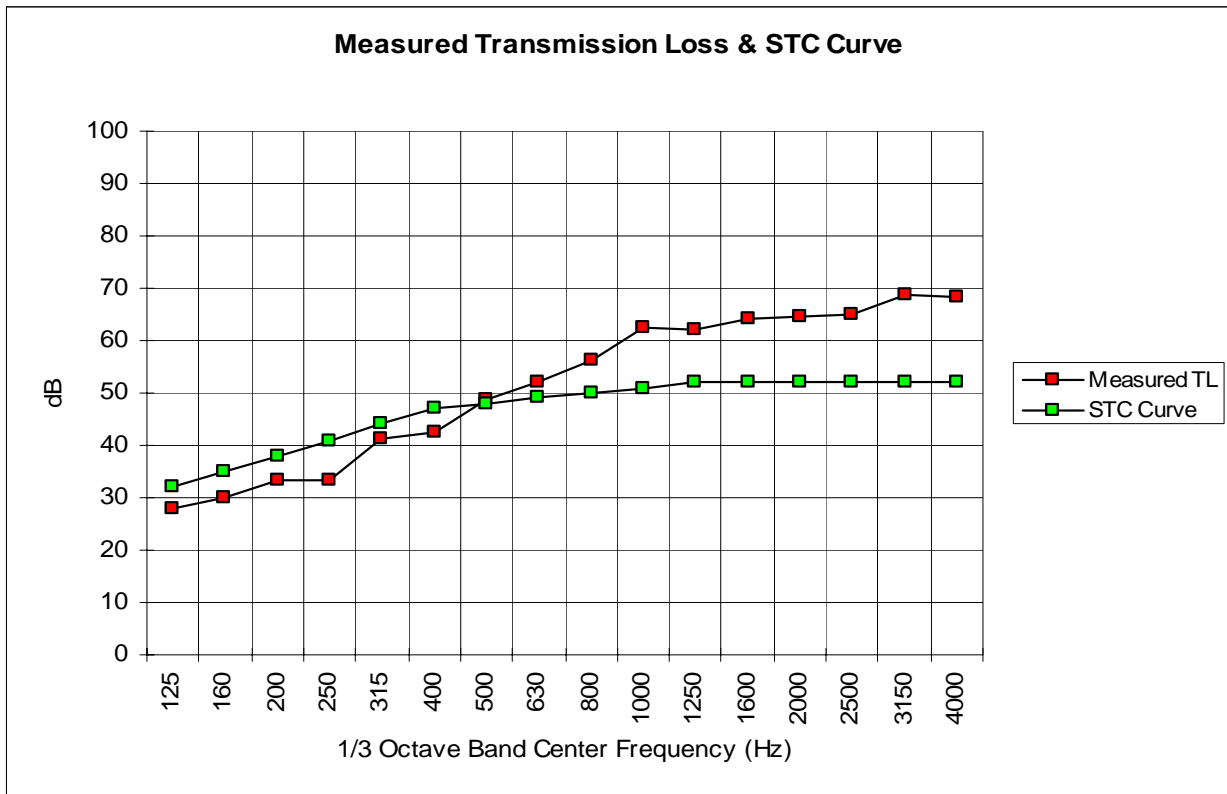
The Sound Transmission Class (STC) rating is a single number which indicates the sound isolation value of a partition system. The higher the STC number, the better the sound isolation. This rating was developed to characterize the effectiveness of a partition with respect to speech. This rating should never be used where the noise source has significant low frequency content, such as is the case with music or mechanical noise. The IBC requires STC 50 (theoretical) and STC 45 (Tested) for party walls of multi-unit dwelling units.

### More Than You Wanted to Know

The STC value is derived by using the measured sound transmission losses in the 16 one-third-octave bands from 125 to 4000 Hz, according to ASTM E90-97. The transmission loss spectrum is then matched to a pre-determined set of

frequency contours called STC curves. No individual transmission loss value may be more than 8 dB below the reference contour, and the sum of negative discrepancies in all 16 1/3 octave bands may not exceed 32. The value of the contour at 500 Hz is the STC.

The STC metric is intended to rate partitions with respect to noises, such as speech, which have most of their energy in the middle- and high-frequency range. If noise has strong low-frequency content it is essential to use tested Sound Transmission Loss data in 1/3 or 1/1 octave bands to ascertain the loudness of transmitted sound across partitions. Shown below is an example of an STC contour and associated data of a partition rated at STC 48.



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