

# GENERAL INFORMATION | SOUND RETARDANT DOOR

## SOUND RETARDANT DOORS

### SOUND MEASURES:

Sound travels at about 1,000 feet per second at room temperature. There are several standards for measuring sound and noise levels:

- | Sound intensity
- | Frequency
- | Reverberation

### EACH STANDARD HAS UNITS AND METHODS OF MEASUREMENT.

#### Sound intensity:

Pressure measured in decibels (db), which are a ratio of a given intensity to the threshold of hearing intensity. Normal conversation occurs at around 50-60 db. Each 10 db increase doubles the sound reception.

#### FREQUENCY:

Measured in hertz (Hz), which is the amount of sound vibrations that occur in one second. Frequency corresponds to the pitch of a sound.

#### REVERBERATION:

The length of time in seconds that is required for sound to decrease by 60 db once the sound source has been turned off.

### SOUND TRANSMISSION CLASS (STC)

STC values are used to define the performance requirements for achieving a specified reduction in sound transmission from a source room to a receiving room.

The STC rating of an installed door also determines how much noise reduction is possible between a given source room and receiving room (see figure below).

COMPARISON CHART		
DB	SOURCE	SENSATION
120-130	Jet aircraft at 100'	Physical pain
100-120	Discotheque, train	Deafening
80-100	Police whistle	Very loud
60-80	Noisy office	Loud
40-60	Noisy home	Moderate
20-40	Private office	Faint
10-20	Quiet conversation	Very faint



SPL = Sound Pressure Level

STC is determined by a weighted average of transmission loss value taken over 16 frequencies (ASTM E413).

Across industries, research and code requirements indicate the importance of controlling sound inside buildings because of its influence on productivity, security and comfort. Baillargeon's sound rated doors will help solve your noise reduction problems in projects such as offices, schools, churches, concert halls, theaters, recording studios, hotels, and more.