



# Glossary of acoustic terms

Acoustic terminology can appear unfamiliar to those outside the industry. Here are explanations to some commonly used terms you might come across.

## Absorption

The process by which a material 'soaks up' the sound energy that hits it, rather than reflecting it back into a space.

## Acoustic privacy

Achieved when confidential conversations cannot be overheard by other people.

## Ambient noise level (background noise level)

The volume level of all sounds in an occupied building; e.g. conversations, office equipment, machinery, heating and ventilation systems. The ambient noise level varies throughout the day.

## Articulation Index (AI)

A measure of how easily speech is understood (the intelligibility of speech). The Index is rated from 0.00 (no intelligibility) to 1.00 (perfect intelligibility). The range is divided into four qualitative privacy categories, including Confidential (0.00 to 0.05), Normal (0.05 to 0.20), Marginal (0.20 to 0.30), and None (0.30 to 1.00).

## Blocking

The introduction of barriers between the noise source and listener to prevent sound energy travelling freely through the air.

## Cover (see also masking)

Another term for masking.

## dB (decibel)

A unit for measuring how loud a sound is (volume).

## dBA (A-weighted decibels)

A-weighted decibels are adjusted to approximate the relative loudness of sound as perceived by the human ear.

## Diffusion

The scattering of sound energy reflected off an uneven surface. Diffusion produces a more even sound distribution with reduced echo than sound reflected off a flat surface.

## Dynamic range

The variation in sound levels (difference between the loudest and quietest sounds) measured over a period of time.

## Equalizer

An audio system component that can adjust the volume of specific frequency bands. Typical equalizers allow adjustment for each octave or one-third octave.

## Frequency

The number of sound waves produced by a sound each second, measured in Hertz (Hz).

## Hz (Hertz)

The unit of measure for frequency. One Hertz equals one cycle (wave) per second.

## Intelligibility

The degree to which a conversation is clear enough to be understood.

## Leq (equivalent continuous sound level)

The average sound level measured over a period of time.

## Loudness

A person's subjective perception of the volume of sound. Differences in loudness are measured in decibels – a 3dB increase is generally perceived as a doubling in loudness.

## Masking

A treatment that reduces or eliminates the ability to hear unwanted conversations and noises thanks to the presence of a masking sound.

## Noise

Any unwanted sound. Note that not all sound is considered noise.



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### Noise floor

The sum of all noises in a space, excluding the sound of people talking. This sound level is constant throughout the working day and is the level the space reverts to when people stop talking.

### Noise Reduction Coefficient (NRC)

Measures the effectiveness of a material at absorbing sound. NRC is commonly used to rate the performance of acoustic products.

### Octave band

A frequency band where the highest frequency is twice the lowest frequency. For example, an octave filter with a centre frequency of 1kHz has a lower frequency of 707Hz and an upper frequency of 1.414kHz. Any frequencies below and above these limits are rejected.

### Phasing or phasing effect

Occurs when identical sound waves from two speakers meet in the area between the two speakers. Constructive or destructive interference occurs, causing uncontrollable variations in the sound volume and frequencies.

### Pink noise

A type of noise that has equal sound energy per octave, meaning the energy can be distributed more closely to how we hear than with white noise.

### Quiet

The absence of noise. Quiet can be distinctly different from "silence." Silence is the absence of all sound, while quiet is the absence of unwanted sound.

### Random noise

A sound signal with no repetitive pattern.

### Reverberation

The persistence of sound in a space, caused by the sound waves continuing to reflect off surfaces like walls, floors and ceilings, like multiple echoes.

### Room Criteria (RC)

Room Criteria measures background sound in a building over the frequency range 16 Hz to 4000 Hz.

### Silence

The absence of any sounds. Silence differs from "quiet," which is the absence of unwanted sounds. A space can be considered quiet even if an unobtrusive background sound is present.

### Sound level meter

A device used to measure sound pressure levels. Meters consist of a microphone, amplifier, output meter, and frequency-weighting protocols.

### Sound masking system

Technology designed to correct poor acoustics in the workplace, by distributing a comfortable, unobtrusive background sound to cover conversations and noise.

### Sound Pressure Level (SPL)

The 'volume' of a sound. Sound Pressure Level is measured in decibels (dB).

### Sound Transmission Class (STC)

A classification of the sound insulating properties of a material or structure. Sound Transmission Class is commonly used to rate office walls and furniture partitions.

### Spectrum

The representation of a sound, expressed in frequency and amplitude, usually presented as a graph.

### Transmission Loss (TL)

The measure of the sound insulating properties of a material or structure, expressed as the number of decibels by which a sound is reduced in passing from one barrier (e.g. a wall or furniture) to another.

### White noise

A type of noise that is produced by combining sounds of all different frequencies together – it has equal sound energy per frequency. If you took all of the imaginable tones that a human can hear and combined them together, you would have white noise.

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