What Is Reverberation Time?

A technical guide to measuring how long sound lingers in a room.

Customer resource • factual guide • Vancouver / BC commercial project context

Key takeaway: Reverberation time, often reported as RT60, is the time it takes sound to decay by 60 dB after the source stops. It is one of the most useful metrics for rooms where speech clarity, comfort, or music quality matters.

Definition

RT60	The time, in seconds, for sound level in a room to decay by 60 dB after the sound source stops.
Frequency bands	RT is normally reviewed by octave or one-third-octave band because low, mid, and high frequencies decay differently.
T20 / T30	In real rooms the full 60 dB decay may not be measurable. Standards often allow decay-rate estimates over smaller ranges that are extrapolated to RT60.

Why RT matters

Speech	Long reverberation smears syllables and reduces intelligibility. Shorter RT generally improves speech clarity, especially for meetings, classrooms, and calls.
Restaurants and social spaces	High RT allows crowd noise to build. People often raise their voices, which further increases the sound level.
Audio systems	PA, video conferencing, and background music systems are harder to tune in rooms with excessive reflections.

What changes reverberation time

Room volume	Larger rooms generally need more absorption to reach the same RT target.
Absorption area	Ceilings, panels, baffles, clouds, carpets, curtains, furnishings, and occupants all add absorption. Location and frequency performance matter.
Geometry	Parallel hard surfaces, glass, exposed concrete, hard ceilings, and long narrow layouts can create strong reflections even when the average RT is acceptable.

How it is measured

Sound source	A room can be excited by an impulse source or interrupted noise, depending on the method and accuracy required.
Microphone positions	Measurements should represent the occupied listening area, not a single convenient corner.
Reporting	A useful report states conditions, equipment, method, octave-band results, averaged values, and practical interpretation against the room use.

Use note: This guide is intended for customer education and early coordination. It is not a code ruling, engineered specification, or substitute for field measurements where a numeric performance target is required.