

SOUND TESTING MADE EASY



STC – Sound Transmission Class

STC is a rating that measures airborne sounds, like voices, stereo systems, and televisions, between upstairs and downstairs rooms. It includes both flooring and ceiling systems.

1. Acoustical underlay is placed on the floor of a second-story room.
2. A sound is emitted in the second-story room.
3. In the first-floor room, the noise level is measured to find out the difference in sound levels between the two rooms.

An example of noises STC ratings cover would be how much sound from a kid practicing saxophone is transmitted to his parents downstairs.



IIC – Impact Insulation Class

IIC describes how much impact noise insulation, from things like walking or dropping something, is provided between rooms in a multi-story building. This rating includes underlay and flooring.

1. Acoustical underlay and floor covering are placed on the floor of a second-story room.
2. A machine is used to simulate footfalls and dropped objects.
3. In the first-story room, the amount of impact noise is measured to determine how well the flooring muffled the sound.

A higher IIC rating means the flooring system was able to absorb more of the sound, providing better insulation between floors. An example of noises IIC ratings cover are things like children running around upstairs while parents sleep downstairs.

Δ IIC – Change in Impact Insulation Class

Δ IIC measures the difference between an installed floor and a concrete slab used as reference. This rating does not include ceiling systems.

1. An IIC test is done on a standard concrete subfloor.
2. Acoustical underlay and floor covering are added and the IIC test is performed again.
3. The Δ IIC (or change in IIC) is determined by subtracting the IIC of the 6" concrete subfloor only from the IIC of the 6" concrete subfloor plus acoustical underlay and floor covering.

This is the better measurement when comparing products.

Footnote: Δ = Delta, which represents change.