

STC and Sound Performance of BuildBlock and BuildLock Knockdown Insulating Concrete Forms

The STC rating of a wall assembly refers to its resistance to sound transmission. Sound is measured in decibels, (db) and is on a logarithmic scale, meaning that the values are not linear in nature, and a 50db sound is not twice as loud as a 25db sound. A doubling of volume would correspond approximately to a 10db change.

In construction, it is important to limit noise and sound transmission through walls. This is especially important in certain venues, such as movie theaters, concert halls and hotels. Airports and other areas may also benefit from substantial noise reduction. Homes built on noisy streets or near interstate highways can also benefit from reduced sound transmission. With the advent of more home theatre rooms, many builders are turning to complicated assemblies to achieve the soundproofing that their customers desire.

Insulating Concrete Forms, (ICFs) can be used to construct nearly any type of building, and offer a wealth of benefits to the builder and the buyer. ICFs offer a substantial reduction in sound transmission, and can quiet the noisiest environments. BuildBlock forms, with 5/8" drywall on both sides, can exhibit an STC rating of 54. The list below describes the sound abatement capacities of various STC ratings. These values, like R-values can vary due to the number of openings and the efficiency of windows and doors at mitigating sound transmission.

SOUND TRANSMITTANCE CLASS DESCRIPTION	
STC RATING	PRIVACY AFFORDED
25	Normal speech is easily understood.
30	Normal speech is heard, but not understood.
35	Loud speech is heard and somewhat understood.
40	Loud speech heard, but not understood.
45	Loud speech barely heard.
50	Shouting barely heard.
55	Shouting not heard.

*Sound mitigation can be improved by adding mass, increasing or adding air space and adding absorptive material such as insulation.

Source: Table 7, *Costs and Benefits of Insulating Concrete Forms for Residential Construction*, U.S. Department of Housing and Urban Development, Washington, DC, December 2001.

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