



DSF No. 7009

Subject: Sound Transmission of Concrete Walls

Date: February 2011

The Diamond Snap-Form ICF System is often used in above grade applications. Many of these applications, including exterior and partition walls of commercial structures, require that specific sound transmission standards be met. These requirements are usually called out for in a specification as a STC value. STC (sound transmission class) is determined by testing full scale wall assemblies for the amount of sound which transmits through the assembly at various frequencies.

The following are STC Values for concrete wall assemblies which consist of plain concrete (no insulation attached):

Concrete wall thickness	STC*
6"	57
8"	58

* STC values extracted from Portland Cement Association paper, "Sound Loss Through Concrete and Masonry Walls", by Albert Litvin and Harold Belliston.

These STC values typically will meet or exceed specific sound transmission requirements found in most structures. STC values will also be enhanced when additional finishes, such as drywall and/or cementitious coatings, are added to the final wall assembly. Please consult with the Portland Cement Association, as well as other appropriate resources, regarding concrete design.

DSF ICF wall applications provide excellent sound resistance and will meet most specifications found in commercial and common wall structures. Design of final application to meet STC requirements is the responsibility of the building designer.

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