

structureborne noise will be radiated by the walls and floor of a room resulting in higher noise levels.

The best way to reduce airborne noise in stud and joist cavities is to use fiber glass insulation. All holes for pipes and wires must be caulked and sealed airtight. The use of fiber glass insulation, plus an acoustical caulk to seal the surface of the insulation is an excellent way to reduce the transmission of noise. The selection of low noise appliances such as toilets and the use of low flow plumbing fixtures can greatly reduce noise levels as well.

Structureborne noise is more difficult to control. To do so, ask your builder to isolate all piping from the structural system in the home by resilient or flexible pipe clamps and hangers. Also use foam pipe insulation around the pipes.

Last, but not least, let's focus on the kitchen and laundry rooms. A major source of noise in the kitchen and laundry room are the appliances. Noise from dishwashers has been particularly objectionable since they are located near areas where families get together for conversation and meals. Most manufacturers of appliances have models that have been designed and built

to reduce noise. Some models offer additional noise reduction added in at a slight increase in cost. Ask your builder to install quiet appliances.

## Additional Questions About Sound Control Products

- Q: What is the best type of window to use to reduce noise transmission?
- A: The best window construction to use to reduce noise transmission is a well gasketed double pane window with a separate storm window.
- Q: What kind of siding should I use if exterior noise is a concern?
- A: The heavier the siding the better it will reduce noise. Brick or stone siding is better than a lightweight aluminum siding.
- Q: What kind of carpeting is best to reduce noise?
- A: Thick carpeting with padding will best help reduce impact sound.
- Q: What is the best type of door to use to minimize sound?
- A: Solid wood or mineral core doors are the best ones to use where privacy is demanded.

## The Importance of Insulation for Sound Control

As you can see, there are many areas that should be considered to control sound when building a new home. Insulation is one of the most effective and economical. Insulation provides a barrier to entry of sound when placed in walls and ceilings. Insulation also

reduces the noise from a heating/cooling unit as air is transmitted through a duct system to the rooms of a home.

Blow-in insulations are gaining in popularity for noise control because every nook and cranny in a cavity can be effectively covered and the cavity completely filled with material. Blow-in insulations are fed into a pneumatic blowing machine and blown into attics and walls.

## Where Else Can I Get Sound Control Information?

To learn more about ways to control sound in the new home you are building, visit [www.mysoundchek.com](http://www.mysoundchek.com). The SoundChek web site offers a variety of tips to assure you that your new home will have the peace and quiet you and your family desire.

The site is divided into five main areas: Basics of Sound Control, Sound Control Room By Room, Sound Control Products, Helpful Hints as well as a glossary of terms. If you have further questions on how to sound control your new home, write to the:

CertainTeed Home Institute  
P.O. Box 860  
Valley Forge, PA 19482

or call 800-782-8777

or visit [www.mysoundchek.com](http://www.mysoundchek.com)

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# PUTTING A CHECK ON SOUND IN YOUR NEW HOME



Our homes are our castles, our workplaces, our entertainment centers and more. As such, there's an ever increasing need to make them comfortable, safe, and secure. Adding in comfort can often mean controlling unwanted sound or noise.

Fortunately, there are many ways to make homes quieter today, particularly when building them from the ground up. If you're planning to build a new home or even remodeling an existing one and are looking for added peace, quiet and privacy, visit [www.mysoundcheck.com](http://www.mysoundcheck.com). The site contains some of the tips that are incorporated in this pamphlet and many more.

To get started discussing sound control with your builder, consider what you're looking for in each room.

## A Room by Room Approach

There are many areas within a home that generate noise from plumbing to appliances or just plain human behavior. In fact, each room has its own set of potential problems. Here's a list of rooms you should focus on when you want to improve sound control in your new home:

- bedroom
- home office
- family room
- bathroom
- kitchen
- laundry room

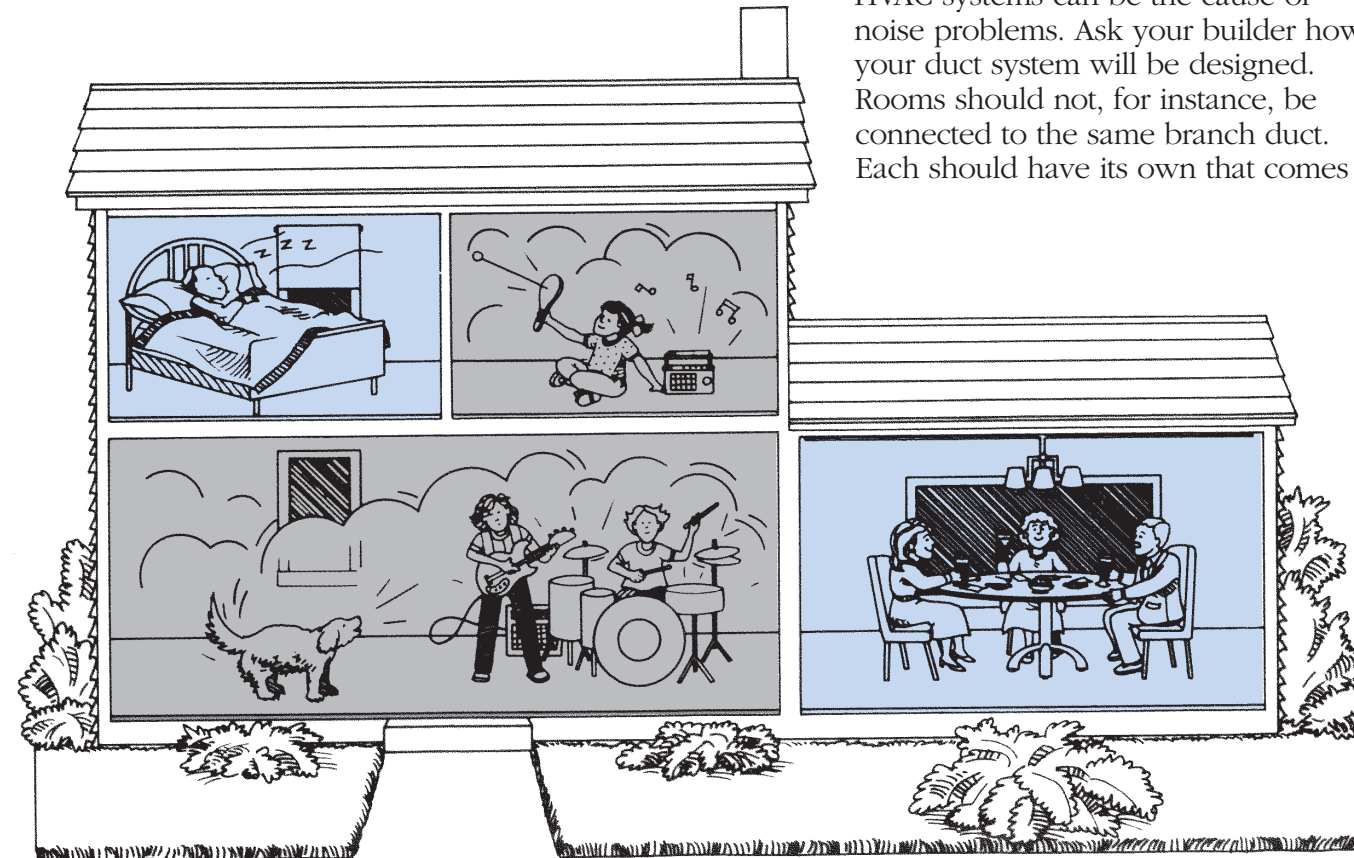
Let's start with the top three: the bedroom, family room and home office. Here sound control should be considered in the interior walls, windows, ducts, floors, exterior walls, doors and electrical outlets.

Suggestions to discuss with your builder to control sound in the interior walls include the use of special noise reducing insulations such

as NoiseReducer® Fiber Glass Sound Control Batts. NoiseReducer is a specially designed for interior wood stud walls. Also, the addition of resilient furring channels will increase the acoustical performance of the walls.

To reduce interior noise levels due to exterior noise from such things as roadways or highways, have your builder install sound-rated windows that face the noise source. Look for Sound Transmission Class (STC) ratings from 29 to 31 for the best results.

In exterior walls, it is the thickness of the insulation, not its density which improves acoustical performance. Therefore, ask your builder for 2 x 6 walls versus traditional 2 x 4 construction. Standard fiber glass batts or the Blow-In Blanket® System with such products as OPTIMA® are good selections to fit into the wall cavity for maximum sound control.



Interior doors can be a significant path for noise to take in traveling from one room to another. As a guide here, ask that your builder use a solid core door with acoustical seals and an STC rating equal to or higher than 30.

Electrical boxes can be the cause of sound issues. To reduce sound problems in electrical box areas, separate the boxes by at least one stud if possible and make sure they are caulked and sealed.

Floor/ceiling constructions are critical to reducing both airborne and impact noise. Ask your builder to insulate the joist cavities. Insulation will reduce the transmission of noises to and from the rooms below. Also, resilient furring channels on the bottom of the floor joists greatly improve the effectiveness of acoustical insulation as well.

HVAC systems can be the cause of noise problems. Ask your builder how your duct system will be designed. Rooms should not, for instance, be connected to the same branch duct. Each should have its own that comes

directly from the main insulated duct system. This will reduce "cross talk" between rooms through the ducts. To control or reduce noise from the fan in an HVAC system, request insulated ducts such as ToughGard® Duct Board. They will help reduce heat loss/gain and minimize condensation problems.

Caulking is an effective material to prevent air infiltration from the outside. But it is also an effective tool to aid in noise prevention. Any air leak is a sound leak. The bottom of both sides of an interior wall where it meets the floor should be caulked with an acoustic caulk or non-hardening, non-drying acrylic latex. Also, caulk around electrical outlet boxes.

Next, let's focus on the bathroom. Obviously, the sounds from flushing and water from a shower are not things the entire household wants to hear. Areas for added sound control in the bathroom, in addition to the ones above, to discuss with your builder include the tubs/showers and the plumbing.

With the tubs and shower stalls, it is important to insulate around and under them. Not only will this help reduce noise, but it will help keep warm water from cooling. Make sure your builder insulates underneath and around all tubs in your new home.

Plumbing is even more important. During the design of your home, ask the builder to keep piping away from sensitive rooms such as bedrooms, home offices and media rooms. There are two types of noises emanating from household plumbing. One is airborne noise and the other is structureborne noise or vibration. Airborne noise is sound radiated directly into air from piping and plumbing fixtures such as toilets. Structureborne noise is vibration that travels along a pipe and is radiated as airborne noise. If piping is rigidly connected to structural elements such as wood studs or floor joists, the pipe