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Inspecting a Home for Air Leaks

There are many obvious places in a home where air leakage is likely to occur, such as a draft under the door. There are also several less obvious gaps. A complete energy assessment will also help determine areas in your home that need more insulation.

There are several ways to inspect for air leakage in a home, including:

VISUAL INSPECTION

On the **outside** of the house, inspect all the areas where two different building materials meet, including:

- All exterior corners
- Outdoor water faucets
- Where siding and chimneys meet
- Areas where the foundation and the bottom of exterior brick or siding meet.

Inside the home, inspect around the following areas for any cracks and gaps that could cause air leaks:

- Electrical outlets
- Switch plates
- Door and window frames
- Electrical and gas service entrances
- Baseboards
- Weather stripping around doors
- Fireplace dampers
- Attic hatches
- Wall- or window-mounted air conditioners.
- Cable TV and phone lines
- Where dryer vents pass through walls
- Vents and fans.

In addition, look for gaps around pipes and wires, foundation seals, and mail slots. Check to see if the caulking and weather stripping are applied properly, without gaps or cracks, and are in good condition. Check the exterior caulking around doors and windows, and see whether exterior storm doors and primary doors seal tightly.

Windows and doors are also prime culprits for major air leakage. To inspect, see if you can rattle them, since movement means possible air leaks. If you can see daylight around a door or window frame, then the door or window leaks. The leaks can usually be sealed by caulking or weather-stripping them. If the home has storm windows check to see if they fit and are not broken.

Another way to test windows and doors is to shut a window or door on a piece of paper. If you can pull the paper out without tearing it, the seal is not tight and you are probably losing energy.

BUILDING PRESSURIZATION TEST

If you are having difficulty locating leaks, you may want to conduct a basic building pressurization test to increase infiltration through cracks and leaks, making them easier to detect. To perform a building pressurization test, follow these tips:

1. Turn off all combustion appliances, such as gas burning furnaces and water heaters, especially on cool, windy days. If you don't want to turn off the furnace, you can just turn on all your exhaust fans to depressurize your home
2. Shut all windows, exterior doors, and fireplace flues.
3. Turn on all exhaust fans that blow air outside, such as bathroom fans or stove vents, or use large window fans to suck the air out of the rooms.
4. Light an incense stick and pass it around the edges of common leak sites. Wherever the smoke wavers or is sucked out of or blown into the room, there is a draft. You can also use a damp hand to locate leaks; any drafts will feel cool to your hand.