

Wise Up and Power Down

Seal the Cracks and Fill Those Crevices

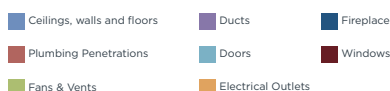
Martha Keel, Professor, Family and Consumer Sciences

Typically, the greatest source of wasted heating and cooling energy in a home is air leaks. Many openings are so small and narrow it's hard to understand how much energy loss occurs. Suppose you have a 36-inch-wide exterior door that does not have weather stripping. There's at least a 1/8-inch gap where conditioned air can escape. That's the same as a hole in the wall almost 6 by 6 inches. You would certainly want to fix it!

Reducing the amount of air that leaks in and out of your home is not difficult or expensive. Often, it's a great do-it-yourself job. By carefully sealing all openings, you not only save energy costs, but sealing improves durability, increases comfort, and helps create a healthier indoor environment.

If you are serious about saving money on heating and cooling, air sealing is the most cost-effective way to start.

Sources of Air Leaks in a Typical Home

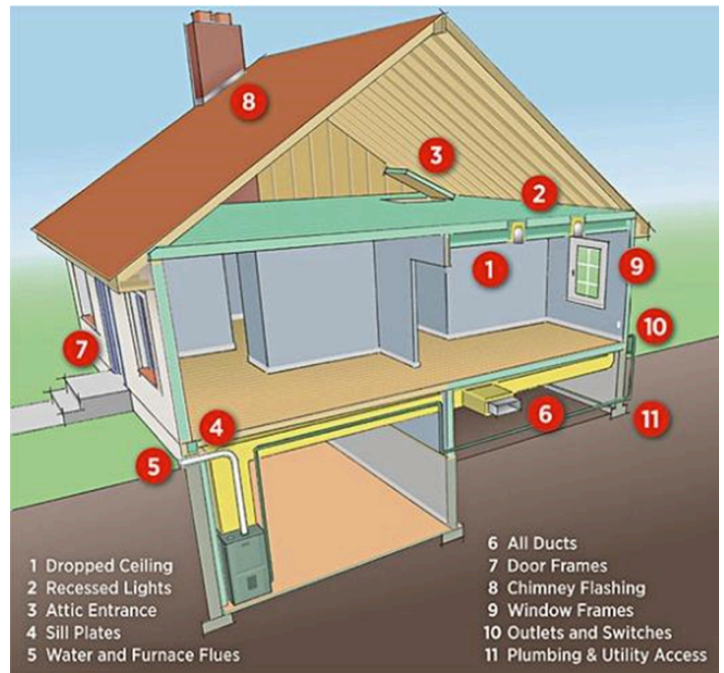


Tips for Sealing Air Leaks:

- Test your home for air tightness. On a windy day, carefully hold a lit incense stick or a smoke pen next to your windows, doors, electrical boxes, plumbing fixtures, electrical outlets, ceiling fixtures, attic hatches, and other places where air may leak. If the smoke stream travels horizontally, you have located an air leak.*
- Caulk and weather strip doors and windows that leak.
- Caulk and fill openings where plumbing, ducting or electrical wiring comes through walls, floors, ceilings and soffits over cabinets.
- Install foam gaskets behind outlets and switch plates on exterior walls.
- Check out dirty spots on your ceiling paint and floors, which may indicate air leaks at interior wall/ceiling joints and wall/floor joints. Caulk if needed.
- Cover single-pane windows with storm windows or replace with more efficient double-pane low-emissivity windows.
- Use foam sealant on larger gaps around windows, baseboards, and around openings near pipes.
- Keep fireplace flue damper tightly closed when not in use.
- Replace door bottoms and thresholds with ones that have pliable sealing gaskets.

- Seal air leaks around fireplace chimneys, furnaces and gas water heater vents with fire-resistant materials such as sheet metal or sheetrock and furnace cement caulk.
- Visually inspect the outside of your house, especially where two different building materials meet, such as all exterior corners, outdoor water faucets, where siding and chimneys meet, and areas where the foundation and the bottom of exterior brick or siding meet.
- Inside, inspect electrical and gas service entrances, baseboards, attic hatches, window- or wall-mounted air conditioners, cable TV and phone lines, vents, and fans.

*For a more thorough and accurate measurement of air leakage in your home, hire a qualified technician to conduct an energy assessment using a blower door test. Contact your local utility for more information.



Source: U.S. Department of Energy

Air Sealing Products

Caulking is used to permanently seal air leaks, cracks and gaps. Use in gaps that are ¼-inch-wide or smaller.

Spray foam is used in gaps that are ¼ inch to 3 inches.

Foam board, fiberglass, etc. is used in larger openings, where edges are sealed with caulking or spray foam.

Weather stripping tape is used around doors and windows.

Weatherizing plastic is installed on windows.

Foam gaskets are mounted underneath the cover plate on light switches and exterior outlets.

Towels or door sweeps are used under doors.

READ THE LABEL on any product you purchase to make sure it is recommended for use where you intend to use it!



Blower Door Test

Caulking Tips:

- Always apply to a clean, dry surface.
- Apply in a continuous stream, avoiding stops and starts.
- Make sure to fill gaps completely.
- Reapply if necessary.



Weather Stripping



AG.TENNESSEE.EDU

Real. Life. Solutions.

16-0003 R01-5120-127-001-16 10M 7/15

Programs in agriculture and natural resources, 4-H youth development, family and consumer sciences, and resource development.
University of Tennessee Institute of Agriculture, U.S. Department of Agriculture and county governments cooperating. UT Extension
provides equal opportunities in programs and employment.