

Tired of throwing your money out the window on high energy bills?



See inside for solutions to improve your home's energy performance & save up to 20% on heating & cooling costs by sealing air leaks & insulating.


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STEP 1: Finding Air Leaks

Heating & cooling accounts for almost half of home utility costs. Properly sealing air leaks & insulating around your home can save up to 20% on heating & cooling costs. A simple way to reduce energy costs is to make sure your home "envelope" (outer shell) is sealed. Sealing holes, cracks & gaps where air can pass in or out of the envelope will make your home more energy efficient & comfortable.

Common sources of air leaks:

- Seals around window & doors
- Gaps/spaces around pipes, vents & ducts that go through walls & ceilings
- Electrical outlets & switches in exterior walls
- Cracks/gaps where walls meet floors & ceilings (i.e. baseboards & trim)
- Areas where two unlike materials join together (i.e. foundation lines, baseboards, trim, etc.)
- Be sure to check all areas of your home, both inside & out, especially in basements & attics which are a common source of air leaks.

How to check for air leaks:

- 1. Windows & Doors (interior):** To check for air leaks, slowly move a lit incense stick around the edges of all windows & doors in your home. If the smoke drifts to the side, it indicates an air leak that needs to be sealed. In addition to checking around the perimeter of the windows & doors, ensure they are closing tightly. To do this, place a piece of paper on your window sill or under the door & then close the window or door on the piece of paper. Once closed, try to pull the piece of paper out. If it easily slides out without folding or tearing, there is a big enough air leak that you should install a new seal/weatherstripping.
- 2. Windows & Doors (exterior):** Check around all windows & doors for gaps & cracks where the frame meets the wall. Replace cracked or missing sealant around frames with an exterior sealant.

- 3. Pipes & Vents (interior):** Check around all pipes & vents where they pass through a wall or ceiling into another room. If there is a gap between the pipe or vent & the surface they go through, it needs to be sealed.
- 4. Pipes & Vents (exterior):** Follow the steps above for exterior pipes & vents but make sure the sealant or foam can be used for exterior applications. Some foams require painting when used outside.
- 5. Electrical Outlets & Switches:** Air leaks can occur where a hole has been cut in the wall or ceiling to install an outlet or a switch. After removing the cover, look for any locations where there is a gap between the wall & the electrical box. If there is a gap between the wall & box this needs to be sealed. *It is very important to shut off the source of electricity prior to any work.*
- 6. Where Walls Meet Floors & Ceilings:** To check for air leaks in these areas use the incense or paper method listed in the Windows & Doors (interior) section.
- 7. Where Two Materials Join Together (interior):** On a bright day check for any cracks that allow daylight to enter your basement, especially around foundation lines. If a crack allows light through, it allows air to come in as well. For other areas in the house, use the incense or paper method described in the Windows & Doors (interior) section.
- 8. Where Two Materials Join Together (exterior):** If your home has wooden or fiber cement siding, check for gaps & cracks along the corner board (the vertical board that covers where the ends of the siding meet) on any corners of the home. Seal any gaps or cracks.

These are a few quick & easy ways to identify sources of air leaks. Your home may have additional sources & a professional energy auditor can perform a complete evaluation.

Additional Tips:

Air leaks are more easily felt in the winter, with a draft of cold air leaking into the house.

If you have a fireplace or woodstove, make sure the damper is tightly closed when not in use as this can be a source of major air transfer.

Once all your sealing and insulating is complete, invest in a programmable thermostat.

For more home energy saving tips visit  sealyourhome.info

Once you have identified the sources of air leaks, it's time to seal them up. Just follow the instructions outlined below for each project.

Project Material Checklist:

- ✓ Incense sticks/paper (finding air leaks)
- ✓ Caulk/sealant
- ✓ Insulating foam sealant
- ✓ Putty knife
- ✓ Caulk gun
- ✓ Caulk removal product or tool
- ✓ Backer rod
- ✓ Painter's tape
- ✓ Damp cloth/sponge
- ✓ Utility knife or scissors

Sealing Around Windows, Doors & Where Walls Meet Floors & Ceilings

- Remove old sealant & clean & dry the surface you will be sealing to ensure it is free of all dirt, dust, grease, old sealant & debris. (To remove old sealant use a caulk removal product or tool, or a common utility knife.) Once completely removed, wipe away any debris. Use a damp cloth/sponge to wipe the joint surface with rubbing alcohol or an over-the-counter disinfecting spray. Rinse thoroughly with water & dry.
- Apply painter's tape to mask-off areas around the joint where the sealant should not appear & in order to give a straight caulk line.
- Read the instructions of your selected product for specific directions on opening & cutting the nozzle.
- Load the cartridge into the caulking gun. Applying steady pressure to the trigger, fill the joint around the door, window, or trim with an even bead of sealant. It is best to push the sealant ahead of the nozzle to ensure that it gets into the joint for a proper seal. Use a finishing tool to smooth the bead for a professional-looking finish.
- If you applied painter's tape, remove tape prior to the sealant skinning over. To correctly remove tape, lift the edge up at a 45° angle away from you.



- Wipe away excess sealant with water & a damp cloth/sponge before it dries. Excess dried sealant will need to be cut or scraped away.

STEP 2: Seal Your Home

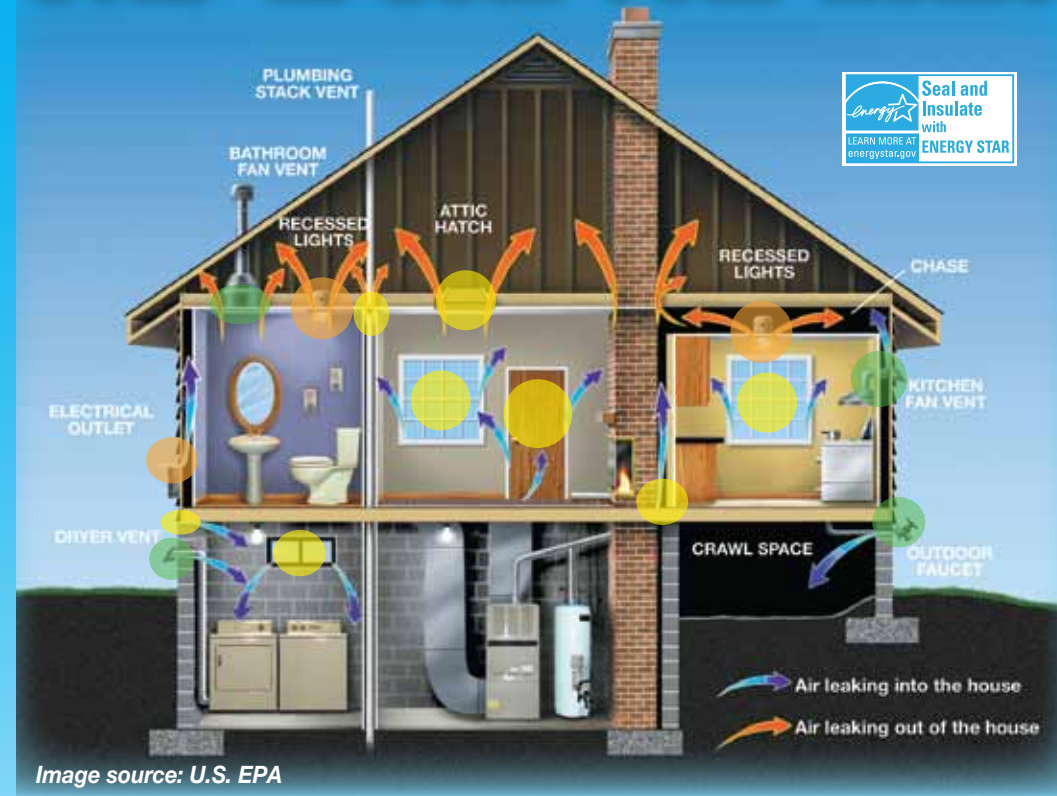


Image source: U.S. EPA

Helpful Tips: Choose the right product for your project.

Sealants (for gaps 1/2" or less in width)

- **Latex-based sealants** are paintable & can be cleaned up with just soap & water.
- **Silicone sealants** are not paintable & must be cleaned up with solvent cleaners.
- If the gap is deeper than a 1/2", use foam backer rod & then apply the sealant over the backer rod.

Recommended products: DAP® 3.0™ Advanced Sealant, Dynaflex 230®, Alex Ultra® 230, Alex Plus®

For information on sealing and insulating your attic, visit energystar.gov.

NOTE: Before starting any project, be sure to read the entire product package for safety information and directions for use. For additional product & safety information, visit dap.com or call 1-888-DAP-TIPS.

Insulating Foam Sealants (for gaps larger than 1/2" in width)

- **Latex insulating foams** are paintable, toolable, won't overexpand & clean up easily with water. Most latex insulating foam sealants dispense at 90% of their final size, so leave room for the foam to expand an additional 10% of its dispensed size.
- **Polyurethane insulating foams** are good for large gaps & cavities. Different polyurethane insulating foams range in expansion rates so please read the product label carefully! Uncured polyurethane foams can be cleaned up with solvents.

Recommended products: DAPTex® Plus & Kwik Foam®

Sealing Around Pipes & Vents

- Clean the surface you will be sealing to ensure it is free of all old caulk, dirt, dust, grease & loose material.
- Fill the gap between the wall & the pipe or vent by applying insulating foam sealant around the circumference of the pipe or vent. Make sure to check the expansion rate of the foam you select & fill accordingly. For VENTS, if the gap is 1/2" wide or less, use a sealant. Place the vent cover back on the vent after about 1 hour.
- If using a latex foam sealant, once the entire gap is filled, use a putty knife to remove excess foam & then clean the area with a damp cloth/sponge. For exterior applications, the foam needs to be painted with a quality-grade latex paint once it is fully cured.



Sealing Around Electrical Outlets & Switches:

- **IMPORTANT:** the first step is to turn off power to outlets & switches in the room that will be sealed & verify that power is off before starting project.
- Clean the surface you will be sealing to ensure it is free of all dirt, dust, grease & debris.
- If the gap is over 1/2" wide, fill the gap between the wall & box with latex insulating foam sealant around the circumference of the box. If the gap is 1/2" wide or less, use a sealant.
- If using a latex insulating foam sealant, once the entire gap is filled, use a putty knife to remove excess foam & then clean the area with a damp cloth/sponge.
- Once completely dry (check product packaging), replace outlet cover or switch cover.



NOTE: When sealing around recessed lighting, use a high-temperature sealant.

