



October: Add Attic Insulation

Task: Add insulation to attic areas to appropriate levels.

Hint: To determine how much insulation you should have, try the [Zip Code program](#)

Unless your home was constructed with special attention to energy efficiency, adding insulation will probably reduce your utility bills. Much of the existing housing stock in the United States was not insulated to the levels used today. Older homes are likely to use more energy than newer homes, leading to higher heating and air-conditioning bills. ([U.S. Dept. of Energy](#))

Advanced: Improve wall or basement insulation, windows, or other problem area in your home.

The following is excerpted from the [US Department of Energy](#) website:

Before installing any type of insulation in your attic, follow these steps:

- Seal all attic-to-home air leaks. Most insulation does not stop airflow.
 - Duct exhaust fans to the outside. Use a tightly constructed box to cover fan housing on attic side. Seal around the duct where it exits the box. Seal the perimeter of the box to the drywall on attic side.
 - Cover openings—such as dropped ceilings, soffits, and bulkheads—into attic area with plywood and seal to the attic side of the ceiling.
 - Seal around chimney and framing with a high-temperature [caulk](#) or furnace cement.
 - At the tops of interior walls, use long-life caulk to seal the smaller gaps and holes. Use expanding [foam](#) or strips of [rigid foam board insulation](#) for the larger gaps.
- Install blocking (metal flashing) to maintain fire-safety clearance requirements (usually 3 inches) for heat-producing equipment found in an attic, such as flues, chimneys, exhaust fans, and light housings/fixtures unless the light fixtures are IC (insulation contact) rated. IC-rated lights are airtight and can be covered with insulation.
- Make sure insulation doesn't block soffit vents to allow for attic ventilation.
- Check the attic ceiling for water stains or marks. They indicate roof leaks or lack of ventilation. Make repairs before you insulate. Wet insulation is ineffective and can damage your home.

Also [insulate and air seal your attic access](#) if it's located in a conditioned part of the house.

You'll want to properly [insulate and air seal any knee walls](#)—vertical walls with attic space directly behind them—in your home as well.

Finally, if you're constructing a new home or remodeling, make sure any attic decking, which provides additional storage space or a platform for an HVAC unit or hot water tank, is raised above the ceiling joists to ensure proper insulation depth. The decking then should be installed securely to the top of the raised lumber after the insulation has been installed.

Adding Insulation to an Existing Home

Unless your home was specially constructed for energy efficiency, you can usually reduce your energy bills by adding more insulation. Many older homes have less insulation than homes built today, but adding insulation to a newer home may also pay for itself within a few years.

To determine whether you should add insulation, you first need to find out how much insulation you already have in your home and [where](#).

A qualified home energy auditor will include an insulation check as a routine part of a whole-house [energy assessment](#). An energy assessment, also known as a home energy audit, will also help identify areas of your home that are in need of [air sealing](#). (Before you insulate, you should make sure that your home is properly air sealed.)

If you don't want an energy assessment, you need to find out the following:

- Where your home is, isn't, and/or should be insulated
- What [type of insulation](#) you have
- The [R-value](#) and the thickness or depth (inches) of the insulation you have.

If you live in a newer house, you can probably find out this information from the builder. If you live in an older house, you'll need to inspect the insulation yourself if you don't want an energy assessment.

Inspecting and Evaluating Your Insulation

- Check the [attic](#), [walls](#) and floors adjacent to an unheated space, like a [garage](#) or [basement](#). The structural elements are usually exposed in these areas, which makes it easy to see what type of insulation you have and to measure its depth or thickness (inches).
- Inspect the exterior walls using an electrical outlet:
 1. Turn off the power to the outlet.
 2. Remove the outlet cover and shine a flashlight into the crack around the outlet box. You should be able to see if there is insulation in the wall and possibly how thick it is.
 3. Pull out a small amount of insulation if needed to help determine the type of insulation.
 4. Check outlets on the first and upper floors, if any, and in old and new parts of a house. Just because you find insulation in one wall doesn't mean that it's everywhere in the house.
- Inspect and measure the thickness (inches) of any insulation in unfinished basement ceilings and walls, or above [crawl spaces](#). If the crawl space isn't ventilated, it may have insulation in the perimeter wall. If your house is relatively new, it may have been built with insulation outside the basement or [foundation](#) walls. If so, the insulation in these spaces won't be visible. The builder or the original homeowner might be able to tell you if exterior insulation was used.

Once you've determined the type of insulation you have in these areas and its thickness (inches), see the U.S. Department of Energy's online Insulation Fact Sheet for how to [determine the R-values of insulation previously installed](#) in your home.

Additional information on adding attic insulation:

- http://www.energysavers.gov/your_home/insulation_airsealing/index.cfm/mytopic=11390
- http://www.ornl.gov/sci/roofs+walls/insulation/ins_06.html
- http://www.energysavers.gov/your_home/insulation_airsealing/index.cfm/mytopic=11350