



Consumer Guide to Guide to Home Insulation

Insulation material, when properly used, can make your home more comfortable and energy-efficient, greatly reducing heating and cooling bills throughout the year.

BENEFITS OF INSULATION

On average, you can save up to 15% on your home's heating and cooling costs or up to 11% on its total energy costs by adding insulation to attics, floors, crawl spaces, and accessible basement rim joists that connect to the foundation, and by reducing unwanted air leaks all around your house.

R-VALUE

Insulation is important because of its ability to reduce the amount of heat that flows between the inside and outside of your home. The ability of insulation material to reduce heat flow is called its R-value. The greater the R-value, the more this heat flow is reduced.

COST OF INSULATION

Insulation costs depend on R-value and type of material, and costs vary greatly at the retail level. The table below contains very general averages. Prices for loose fill and spray foam are based on professional installation and reflect both material and labor costs. Check with a local supplier and/or contractor for actual costs.



Types of Insulation

Insulation comes in many different forms, some of which are listed below:

- **Blankets, including batts and rolls:** Whether as continuous rolls or pre-cut panels called batts, blanket insulation is the most common type used in homes in the United States.
- **Loose fill:** This adaptable type of insulation, which resembles packing peanuts, can fill up any space without disturbing structures or finishes.
- **Sprayed or foamed-in-place:** This type of insulation results from a mixture of two chemicals that are combined and sprayed through a hot host to form polyurethane, allowing you to fill even the smallest cavities.
- **Rigid insulation:** This “board” made of polystyrene can insulate your home from the roof to the foundation, reducing energy losses through the house frame.
- **Reflective insulation:** This type of insulation comes in rolls and uses a shiny foil surface to reflect downward heat flow before it can enter the living space.
- **Radiant barrier:** Especially useful in hot, sunny climates, this is another type of rolled, foil insulation that helps keep homes cooler by reflecting heat.

Determining R-Value

New Homes

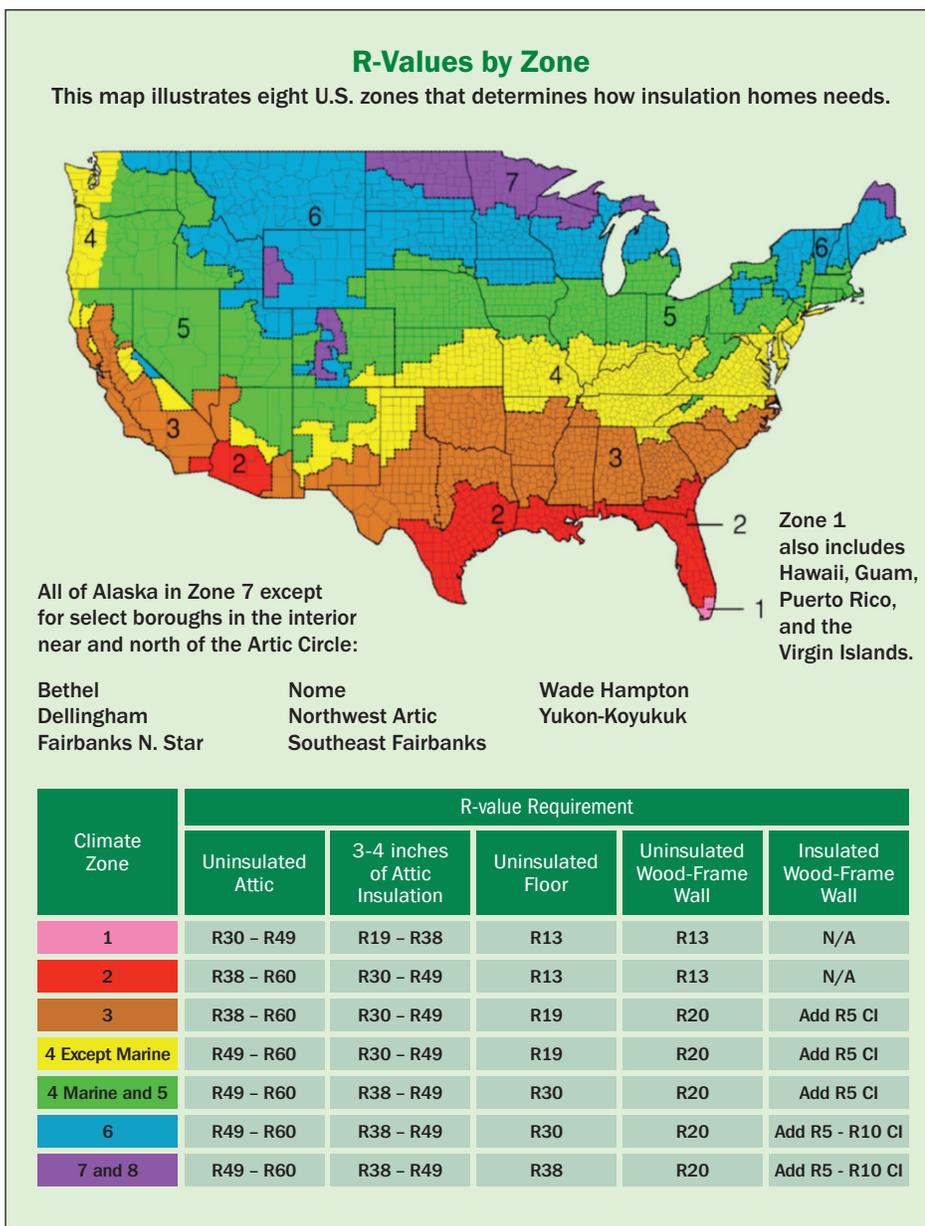
Building a new home offers more opportunities for properly installing insulation. Doing so requires you to know the places that need insulation and their recommended R-values. The R-values are based on both a region's climate and the type of heating and cooling system installed.

Oak Ridge National Laboratory offers a ZIP-Code Insulation Program, listed under Further Reading, to help determine your R-value and cost estimates. This program allows you to decide the types and forms of insulation that will work best for you.

Existing Homes

If your home already has insulation installed, a certified contractor can evaluate your house's current R-value and recommend whether additional R-value is needed and, if so, which types are appropriate.

The table opposite suggests R-values by zone as indicated in the map of the United States. It also suggests R-values when adding insulation to uninsulated or under-insulated attics, crawl spaces, and walls.



FURTHER READING

Energy Saver: Insulation
energy.gov/energysaver/insulation

Lawrence Berkeley National Laboratory Home Energy Saver Calculator

hes.lbl.gov/consumer

Oak Ridge National Laboratory ZIP-Code Insulation Program
ornl.gov/~roofs/Zip/ZipHome.html

ENERGY STAR-certified Insulation
energystar.gov/campaign/seal_insulate/certified_insulation

Financial Incentives

Tax credits, incentives, and rebates may be available in your area. Please visit energystar.gov/about/federal_tax_credits for more information.