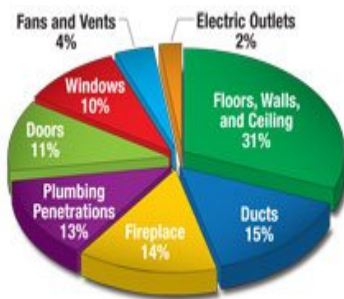


## Insulating Your Home



**Pink shows where insulation in your home could make a difference**



**Where does air escape?**

More than likely, your home doesn't have adequate insulation and you are paying for it through your energy bills. Adding insulation should be one of the first improvements you make to your home, and the good news is that it can be one of the least expensive. One of the most cost-effective ways to make your home more comfortable year-round is to add insulation to your attic. Insulation also saves money by reducing the size of furnace, air conditioner or solar system you will need.

### Energy Savings

Insulating a home with inadequate insulation can reduce energy bills up to 30%. The amount of energy you conserve will depend on several factors including local climate; the size, shape, and construction of your house; the living habits of your family; the type and efficiency of the heating and cooling systems; and the fuel you use. The higher the R-value, the greater the insulating power. An energy auditor can perform an analysis

that will estimate the savings and return on investment of insulating.

### Air Sealing

An average home leaks 50% of its air every hour. A good analogy is to think of your house as a boat. A boat that was this leaky would sink in one hour!

It is important that you test your home for air leaks and it is easiest to address this air leakage before you begin any renovations on your home. There is a healthy balance between a tight home, and a too tight home, so it is best to get professional help from an energy auditor or a knowledgeable insulation installer.

### Installation

Proper installation is essential for insulation to perform properly. The right technique should be used to address vapor barriers, air infiltration, recessed lighting, and water pipes. Batts must be installed very carefully, with no gaps or voids. Wall cavities should be filled with a blown in insulation

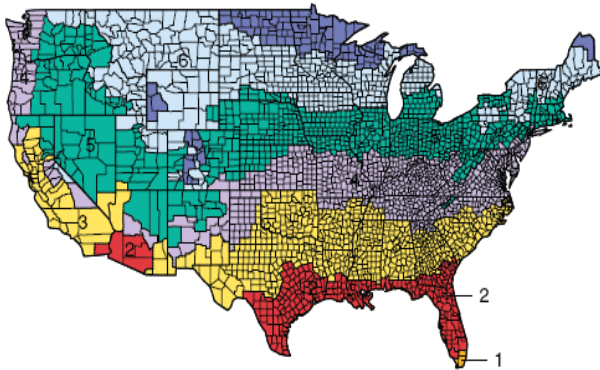
# Insulating Your Home

## Insulating Your Home – Continued

using a dense-pack method. Improperly installed insulation does not perform and is a waste of your money and time.

Use the map and chart below to determine how much insulation your home needs or get more customized recommendations by going to <http://www.ornl.gov/~roofs/Zip/ZipHome.html>.

U.S. Department of Energy Recommended\* Total R-Values for New Wood-Framed Houses



Zone	Gas	Heat Pump	Fuel Oil	Electric Furnace	Attic	Cathedral Ceiling	Wall	Insulation Sheathing	Floor
1	✓	✓	✓	✓	R30 to R49	R22 to R38	R13 to R15	None	R13
2	✓	✓	✓		R30 to R60	R22 to R38	R13 to R15	None	R13
2				✓	R30 to R60	R22 to R38	R13 to R15	None	R19 - R25
3	✓	✓	✓		R30 to R60	R22 to R38	R13 to R15	None	R25
3				✓	R30 to R60	R22 to R38	R13 to R15	R2.5 to R5	R25
4	✓	✓	✓		R38 to R60	R30 to R38	R13 to R15	R2.5 to R6	R25 - R30
4				✓	R38 to R60	R30 to R38	R13 to R15	R5 to R6	R25 - R30
5	✓	✓	✓		R38 to R60	R30 to R38	R13 to R15	R2.5 to R6	R25 - R30
5				✓	R38 to R60	R30 to R60	R13 to R21	R5 to R6	R25 - R30
6	✓	✓	✓	✓	R49 to R60	R30 to R60	R13 to R21	R5 to R6	R25 - R30
7	✓	✓	✓	✓	R49 to R60	R30 to R60	R13 to R21	R5 to R6	R25 - R30
8	✓	✓	✓	✓	R49 to R60	R30 to R60	R13 to R21	R5 to R6	R25 - R30

### Types of Insulation

Rolls and batts or blankets are flexible products made from mineral fibers, such as fiberglass. They are available in widths suited to standard spacings of wall studs and attic or floor joists. Loose-fill insulation—usually made of fiberglass, rock wool, or cellulose in the form of loose fibers or fiber pellets is well suited for places where it is difficult to install other types of insulation. Rigid foam insulation is more expensive than fiber insulation, but is very effective in buildings with space limitations and where higher R-values are needed. Foam-in-place insulation—this type can be blown into walls and reduces air leakage, if blown into cracks, such as around window and door frames. (Information from U.S. Department of Energy)

### Financial Incentives

Go to [http://www.energystar.gov/index.cfm?c=tax\\_credits.tx\\_index](http://www.energystar.gov/index.cfm?c=tax_credits.tx_index) for information on financial incentives.

## Go to [www.SmartEnergyLiving.org](http://www.SmartEnergyLiving.org) for More Information About Energy Efficiency

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