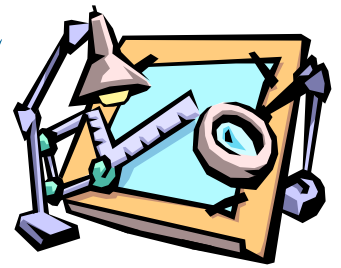


# CHB SPOTLIGHT

COLORADO HOME BUILDERS —  
YOUR LOCAL CUSTOM HOME BUILDER SINCE 1993



## INSULATING YOUR HOUSE

### Why Insulate Your House?

Heating and cooling account for 50 to 70% of the energy used in the average American home. Inadequate insulation and air leakage are leading causes of energy waste in most homes.

Insulation is one of the smartest investments you can make in your home because it provides year-round comfort and savings.

#### *Lower energy bills*

Insulation keeps your home warmer in the winter, which lowers your heating costs. In the summer, insulation keeps your home cooler, which eases the load on your air conditioner.

#### *Quieter, more comfortable living*

Insulation can actually absorb sound, reducing the unwanted noise from appliances, audio equipment, conversation and other sources of sound that are transmitted through your walls and floors. Insulation also keeps your family more comfortable by making it easier for your furnace or air conditioner to maintain a constant temperature.

### Where Should I Insulate?

The more you insulate, the more your energy savings can add up. Insulating attics, walls, ceilings, and crawl spaces can have a dramatic effect on your energy savings, and can create a more comfortable home year-round.

#### *Insulating for Optimal Results*

The thermal envelope establishes a boundary. Heated and/or cooled areas are entirely enclosed by the envelope. Unconditioned spaces such as the attic, crawl spaces and the garage are outside the thermal envelope. You should insulate all exterior walls that separate conditioned spaces from unconditioned spaces. Insulating attics closes the thermal envelope from above.

To further ensure the conditioned living spaces of the home are enclosed, all cracks or openings should be filled with insulation. To control heat leakage, apply caulk or foam sealants around openings like window and door frames and any openings where wires or pipes go through the envelope.

Insulation is also used in interior walls, ceilings and floors for sound control and sometimes to create a thermal envelope from room to room.



Insulation can be made from a variety of materials, it usually comes in four types; each type has different characteristics.

- Rolls and batts—or blankets—are flexible products made from mineral fibers, such as fiberglass and rock wool. They are available in widths suited to standard spacing of wall studs and attic or floor joists: 2x4 walls can hold R-13 or R-15 batts; 2x6 walls can have R-19 or R-21 products.
- Loose-fill insulation—usually made of fiberglass, rock wool, or cellulose—comes in shreds, granules, or nodules. These small particles should be blown into spaces using special pneumatic equipment. The blown-in material conforms readily to building cavities and attics. Therefore, loose-fill insulation is well suited for places where it is difficult to install other types of insulation.
- Rigid foam insulation—foam insulation typically is more expensive than fiber insulation. But it's very effective in buildings with space limitations and where higher R-values are needed. Foam insulation R-values range from R-4 to R-6.5 per inch of thickness (2.54 cm), which is up to 2 times greater than most other insulating materials of the same thickness.
- Foam-in-place insulation—can be blown into walls and reduces air leakage

## INSULATING YOUR HOUSE (CONT)

### Check Your Fill, Lower Your Bill

If your home is like most that are more than a few years old, it is probably under-insulated. In fact, over 60% of homes in the U.S. are under-insulated. This is your opportunity to make it more comfortable, energy efficient and save up to 30% on heating and air conditioning bills. Becoming more energy efficient could also contribute to your home's resale value. It has been estimated that for every \$1 of energy saved, your home value appreciates \$20 at resale. And 55% of Americans are willing to pay more for energy-efficient home features.

### Where to start.

Checking your current attic insulation depth is a good first step. You need up to 19 inches (or R-49). If you don't have enough, it may be an indication that your home is under-insulated and may not be properly sealed. Adding insulation to under-insulated areas and sealing air leaks are the fastest, easiest ways to help you lower your energy bill.

### Locating Under-Insulated Areas

There are several key areas that are often un-insulated or under-insulated. Because they allow cold or unconditioned air to pass through, maintaining a comfortable temperature requires more energy, creating higher bills.

Check these areas for the opportunity to add insulation. It can lower your bills and keep the house quieter, too.

- **Attic** - slide a yardstick or tape measure into the existing insulation. If it is not up to 19" deep, add more to lower your bills.
- **Basement** - check rim joists and basement walls.
- **Crawl spaces** - check between floor joists if vented, and check perimeter walls if un-vented. Ground should be covered with a 6 mil polyethylene sheet.
- **Exterior walls and floors** - check by removing an electrical outlet cover. Turn off the electricity first!
- **Garage** - Check garage walls and ceilings that are adjacent to conditioned spaces in the house.
- **Knee walls** - check behind knee walls.

### Avoid the "Chimney Effect"

In cold weather, warm air is continually rising. Leaks into the attic allow the expensive, heated air to escape into the attic, while at the same time drawing in cold air to displace it from the basement or other exterior leaks. This continuous air movement makes the home feel drafty and raises energy bills. By sealing attic air leaks, you plug the escape route of rising air and effectively stop the chimney effect.

Check around your attic for these common sources of attic air leaks.

- Between floor joists behind knee walls
- Attic hatch
- Wiring holes
- Plumbing vents
- Open soffit (the box that hides recessed lights and the finished space above cabinets)
- Recessed lights
- Furnace flue—Close the flue for wood fireplaces when the fireplace is not in use.

[http://www.ornl.gov/sci/roofs+walls/insulation/ins\\_02.html](http://www.ornl.gov/sci/roofs+walls/insulation/ins_02.html)

<http://www.jmhomeowner.com/insulation.asp>



### QUOTE OF THE MONTH

To accomplish great things, we must not only act, but also dream; not only plan, but also believe

~ Anatole France ~

## Q&A SECTION

We have included this section where you can ask any questions you might have in regards to construction, home inspections, remodels, renovations, additions and DIY projects. Your questions will be answered in our newsletters.

**PLEASE EMAIL YOUR QUESTIONS TO:** coloradohomebuilders@yahoo.com

**PLEASE PUT "CHB SPOTLIGHT QUESTIONS" IN THE SUBJECT LINE.**

### Which Kind Of Insulation Is Best?

This is one of the most popular questions homeowners ask before buying insulation.

The answer is that the 'best' type of insulation depends on:

- how much insulation is needed,
- the accessibility of the insulation location,
- the space available for the insulation,
- local availability and price of insulation, and
- other considerations unique to each purchaser.

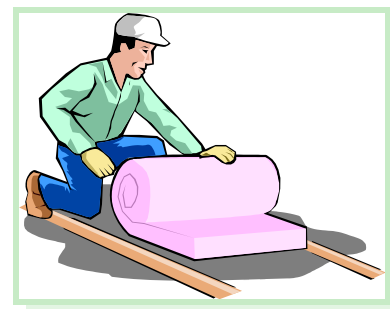
Also the type of insulation you need depends on where the insulation will be installed, what R-values are needed, and your budget. Whenever you compare insulation products, it is critical that you base your comparison on equal R-values. A higher R-value in a warm climate is also helpful in that it keeps the refrigerated air inside the house and the hot air outside.

### What Is An R-value?

An R-value is a rating used to measure how well insulation can resist heat flow. The higher the R-value, the greater the insulation properties and the slower heat and cold flows through it. Because insulation with higher R-values is more energy-efficient, the colder the climate, the higher the required R-value.

Different areas of the home have different recommended R-values, depending on what materials are used and how much space is available for insulation. The R-value you need will also depend on where you live.

<http://www1.eere.energy.gov/consumer/tips/insulation.html>



## FAST FACTS ABOUT YOUR HOME

### Water:

- Older toilets use 3.7-7 gallons per flush vs 1.6 gallon on newer products
- Dishwashers use 8-14 gallons per cycle
- Top-loading washers use 45 gallons/load vs. 14 gallons on newer models
- A dripping faucet waste 15-21 gallons per day
- US water users withdraw enough water to fill a line of Olympic-size swimming pools reaching around the world EVERY DAY (300 billion gallons)
- Although our planet is 71 percent water, humans depend on a mere .65 percent of the water for survival – much of which is polluted.
- About a quarter of the nation's largest industrial plants and water treatment facilities are in serious violation of pollution standards at any one time.
- An estimated 7 million Americans are made sick annually by contaminated tap water; in some rare cases this results in death.



## BRAIN TEASERS

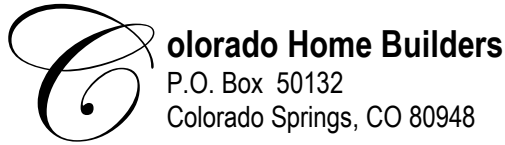
### 1. One-Way Street

A girl who was just learning to drive went down a one-way street in the wrong direction, but didn't break the law. How come?

### 2. Just in Time

What occurs once in every minute, twice in every moment, yet never in a thousand years?

*Be sure to look for the answers to these riddles elsewhere in this issue*



P.O. Box 50132  
Colorado Springs, CO 80948

Phone: 719-548-1139  
Fax: 719-548-1633  
Email: info@cohomebuilders.com



**Ann Marie Flynn**  
Direct: (719) 536-4312  
Office: (719) 536-4444  
Fax: (719) 536-4451  
email: amflynn312@yahoo.com

### TIP'S FROM THE PROFESSIONALS - STEVE'S HIGHLIGHTS

This winter, save money and stay warm. Keep your energy bill and your pollution output low this winter by taking a whole-house approach to heating.

- During the heating season, keep the draperies and shades on your south facing windows open during the day to allow the sunlight to enter your home and closed at night to reduce the chill you may feel from cold windows. Set your thermostat as low as is comfortable when home.
- By resetting your programmable thermostat from 72 degrees to 65 degrees for eight hours a day (for instance, while no one is home or while everyone is tucked in bed) you can cut your heating bill by up to 10 percent.
- Weatherize your home—caulk and weather strip any doors and windows that leak air.
- Properly maintain and clean heating equipment.
- Replace furnace filters regularly.
- Check the insulation in your attic, ceilings, exterior and basement walls, floors, and crawl spaces to see if it meets the levels recommended for your area.

#### **Domestic water heating:**

##### *Insulate your tank.*

Often overlooked, domestic water heating can account for as much as 20% of a homes energy usage. We use hot water for a variety of every day tasks including: hand washing, bathing, washing dishes and laundry. There are many ways to generate hot water, but nearly all homes use either electric resistance or gas heating. By taking several simple measures you can save energy and reduce your water heating associated cost.

The easiest way to save on hot water cost is to reduce the water temperature to 120°F. This is the temperature recommended in most energy codes. Not only will it save on standing losses, it reduces the possibility of hot water scolding. Make certain that you do not insulate the top of gravity vented gas water heaters. The hood on top of the tank require free air flow to properly work, FOLLOW MANUFACTURERS INSTRUCTIONS.

Another simple fix is to install low flow shower heads. Less water used for showering, means less water to heat.



Answers to brain teasers:  
1. She was walking 2. The letter m

All material contained within was written and compiled by the Colorado Home Builders team.