

# Staying Warm, Comfortable *and* Healthy

BY JOHN IMES

Today, there are countless options, products and materials that “make green sense” for your home.

Deciding which measures are most important can often be a time-consuming and difficult task. Fortunately, the Green Built Home™ program offers comprehensive tools and resources to help you make decisions that can save money, improve your family’s health, safety and comfort, and allow you to become a responsible steward of the environment.

In this issue, I’ll highlight green building priorities related to insulation, replacing windows and fireplace safety. I’ll also offer a few simple strategies for keeping your home warm, comfortable, healthy and green.

## Installing insulation

Proper insulation is vital to a home’s comfort and performance. A well-insulated home will be warmer in the winter, cooler in the summer, and your energy bills will be lower throughout the year. Conventional fiberglass insulation contains particles that can become airborne and irritate the respiratory system. Additionally, fiberglass typically contains formaldehyde, a carcinogen.

Consider these alternatives to conventional fiberglass insulation:

- Formaldehyde-free fiberglass insulation offers the same insulating properties as conventional fiberglass insulation but without the formaldehyde.
- Spray-foam insulation has excellent insulating qualities and seals tightly around pipes and wires.
- Cotton insulation is made from recycled materials, such as denim. It is treated to resist pests and fire and has an R-value of 3 to 4.
- Cellulose insulation is primarily made with post-consumer recycled newspaper, has an R-value of 3 to 4 and is treated with fire retardants.
- Recycled-content insulation refers to numerous products, such as cellulose and cotton, which are made with recycled materials. Some fiberglass products also have at least 20 percent to 30 percent recycled content.
- GreenGuard-certified insulation products have been independently tested as having low chemical and particle emissions.



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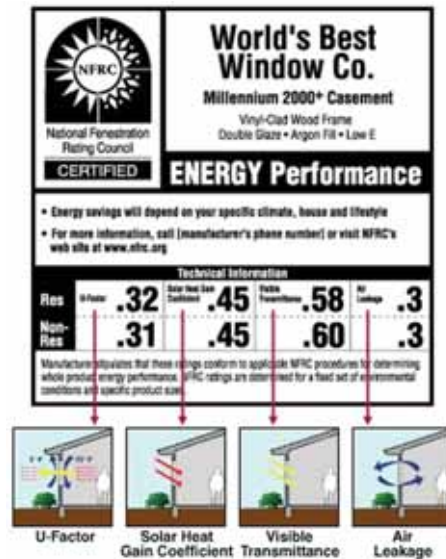
## Windows, doors and skylights

Windows and doors typically cover 10 percent to 25 percent of a home's exterior walls. If these are poorly insulated or installed incorrectly, they can significantly contribute to heating and cooling costs and condensation problems. In fact, according to the U.S. Council for Energy Awareness, the gaps found around windows and doors of the average American house are the equivalent of a hole in the wall measuring nine square feet!



### FIREPLACE SAFETY:

For safety's sake, look for direct-vent gas fireplaces with outside combustion air or wood fireplaces with sealable, gasketed doors and outside combustion air. By installing one of these options, you can reduce the potential for the back-drafting of combustion byproducts into the home. Homes with a high ventilation exhaust capacity, such as central vacuum systems, large-capacity kitchen range hoods, clothes dryers or multiple bathroom exhaust fans are potentially vulnerable to back-drafting when the units are operating.



Installation of ENERGY STAR®-qualified windows, doors and skylights with proper attention to sealing around the openings can greatly reduce air leakage that causes rooms to gain or lose excessive heat. Shading south- and west-facing windows with deciduous trees or vine-covered trellises can also further reduce heat gain, especially in the summer.

Things to look for when buying doors, windows or skylights:

- The ENERGY STAR label
- A U-value less than or equal to .35
- Air leakage rating of less than or equal to .06 cfm/ft
- Solar heat gain coefficient less than .40
- Frames that have integral insulation with a high R-value
- High quality, durable weatherstripping

### Fireplace options

- Natural gas fireplaces are generally more energy efficient than wood-burning fireplaces and give off fewer emissions. Efficiencies range from 50 percent to 80 percent; by choosing a higher rating, you'll enjoy more energy savings.

Despite its cleaner burning reputation, however, natural gas is still a non-renewable resource.

- Wood fireplaces offer the romance and aesthetic of an open fire. Low-temperature fires, however, can generate a great deal of smoke, soot and other pollutants. Conventional open-radiant fireplaces are only between five percent to 10 percent efficient. Using EPA-certified catalytic or non-catalytic wood fireplaces or pellet stove inserts can improve thermal efficiency up to 70 percent or more.
- Rumford fireplaces are the most efficient open masonry fireplace and throat design available. In this type of fireplace, the side walls are angled out to allow more heat transfer into the room. Efficiencies of 30 percent to 40 percent are possible compared to conventional open-radiant fireplaces.
- Masonry heaters use a wood-burning technology developed in central and northern Europe over several hundred years to burn a load of wood quickly at high temperatures, capture the heat and release it over long periods of time through the masonry mass.

### Green-it-yourself resources

- Use the Green Built Home™ program and online resources. *The Green Built Home Remodeling Checklist* has more than 300 ideas to save money, protect our natural resources and improve your family's health, safety and comfort. To learn more about Green Built Home, visit [www.greenbuilthome.org](http://www.greenbuilthome.org).
- The ENERGY STAR program sets performance standards for windows, doors and skylights and maintains a database of qualified products, [www.energystar.gov](http://www.energystar.gov).
- Wisconsin Energy Star Homes program: [www.wifocusonenergy.com](http://www.wifocusonenergy.com).
- Gimme Shelter has been building quality homes for over 25 years and is also an expert in the design and construction of Rumford and masonry fireplaces, [www.gimmeshelteronline.com](http://www.gimmeshelteronline.com).
- RSF Fireplaces yield low emissions, overnight burns and efficiency on par with most furnaces using EPA-certified catalytic or non-catalytic wood fireplace technology, [www.icc-rsf.com](http://www.icc-rsf.com) ■