

Energy Efficient Windows



ENERGY EFFICIENT WINDOWS: BEAUTIFUL ECONOMY

Your windows not only let the sun shine in, they are also an integral part of your home's character.

They also account for 25-30 percent of the heat loss in your home, and that costs you money every day. The good news is that you do not have to sacrifice sunlight or style to upgrade to energy-efficient windows. And today's energy-efficient windows can also improve operation and ventilation, reduce outside noise, decrease home maintenance, reduce condensation, and add value to your home. If you have double-glazed windows that are just 10 years old, they're about half as efficient as quality windows that are manufactured today.

If you are more interested in aesthetics than saving money, buying energy-efficient windows is still the smart choice.

WINDOW COMPONENTS

- **FRAMES**—Frame material greatly affects energy efficiency and on-going maintenance of your windows. Vinyl, vinyl-clad wood and wood frame windows are more energy efficient than aluminum because they reduce conductive heat lost through the frame. Aluminum, even with a special plastic thermal break, conducts more heat and cold than wood or vinyl. Touch a metal window frame on a cold winter day. It will be cold, and it will cool the air around the window creating a draft. That means you are using more heat to stay warm and comfortable. Vinyl frames are warmer, more efficient and require almost no maintenance except cleaning—a

gentle soap-and-water mixture will do the job. They also typically come in different colors with warranties for 20 years or more. Wood frames have similar efficiency ratings, but they do require staining or painting every few years. Some manufacturers wrap the outside of the wood frame in vinyl, which makes painting unnecessary.

- **GLAZING MATERIAL**—The glass itself is the major culprit in heat loss: single panes of untreated glass are also excellent conductors of heat and cold. By upgrading to double-pane glass the window insulates nearly twice as well as single pane. Adding inert gas and special coatings you'll save even more energy and money, gain comfort and reduce noise levels in your home too.

The air space between the two sealed panes of glass make it harder for indoor heat to be transmitted through the glass outside. The air space between the two panes typically is between 1/2 inch and 5/8 inch. Invisible, inert gases such as argon are often used to fill the space between the panes of glass. This dry inert gas is denser than air, and thus increases the insulation value of the window.

You may also want to consider insulated windows with special "low emissivity" heat-reflective coatings. These windows, often called low-e or low-e², have a microscopic coating of metallic oxide coating on one surface of the sealed

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insulating glass unit. The window allows sunlight through but reflects room heat back into the house. It also can reduce sun damage and fading to your furniture by up to 85%. Low-e coating gives a window a slight tint when viewed from the outside, so it is important to use the same low-e glass for all windows on the same side of a house.

Advanced technology glass spacers that separate the panes now are available. The new spacer bars are made of plastic, foam or a combination of materials that greatly enhance efficiency.

LOOK FOR ENERGY STAR

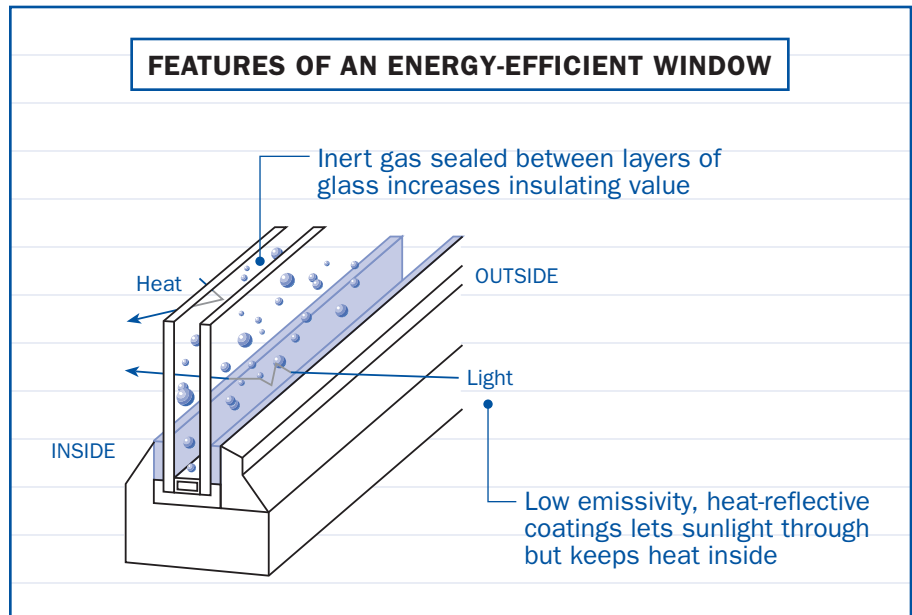


The energy efficiency of a window is rated by its U-value. This rating shows how easily heat is transmitted through a material. The lower the U-value, the more energy-efficient the window. Consider a window with a U-value of 0.35 or lower that qualifies the window as an Energy Star labeled window.

Manufacturers are required to apply a label listing the U-value to each window sold in Washington. If you replace a window and its frame, the new window must have a U-value of no more than 0.40 to meet the July 2002 Washington State Energy Code. Be sure to ask your contractor for the U-value of the windows you are considering and ask if it is Energy Star qualified.

MAXIMIZE YOUR SAVINGS

If your primary interest is energy savings, be sure to check all the existing insulation levels of your home. Adequate floor, wall and attic insulation is the single most important thing you can do to save energy and money.



ADDITIONAL CONSIDERATIONS

Review the “Contractor Selection” sheet enclosed in this packet and consider these additional tips to help you make a successful purchase:

- Upgrade from single-pane windows or older double pane windows to efficient Energy Star qualified windows with a U-value of .35 or lower.
- If your home has a moisture problem, then examine your home’s ventilation. New windows may not solve an existing moisture problem, and likely won’t solve moisture problems caused by inadequate bathroom or kitchen fans. Be certain that the source of the moisture is accurately identified and fixed.
- Choose a window frame and style that fits your home’s character.
- Check for asbestos siding, which may require cutting or drilling and need special handling and disposal.
- Look for a lengthy warranty against manufacturer defects. Some windows

carry a lifetime warranty on defects against seal failure on their insulated glass. Installation defects are usually covered for 1 to 2 years. Ask for a copy of the warranty and how long the company has been in business. The warranty is only as good as the company offering the assurance.

THERE’S MORE HELP AVAILABLE

Remember to consider energy efficiency features when selecting new windows. Call one of our Energy Advisors at **1-800-562-1482** to learn more about low cost or no cost energy solutions like our Personal Energy Profile home energy audit, rebates, and detailed conservation booklets or visit the Personal Energy Management Center on our website at www.pse.com.

REFERRALS

For referrals to window contractors near you, please call us at **1-800-562-1482 (option 2)** or visit our website at www.contractorreferralservice.com