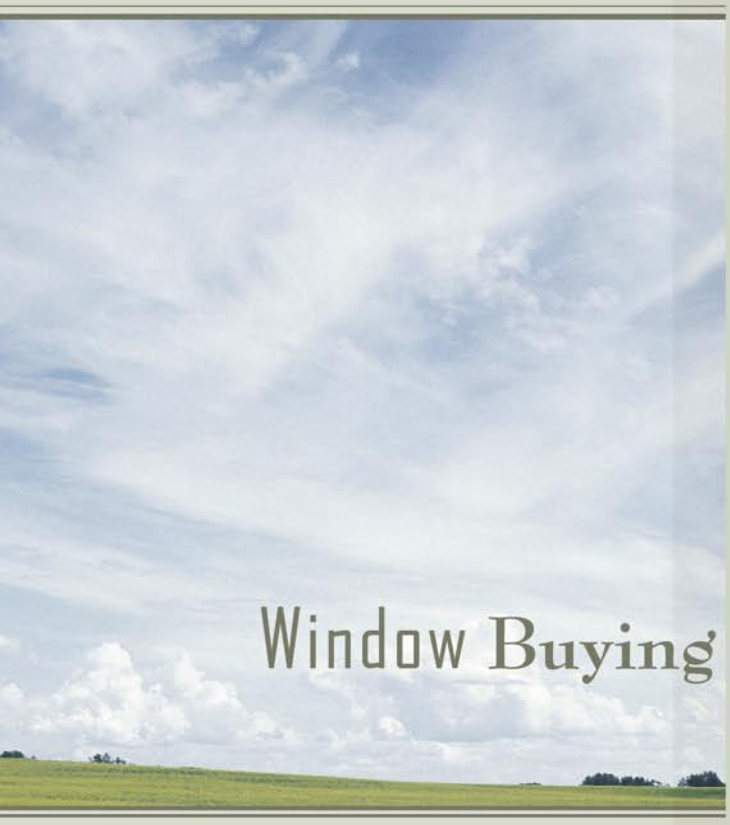


Window Buying Guide

Finding the Right Window Contractor

Home Sweet Home Improvement

Whether you're planning an addition for a growing family or simply getting new replacement windows, finding a competent and reliable contractor is the first step to a successful and satisfying home improvement project.

Your home may be your most valuable financial asset. That's why it's important to be cautious when you hire someone to work on it. Home improvement and repair and maintenance contractors often advertise in newspapers, the Yellow Pages, and on the radio and TV. However, don't consider an ad an indication of the quality of a contractor's work. Your best bet is a reality check from those in the know: friends, neighbors, or co-workers who have had improvement work done. Get written estimates from several firms. Ask for explanations for price variations. Don't automatically choose the lowest bidder.

Home Improvement Professionals

Depending on the size and complexity of your project, you may choose to work with a number of different professionals:

- General Contractors manage all aspects of your project, including hiring and supervising subcontractors, getting building permits, and scheduling inspections. They also work with architects and designers.
- Specialty Contractors install particular products, such as cabinets and bathroom fixtures.
- Architects design homes, additions, and major renovations. If your project includes structural changes, you may want to hire an architect who specializes in home remodeling.
- Designers have expertise in specific areas of the home, such as kitchens and baths.
- Design/Build Contractors provide one-stop service. They see your project through from start to finish. Some firms have architects on staff; others use certified designers.

Don't Get Nailed

Not all contractors operate within the law. Here are some tip-offs to potential rip-offs. A less than reputable contractor:

- Solicits door-to-door
- Just happens to have materials left over from a previous job
- Only accepts cash payments
- Asks you to get the required building permits
- Does not list a business number in the local telephone directory
- Tells you your job will be a "demonstration"
- Pressures you for an immediate decision
- Asks you to pay for the entire job up-front

How Do You Know When You Need New Windows?

- Your home feels drafty in cold weather or uncomfortably hot from heat penetrating in warmer weather.
- Your heating and cooling bills are high—and keep getting higher!
- Your home's existing windows are faded or cracked, making your home look old, dated or in poor condition.
- Your windows are difficult or impossible to open or close.
- You're spending far too much time working on your old windows—scrubbing, painting, puttying and re-caulking them.
- You're planning to sell your home and know your current windows will lower the re-sale value of your home.

source: www.gorell.com

Finding the Right Window Contractor

Hiring a Contractor

Interview each contractor you're considering. Here are some questions to ask.

- **How long have you been in business?**

Look for a well-established company and check it out with consumer protection officials. They can tell you if there are unresolved consumer complaints on file. One caveat: No record of complaints against a particular contractor doesn't necessarily mean no previous consumer problems. It may be that problems exist, but have not yet been reported, or that the contractor is doing business under several different names.

- **Are you licensed and registered with the state?**

While most states license electrical and plumbing contractors, only 36 states have some type of licensing and registration statutes affecting contractors, remodelers, and/or specialty contractors. The licensing can range from simple registration to a detailed qualification process. Also, the licensing requirements in one locality maybe different from the requirements in the rest of the state. Check with your local building department or consumer protection agency to find out about licensing requirements in your area. If your state has licensing laws, ask to see the contractor's license. Make sure it's current.

- **How many projects like mine have you completed in the last year?**

Ask for a list. This will help you determine how familiar the contractor is with your type of project.

- **Will my project require a permit?**

Most states and localities require permits for building projects, even for simple jobs like decks. A competent contractor will get all the necessary permits before starting work on your project. Be suspicious if the contractor asks you to get the permit(s). It could mean that the contractor is not licensed or registered, as required by your state or locality.

- **May I have a list of references?**

The contractor should be able to give you the names and addresses of at least three clients who have projects similar to yours. Ask each how long ago the project was completed and if you can see it.

- **What types of insurance do you carry?**

Contractors should have personal liability, worker's compensation, and property damage coverage. Ask for copies of insurance certificates, andmake sure they're current. Avoid doing business with contractors who don't carry the appropriate insurance. Otherwise, you'll be held liable for any injuries and damages that occur during the project.

Buying The Right Windows

Selecting windows for your home can be a daunting task. Like any specialized area, window technology is constantly changing and these essential home components can be difficult to understand. Before you make your decision and commit to what will likely be a substantial investment, read on and learn.

TIP 1: Become an educated consumer so that you can make smart decisions about this major investment. You deserve the best value for your hard-earned dollars, and you want windows that you'll never have to replace again.

TIP 2: Select windows with premium-grade vinyl frames and sashes. Technological advancements made over the past decade make vinyl the best material choice for energy efficiency, durability, low maintenance and beauty.

TIP 3: Choose "custom-made" windows. Though the initial purchase price may be higher than standard sized windows, they're the best value in the long run because installation is faster and practically no "cosmetic" work to the

Understanding Your Payment Options

You have several payment options for most home improvement and maintenance and repair projects. For example, you can get your own loan or ask the contractor to arrange financing for larger projects. For smaller projects, you may want to pay by check or credit card. Avoid paying cash. Whatever option you choose, be sure you have a reasonable payment schedule and a fair interest rate. Here are some additional tips:

- Try to limit your down payment. Some state laws limit the amount of money a contractor can request as a down payment. Contact your state or local consumer agency to find out what the law is in your area.
- Try to make payments during the project contingent upon completion of a defined amount of work. This way, if the work is not proceeding according to schedule, the payments also are delayed.
- Don't make the final payment or sign an affidavit of final release until you are satisfied with the work and know that the subcontractors and suppliers have been paid. Lien laws in your state may allow subcontractors and/or suppliers to file a mechanic's lien against your home to satisfy their unpaid bills. Contact your local consumer agency for an explanation of lien laws where you live.
- Some state or local laws limit the amount by which the final bill can exceed the estimate, unless you have approved the increase. Check with your local consumer agency.
- If you have a problem with merchandise or services that you charged to a credit card, and you have made a good faith effort to work out the problem with the seller, you have the right to with hold from the card issuer payment for the merchandise or services. You can withhold payment up to the amount of credit outstanding for the purchase, plus any finance or related charges.

inside or outside of your home is needed. Plus, an exact fit means better thermal performance and lower energy bills!

TIP 4: Replacing windows is the perfect time to try something different to give your home a fresh, new look. Consider all the various styles, shapes and colors in which windows are now available. Today, window options offer new benefits—from enhanced security and protection against damaging UV light to sound or energy control and new-found comfort for your home..

TIP 5: Select ENERGY STAR® qualified windows and doors from a manufacturer that participates in the ENERGY STAR program. With continuously rising energy costs, high-performance products will keep your heating and cooling bills lower—and provide a greater level of comfort for your home.

TIP 6: Choose windows from a specialty dealer who represents a reputable manufacturer. Consider the growth and stability. What do others, including past purchasers, say about the company? What kind of warranty does it provide?

source: www.gorell.com

The "Home Improvement" Loan Scam

A contractor calls or knocks on your door and offers to install a new roof or remodel your kitchen at a price that sounds reasonable. You tell him you're interested, but can't afford it. He tells you it's no problem — he can arrange financing through a lender he knows. You agree to the project, and the contractor begins work. At some point after the contractor begins, you are asked to sign a lot of papers. The papers may be blank or the lender may rush you to sign before you have time to read what you've been given to sign. You sign the papers. Later, you realize that the papers you signed are a home equity loan. The interest rate, points and fees seem very high. To make matters worse, the work on your home isn't done right or hasn't been completed, and the contractor, who may have been paid by the lender, has little interest in completing the work to your satisfaction.

You can protect yourself from inappropriate lending practices. Here's how.

Don't:

- Agree to a home equity loan if you don't have enough money to make the monthly payments.
- Sign any document you haven't read or any document that has blank spaces to be filled in after you sign.
- Let anyone pressure you into signing any document.
- Deed your property to anyone. First consult an attorney, a knowledgeable family member, or someone else you trust.
- Agree to financing through your contractor without shopping around and comparing loan terms.

Getting a Written Contract

Contract requirements vary by state. Even if your state does not require a written agreement, ask for one. A contract spells out the who, what, where, when and cost of your project. The agreement should be clear, concise and complete. Before you sign a contract, make sure it contains:

- The contractor's name, address, phone, and license number, if required.
- The payment schedule for the contractor, subcontractors and suppliers.
- An estimated start and completion date.
- The contractor's obligation to obtain all necessary permits.
- How change orders will be handled. A change order — common on most remodeling jobs — is a written authorization to the contractor to make a change or addition to the work described in the original contract. It could affect the project's cost and schedule. Remodelers often require payment for change orders before work begins.

- A detailed list of all materials including color, model, size, brand name, and product.
- Warranties covering materials and workmanship. The names and addresses of the parties honoring the warranties — contractor, distributor or manufacturer — must be identified. The length of the warranty period and any limitations also should be spelled out.
- What the contractor will and will not do. For example, is site clean-up and trash hauling included in the price? Make sure the contractor is responsible for all clean-up work, including spills and stains.
- Oral promises also should be added to the written contract.
- A written statement of your right to cancel the contract within three business days if you signed it in your home or at a location other than the seller's permanent place of business. During the sales transaction, the salesperson (contractor) should give you two copies of your contract or receipt. The contract or receipt must be dated, show the name and address of the seller, and explain your right to cancel.

Keeping Records

Keep all paperwork related to your project in one place. This includes copies of the contract, change orders and correspondence with your home improvement professionals. Keep a log or journal of all phone calls, conversations and activities. You also might want to take your own photographs as the job progresses. These records are especially important if you have problems with your project — during or after construction.

Completing the Job: A Checklist

Before you sign off and make the final payment, use this checklist to make sure the job is complete. Check that:

- All work meets the standards spelled out in the contract.
- You have written warranties for materials and workmanship.
- The job site has been cleaned up and cleared of excess materials, tools and equipment.
- You have inspected and approved the completed work.

Where to Complain

If you have a problem with your home improvement project, first try to resolve it with the contractor. Many disputes can be resolved at this level. Follow any phone conversations with a letter you send by certified mail. Request a return receipt. That's your proof that the company received your letter. Keep a copy for your files.

Finding the Right Window Contractor

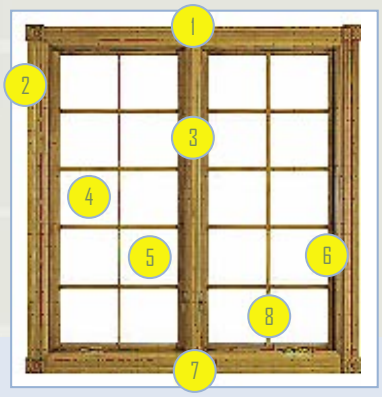
If you can't get satisfaction, consider contacting the following organizations for further information and help:

- State and local consumer protection offices.
- Your state or local Builders Association and/or Remodelors Council.
- Your local Better Business Bureau.
- Action line and consumer reporters. Check with your local newspaper, TV, and radio stations for contacts.
- Local dispute resolution programs.

For More Information

- Federal Trade Commission: **www.ftc.gov**
- National Association of Home Builders Remodelors™ Council: **www.nahb.com**

Source: www.ftc.gov



Window Care and Cleaning

Below is a chart of cleaners for specific circumstances recommended by the Vinyl Window and Door Institute. Cleaners to Remove Stains from Vinyl Window and Door Frames

Bubble Gum	Fantastik®, Murphy Oil Soa®, Solution of vinegar (30%) and water (70%), Windex®
Crayon	Lestoil®, DAP®
Oil-Based Caulk	Fantastik®
Felt Tip Pen	Fantastik®, water-based cleaners
Grass	Fantastik®, Lysol®, Murphy Oil Soap®, Windex®
Lipstick	Fantastik®, Murphy Oil Soap®
Lithium Grease	Fantastik®, Lestoil®, Murphy Oil Soap®, Windex®
Mold and Mildew	Fantastik®, Solution of vinegar (30%) and water (70%), Windex®
Motor Oil	Fantastik®, Lysol®, Murphy Oil Soap®, Windex®
Oil	Soft Scrub®
Paint	Brillo® Pad, Soft Scrub®
Pencil	Soft Scrub®
Rust	Fantastik®, Murphy Oil Soap®, Windex®
Tar	Soft Scrub®
Top Soil	Fantastik®, Lestoil®, Murphy Oil Soap®

Parts of a Window

1. Head - The main horizontal member forming the top of the window or door frame.

2. Jamb - The main vertical members forming the sides of a window or door frame.

3. Frame - The combination of head, jambs and sill to form a precise opening in which a window sash or door panel fits.

4. Glazing - The process of applying or installing glass into a window sash or door panel. Also refers to the type of glass used in the process.

5. Pane - A framed sheet of glass within a window or door frame.

6. Sash - A single assembly of stiles and rails made into a frame for holding glass.

7. Sill - The main horizontal member forming the bottom of the frame of a window or door.

8. Muntin Bar - Any small bar that divides window or door glass. Also called a grille or windowpane divider.

source: www.pella.com

Frequently Asked Window Questions

How often should residential windows be replaced?

Homeowners with windows over 25 years old should consider replacing them, both to gain the best energy efficiencies and to protect the "envelope" of the house. A home is an ideal candidate for a window replacement if its windows are sealed or painted shut, experiences ice buildup or a frosty glaze during the winter, gets fogged with condensation or has drafts that come through the windows.

Do replacement windows really pay for themselves or is that just a sales line?

It's true, if you select high-quality, energy-efficient windows. Savings will vary, but expertly engineered and well-built windows lower home energy consumption. With vinyl-framed windows, maintenance is also virtually eliminated. No need to scrape and paint windows.

These energy and maintenance savings will allow you to recoup your window investment over time.

Will new windows eliminate condensation?

Actually, no. Condensation is moisture vapor suspended in the air, and that's something no one can guarantee to eliminate. However, high-quality vinyl windows incorporating warm-edge technology glazing systems will help to reduce condensation because they're much less thermally conductive than other window types. They can help keep the temperature of the window warmer—minimizing the hot and cold differences that turn moisture into condensation.

What makes a window or door energy efficient?

Numerous factors, including how the frame and sashes are engineered and built, the type of glass used (single-, double- or triple-pane), the weather-stripping, the type of low-emissivity coating on the glass and the presence of argon or krypton gas.

What is ENERGY STAR®—and what does it have to do with windows and doors?

ENERGY STAR is a U.S. government program—administered by the Department of Energy and the Environmental Protection Agency with the cooperation of manufacturers—that's designed to reduce the consumption of fossil fuels through the education of consumers. The program covers many different types of products. Windows and doors can only carry the ENERGY STAR label if they are tested by an independent laboratory through the NFRC program and meet specific, predetermined U-value ratings. By selecting ENERGY STAR products, you will reduce your energy costs and help make the environment cleaner.

What is the NFRC and what should I know about it?

NFRC stands for the National Fenestration Rating Council. It's a program established by the U.S. Department of Energy to help consumers compare window products and options. Window manufacturers participating in the program are required to label every window to its specific thermal performance level. Customers are then ensured that the products they select meet the requirements for their application. Participation in the NFRC program is voluntary. Not all manufacturers participate because it requires outside third party inspection and extensive product testing.

Frequently Asked Window Questions

What does Low E stand for?

Low E is a non-visible, microscopic layer of silver coating added to glass for greater energy efficiency and increased comfort. Low E stands for "low emissivity", which is the action of reflecting light passing through glass. By reflecting part of the light spectrum (the part that transmits heat), we reduce a window's U-Value and increase its R-Value.

What do U-values and R-values really mean?

U-Values represent the amount of heat that escapes through a wall, window, roof or other surface. The lower the U-Value, the more energy efficient a material is. R-Values are the direct opposite. These measure an object's resistance to heat flow. The higher a material's R-Value, the lower its U-Value, and the less energy it will lose. An R-Value depends on the number of layers of glass in a window, what type of gas is between those layers, and whether one or more of those layers of glazing have been treated with a Low E coating.

Can windows keep out UV radiation that fades carpeting, furniture, draperies and upholstery?

Using a low-emissivity glass in your new windows or doors will filter more than 50 percent of the damaging UV light. The absolute most effective glass for this purpose, however, is laminated insulating glass. It features a polyvinyl butyral inner layer and a low-emissivity coating that filters more than 99 percent of UV radiation that fades interior furnishings.

Can windows and doors reduce outside noise?

All windows and doors reduce noise to some degree. The best solution, however, is to use a laminated, insulating glass system in windows and doors. It provides as much as a 100 percent improvement in sound deadening over other glass types.

What are some common styles of windows on the market today?

Depending on region and personal style, single-hung, double hung, casement, awning, slide-by, bay and bow windows are the most frequently used. A number of other style windows are frequently employed as accent windows.

What is an awning window?

An awning window is hinged at the top and swings out at the bottom to open, operated by a cranking mechanism.

What is a bay window?

A bay window is a series of usually three windows assembled in a polygon shape that projects outward from the side of a house.

How does this differ from a bow window?

Bow windows are very similar to bays, in that they also project from the side of a house. However, they are usually

composed of a series of five window units assembled in an arc, rather than a polygon.

What is a casement window?

A casement window is a window unit hinged at the side that swings outward, operated by a cranking mechanism.

What is a gas-filled window?

Modern window technology permits an inert gas, usually argon, to be sealed between the panes of glass in a window instead of air. The gas is a far better insulator that just air, thus further increasing the thermal value of a window.

What is insulated glass?

Technically, there are two or more panes of glass separated by insulation at the edges and air in the center to provide greater thermal efficiency to a window.

How do I know what type of glazing is right for a window?

Different climates and styles of homes require different glazing options to maximize their energy efficiency. Some glazing options can also help reduce outdoor traffic noise from entering the home. Options range from single glazed glass, as in historic homes (minimal insulating value), up to R10, which features dual-sealed, triple-insulated glass with two Low E surfaces and two krypton/argon gas-filled insulated airspaces for maximum efficiency.

How do I decide between single-, double-, or triple-glazed windows?

Single-glazing is a single pane of glass and is best used in garages and tool sheds—buildings that don't need to be extremely energy efficient. Double-glazed windows have two panes of glass with either air or a safe, colorless and odorless gas tightly sealed between the panes. When its glass is treated with Low E coating, the window can achieve a value of R5 at the center point of the glass. The most energy efficient window is a triple-glazed window. Gases are sealed between three panes of glass and Low E coatings are applied on two of the panes. This can bring the energy efficiency up to a value of R10 at the center point of the glass.

Does argon or krypton gas between glass panes really make a difference in energy efficiency?

For air to insulate well, it needs to be as still as possible because moving air carries energy. Both argon and krypton are heavier than air—so they're less prone to convection or thermal movement. The bottom line is that heavier-than-air gases offer a higher level of insulation. Both argon and krypton are found naturally in the air you breathe and are completely harmless.

What are jambs?

Jambs are framing members used to support the window in the wall. Those framing members on the side are, logically enough, called side jambs. The framing member at the top is a head jamb. There are no jambs at the bottom. This framing member is referred to as a sill.

Frequently Asked Window Questions

What are mullions?

Mullions are vertical members between window units. They are sometimes confused with mountings, which are secondary framing members that hold multiple panes of glass in the sash. Other parts of the sash include stiles (the outside vertical members) and rails (the top and bottom horizontal members).

How important is weather-stripping?

Very. Weather-stripping is important because it provides the barrier against air and water in windows and doors. It is the only element of operating windows or doors that make them reasonably air tight. High-quality weather-stripping that's applied and compressed properly really does improve the insulating performance of windows.

What is an impact-resistant glass window?

Impact-resistant glass has strong laminated glass interlayers. When combined with an exceptionally strong window frame, this type of window provides homeowners with greater security and protection from storms, flying debris and even the occasional stray golf ball. When struck by something hard and forceful, like a tree branch or softball, the glass resists shattering. In the rare event that an object impacts the glass, the pane may shatter, but it remains held within the frame. This greatly reduces the risk of flying glass, water or debris penetrating into the home.

Who should have impact-resistant glass in their homes?

Homeowners living in coastal areas prone to strong winds and storms, or who live directly on a golf course or in an area where vigorous sports activities take place, should consider impact-resistant glass in their homes. Other homeowners might be interested in the sound reduction and security benefits which impact-resistant glass provides.

Residential Windows, Doors, and Skylights

Want more from your windows? Ask for ENERGY STAR.

ENERGY STAR qualified windows, doors, and skylights save you energy and money, increase the comfort of your home, and protect your valuable possessions from sun damage. They are also better for the environment because lowering your energy use means less air pollution from power plants.

Save money and energy.

Replacing single-paned windows with ENERGY STAR qualified windows or choosing ENERGY STAR over the typical clear-glass double-paned alternative can save a significant amount of money on your energy bill.

Say goodbye to winter drafts and sweating in the summer sun.

Thanks to a host of new technologies, ENERGY STAR qualified windows, doors, and skylights keep your home cooler in the summer and warmer in the winter, making you more comfortable.

ENERGY STAR qualified windows, doors, and skylights do more than just lower energy bills – they deliver more comfort, create less condensation, and protect your valuables from sun damage better than conventional clear-glass double-paned alternatives. By lowering your energy use, these windows are also better for the environment: The less energy you use, the less air pollution power plants produce.

Protection from Winter Chills

On cold winter nights, do you avoid seats near the window? Do drafts chase you from room to room? When the mercury drops to single digits, even tightly sealed traditional double-paned windows can still make you shiver. The cold, inside surface of an inefficient window pulls heat away from your body, so you can feel chilly in a sweater with the thermostat at 70 degrees. With ENERGY STAR qualified windows, the inside window glass stays warmer, so you can relax in your window seat even when the temperature outside dips well below freezing.

Shielding from Summer Heat

In summer, do your windows seem like giant heat lamps? Are you denied your view because you have to keep your blinds perpetually closed? A typical double-paned, clear-glass window allows approximately 75 percent of the sun's heat into your home, almost as much as a single-paned window. Windows qualified for ENERGY STAR in the North/Central, South/Central and Southern ENERGY STAR Climate Zones transmit only 30 to 55 percent of the sun's heat, usually without noticeably reducing the visible light. You get the light but a lot less heat. So you can relax and enjoy the view in summer too.

Protection for Valuable Interiors

Your favorite photograph, half a loveseat, your Persian rug, even your flooring can fade or discolor after repeated exposure to direct sunlight. An ENERGY STAR qualified window with Low or Moderate Solar Gain Low-E coatings--the same coatings that keep out the summer heat--can reduce fading by up to 75 percent. These coatings are like sunscreen for your house, blocking damaging ultraviolet light without noticeably reducing visible light.

Reduced Condensation

When you open your curtains on winter mornings is the ice or fog you see on the inside or the outside? If an inefficient window or window frame gets too cold, water can condense or even freeze on the interior surface and then pool on the sill. Over time, chronic condensation can damage sills, cause paint to crack, and encourage the growth of mold. Advanced frame, glass coating, spacer and other technologies enable ENERGY STAR qualified windows to keep the inner surface of the glass and frame warmer, reducing the potential for condensation and ensuring a clearer view on winter mornings.

Don't Forget the Last "Window"

In most homes the air leaks and unsealed gaps under doors and around pipes allow as much heat in or out as a wide-open window. Make your home more comfortable and efficient with Home Sealing.

Protect your home's interior

Many ENERGY STAR qualified windows, doors, and skylights act like sunscreen for your house, protecting your photographs, artwork, furniture, carpets, and wood floors from sun damage.

Buy with confidence.

Every ENERGY STAR qualified window, door, and skylight is independently certified to perform at levels that meet or exceed strict energy efficiency guidelines set by the U.S. Department of Energy.

Ask for ENERGY STAR.

To purchase the most efficient window for your home, ask for products that are ENERGY STAR qualified in your Climate Zone. To learn more, see the window purchasing tips.

Confirm the ENERGY STAR Label

Before the new product is installed, check for the ENERGY STAR label and make sure you have received the correct product.

Windows should display an official ENERGY STAR label (examples below) or equivalent custom label, next to the NFRC label. There are a variety of custom labels, but all should include the same elements as the official label:

- The ENERGY STAR Certification Mark
- A map showing where the product is qualified
- A qualification statement
- Seal and insulate with Home Sealing. Sealing your home's envelope is one of the most cost-effective ways to lower your home's energy bills and improve your comfort.

What's in a pane - or two?

All energy efficient windows have at least two panes, but not all double-paned windows are energy efficient. Twenty years ago, double-paned meant energy efficient; today, advanced technologies have enabled the development of windows that are much more efficient than traditional clear-glass double-paned windows. For maximum energy savings, don't count panes; count on ENERGY STAR.

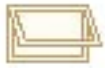
Have Windows Properly Installed

Proper installation is critical for achieving full product performance and avoiding water damage. Windows, doors and skylights should be installed by trained installers according to manufacturer instructions. Many manufacturer warranties are void if the product is not installed according to instructions. When hiring a contractor, interview candidates and ask for references. The Federal Trade Commission recommends questions to ask potential contractors . (new document) If installation requires scraping lead-based paint, be sure to take proper precautions .

Source: www.energystar.gov

Select the window style that best fit your project needs using this helpful guide.

Casement Windows – Contemporary style with more light and a larger view. Casement windows are more common in newer homes and are typical in the western part of the United States. Pella® casement windows are a great choice where windows can be difficult to reach, such as over the kitchen sink. Our patented Unison Lock system secures both upper and lower locks with a single easy-to-reach handle.



Awning Windows – Similar in design to casement windows, but wider than they are tall. Awning windows are commonly used for ventilation when placed above or below a window or door; they provide more light and are often used in homes with traditional, double-hung windows.

Double-Hung – A more traditional appearance than casement windows. Double-hung windows are common in older homes in the eastern part of the United States. They're a great choice if you want to maximize the amount of wood on the interior of a home. Double-hung windows come in larger widths (up to 45") and may help save money—put one larger window in place of two smaller, narrower casement window

Bay/Bow Windows – Window combinations that reach out into the world and capture the view in a limited amount of space. Bay windows are typically three windows joined together. The center window is often fixed with operating double-hung or casement windows on the sides. Bow windows consist of four or more casement windows joined together to form a graceful curve.

Fixed Windows – Windows that cannot be opened. Available in a wide range of sizes, in rectangular and custom shapes, and in a variety of standard, feature and custom exterior cladding colors. They can be used by themselves, in a variety of applications or with other products, providing endless possibilities. Fixed frame windows are available in sizes up to 48 square feet.

Circlehead Windows – A little touch that makes a big difference. Circlehead windows are designed to fit perfectly over other windows and doors. They can also be beautiful accents on their own.

Window Terminology

Aluminum-clad windows and doors:
Windows or doors of wood construction covered on the exterior with extruded (EAGLE windows) or roll-formed aluminum. Has a factory-applied finish to deter the elements. The extruded aluminum adds structural capabilities to the product and helps eliminate warping and damage through handling.

Anchor strip:
Board around a window frame nailed to house framing. It also serves as windbreak. In newer windows, anchor strip may be plastic or metal.

Angle brace:
Wood member nailed across window frame at upper corners while frame is in a squared position in order to maintain squareness before installation.

Argon:
An odorless, colorless, tasteless, nontoxic gas that is six times denser than air. Replacing the air between two panes of glass with argon gas reduces temperature transfer, making the surface of the glass inside the house closer to the inside temperature.

Astragal:
The center member of a double door, which is attached to the fixed or inactive door panel.

Apron:
Inside horizontal trim located under the window stool at the bottom of a unit.

Auxiliary frame window:
EAGLE's version of a fixed, direct set window frame where glass is set directly into a frame without a sash. Is used in the creation of geometric and radius windows.

Awning window:
Hinged at the top, this window has a single sash that swings outward from the bottom.

Backband (also Backbend):
Millwork around outside edge of the window casing, usually installed when the casing consists of flat boards.

Balance:
Device for counterbalancing a sliding sash, usually associated with a double-hung window, so sash may be held open at any given position. Usually a system of cords, weights, springs, spiral devices or block and tackle hardware.

Barn sash:
Plain sash for farm or cottage, used as a fixed, sliding, or casement window; generally installed in a rough frame for utility or temporary structures.

Basement window (also sash, cellar sash):
Wood or metal in-swinging sash that is hinged at either the top or bottom.

Bay window:
A composite of 3 or more windows that project out from the wall. Usually consists of one large center window with two flanking fixed or operating windows at 30, 45, or 90 degree angles to the wall.

Bead (also bead stop; stop):
Wood strip against which a swinging sash closes, as in a casement window. Also, a finishing trim at the sides and top of the frame to hold the sash, e.g., a fixed sash or a double-hung window sash.

Bedding:
Method of glazing in which a thin layer of putty or glazing compound is placed in the glass rabbet, the glass pressed into the bed, the glazier's points (metal tabs) driven, and the sash is face-puttied over the points.

Bottom rail:
Bottom horizontal member of a window sash.

Bow window:
A composite of 3 or more windows in a radial or bow formation. Typically consists of casement windows both fixed and operating assembled at 10 degree angles from the wall.

Boxed mullion:
Hollow mullion between two double-hung windows to hold sash weights.

Window Terminology

Box-head window:
Window made so the sash can slide vertically into the wall space above the header.

Brickmold:
Standard outside casing around the window to cover the gap between the window frame and the opening. Nails are driven through the molding to install the window to the framed opening.

Cabinet window:
Projecting window for the display of goods, as in a retail store.

Cameo window:
Fixed oval window, generally with surrounding moldings and ornaments, often found on Colonial Revival Houses.

Caming (Cames):
Lead strips which bond small pieces of decorative glass in windows.

Cap:
Decorative molded projection, or cornice, covering the lintel of a window.

Casement:
A window with side hinges that cranks outward from either the right or left.

Casement operator:
A hardware device used to operate a casement window to any open position.

Casing:
Molding or trim available in many widths, thicknesses and profiles applied to the frame around a window or door to cover the space between the window frame and wall.

Center-hung sash:
A sash that pivots on pins in the middle of the sash stiles and sides of the window frame to allow access for cleaning from the inside.

Check rail:
On a double-hung window, the bottom rail of the upper sash and the upper rail of the lower sash, where the lock is mounted.

Chicago window:
A large fixed sash flanked by a narrow, often movable, sash on either side. First used by Chicago School architects in the late l9th and early 20th Century.

Circle top:
A generic term referring to a variety of window units with one or more curved frame members, often used over another window or door.

Cladding:
Usually an aluminum or vinyl material fixed to the outside faces of wood windows and doors to provide a durable, low-maintenance surface.

Clerestory window:
A venting or fixed window in the upper part of a lofty room that admits light to the center of a room.

Colonial windows:
Windows with small rectangular panes, or divided lites, designated as l2-lite, 16-lite and so on.

Combination window unit (also combination storm sash and screen:
Window assembly containing a half screen and two glass storm panels; in summer the bottom storm panel is stored in the top frame, exposing the screen panels.

Condensation:
The deposit of water vapor from the air on any cold surface whose temperature is below the dew point, such as a window glass or frame that is exposed to cold outdoor air. Is controlled by limiting the amount of humidity inside of a room relative to the outdoor temperature.

Corner window:
Two windows meeting at a corner of a structure.

Coupled window:
Two separate windows separated by a mullion. Also called a double window.

Window Terminology

Cottage double-hung window:
A double-hung window in which the upper sash is shorter than the lower sash.

Crank handle:
A handle that attaches to an awning or casement operator, used to open the venting window.

Diffusing glass:
Glass with an irregular surface for scattering light; used for privacy or to reduce glare.

Diocletian window:
Semi-circular window divided by wide mullions into three lights (lites). This ancient Roman style was later used by Palladio in the 16th century. Also called a Therm. Used in Classical Revival buildings of the early 1900s.

Dormer window:
A space which projects from the roof of a house, usually including one or more windows.

Double-hung window:
A window with two vertically moving sashes, each closing a different part of the window.

Double windows (also double glazing):
Two windows, such as a regular window plus a storm sash; also an insulating window with air space between glass panes.

Drip cap:
Horizontal exterior molding to divert water from the top casing so water drips beyond the outside of the frame.

Drop window:
Vertical window in which the sash can descend into a cavity in the wall below the sill.

Extension blind stop:
Molded window frame member, usually the same thickness as the blind stop and united with it, thus increasing the width of the blind stop, in order to close the gap between the window frame and the rough opening in the house frame. Used to attach the window frame to the wood framing. Also known as blind stop extender or blind casing.

Extension casement hinge:
Hinge for a casement window which provides clearance for cleaning the two sides of the sash from the inside.

Extension jamb:
A board used to increase the depth of the jambs of a window frame to fit a wall of any given thickness.

Extrusion:
A form produced by forcing metal or vinyl through a die. Window and door frames are often clad with extrusions.

Eyebrow windows:
Low, inward-opening windows with a bottom-hinged sash. Usually attic windows built into the top molding of the house, the units sometimes are called "lie-on-your-stomach" windows or slave windows. Often found in Greek Revival and Italianate houses.

Face glazing:
Common glazing set with putty in a rabbetted frame.

Fanlight (also sunburst light; fan window; circle-top transom):
A half-circle window over a door or window, with radiating bars.

Fenestration:
The arrangement, proportioning and design of windows and doors in a building.

Finger-jointing:
A wood end-joint formed by a set of interlocking fingers, coated with adhesive and meshed together under pressure.

Fire window:
Window with fire-endurance rating specified for the location.

Fixed light (also fixed sash):
Window or sash which is non-operative or non-venting.

Foil:
Lobe on a leaf-shaped curve formed by the cusping

of a circle or arch. The number of foils involved is indicated by a prefix, e.g., tre-foil (3); quatre-foil (4), etc. Foils are found in windows of Gothic Revival churches and houses.

Folding casement:
Casement windows hinged together so they may fold into a confined space.

Frame:
An enclosure or combination of parts which surround a window sash or door panel.

French sliding doors:
A sliding door which has wider panel members around the glass, thus giving it the appearance of a hinged French door.

French window:
Two casement sash hinged on the sides to open in the middle; sash extends to the floor and serves as a door to a porch or terrace.

Geometric window:
A fixed framed window made up of 2 or more angles (i.e., pentagon or trapezoid).

Georgian window:
A double-hung window.

Glazing:
The glass panes or lights in the sash of a window. Also the installation of glass in a window.

Glazing bead (also glass stop):
Removable trim that holds glass in place.

Glazing clip:
Metal clip for holding glass in a metal frame while putty is applied.

Glazing channel:
Groove cut into sash for acceptance of glass.

Glazing gasket:
Special extruded plastic shape for attaching window glass to metal or masonry wall openings. It also serves as a cushion and insulator.

Gothic-head window:
Window topped with a pointed arch.

Grille (or muntin bar):
Usually removable for easy cleaning, grilles give the appearance of a divided window pane.

Guillotine window:
The first double-sash window, with only one movable sash and no counterweights or balancing system. A peg was inserted through a hole in the movable sash and into a corresponding hole in the frame. Its tendency to come slamming down led to the colorful name.

Hanging sash (also hung sash):
Sash hung on a cord connected to a counterweight.

Head casing:
Top or upper member of any element or structure. In windows, it refers to the top of the frame.

Head flashing:
Flashing installed in a wall over a window.

Header:
Supporting member or beam above window opening which transfers building weight above to the supporting wall structure on each side of the window.

Head jamb (also head):
All of the horizontal members that make up the top of the window or door frame.

Hinged French doors:
Hinged door(s) which have wider panel members around the glass.

Hit-and-miss window:
Two-part window with the lower sash containing movable ventilation panels.

Hopper light (also hopper vent and hopper ventilator):
Inward-opening ash hinged at the bottom.

Impact resistant glazing:
Glass specifically manufactured to withstand impacts from airborne objects or forced entry. Usually a type of laminated glass often used in coastal areas impacted by hurricanes.

Insulating glass:
A combination of 2 or more panes of glass with a hermetically sealed air space between the panes. The space may be filled with an inert glass such as argon.

Interior glazes:
Glazing installed from inside of the building structure.

Jal-awning window (also awning window):
Windows with several out-swinging, awning type units that pivot near the top of the glass and operate in unison.

Jalousie:
A shutter-type window with slats, which are either fixed or adjustable.

Jalousie windows (also louvered windows):
A window composed of overlapping narrow glass, metal, or wooden louvers, operated with a crank handle for adjusting the louver angles.

Jamb:
The vertical members at the side of the window or door frame.

Jamb depth:
Width of the window frame from inside to outside.

Jamb liner:
The plastic or metal track installed in the jambs of the window in which the window sash slide.

Keeper:
The hook-shaped piece of hardware that it is mounted on the inside sash stile of a casement window in which the sash lock engages.

Knocked-down:
Not assembled. Parts for a window frame pre-manufactured for assembly later on a job site.

Label:
A projecting molding by the sides and over the top of an opening.

Label stop:
Ornamental projection on each end of a label, sill, or sill course. Often takes the shape of a gargoyle or other decorative carving.

Labeled window:
Windows bearing fire-rating labels of Underwriters' Laboratories (UL).

Laminated glass:
Similar to the construction of car windshields, this technique sandwiches a piece of transparent film or plastic between two panes of glass. Typically used for safety reasons because of its resistance to shattering. Also reduce noise transmission to the interior.

Lancet window:
Tall, narrow window with a pointed-arch top, often with leaded diamond shaped lights; characteristic of Gothic architecture.

Lattice window (also lozenge):
Window with glazing bars set diagonally.

Lead light (also lead glazing; stained glass):
Window with small panes of glass set in grooved rods of cast lead or came. The glass may be clear, colored, or stained.

Lift:
A handle or grip installed on the bottom sash rail of a double-hung window to assist in the raising or lowering of the sash.

Light (also lite):
A window; a pane of glass within a window. Double-hung windows are designated by the number of lights in the upper and lower sash, as in 6-over-6.

Window Terminology

Lintel:
Horizontal member (wood, steel, or stone) over a window opening to support the weight of the wall above. A header.

Loop window (also Balistraria):
A long and narrow vertical opening, usually widening inward, cut in a medieval wall, parapet, or fortification for use by archers. Modifications appear in Romanesque Revival architecture.

Low-E Glass:
A term used to refer to glass which has low-emissivity due to a film or metallic coating on the surface of the glass. Usually constructed of dual, sealed panes of coated glass filled with pure inert gas to block ultraviolet heat, for cooling purposes, while reflecting room heat back into the room for heating purposes.

LVL:
Laminated Veneer Lumber – A combination of many pieces of veneered lumber glued together to give added structural capabilities. Often used in window or door frames.

Masonry Opening:
The space in a masonry wall left open for the window or door.

Meeting rail (also lock rail):
One of the two horizontal members of a double-hung sash which come together. A check rail.

Meeting stile:
The vertical member in a pair of stiles, as in abutting casement windows.

Mold stone (also jamb stone):
A stone that serves as a window jamb.

Mortise:
A slot or rectangular cavity cut into a piece of wood to receive another part.

Mortise and tenon:
A strong wood joint made by fitting together a mortise in one board and a matching projecting member (tenon) in the other.

Mullion:
A vertical member (usually wood or metal) to structurally join two window or door units.

Muntin:
Vertical or horizontal bars used to separate glass in a sash into multiple lights. Often called a grille.

Nailing Fin:
A vinyl or aluminum extension attached to the frame of a window or door which creates a positive seal between the window and the framed wall. Acts as an additional barrier against air and water leakage. Screws or nails are fastened through the fin to hold the unit in the opening.

NFRC label:
NFRC stands for the National Fenestration Ratings Council. This non-profit trade group sets energy standards for windows - the NFRC label shows everything you need to know about the window you're considering.

North-light roof:
Sawtooth roof with north-facing clerestory windows.

Ogee curve (also ogee molding):
Reverse flex curve commonly found in window moldings and trim pieces.

Operable window:
Window which can be opened for ventilation.

Operator:
A metal arm and gear attached to a window which allows for easy operation.

Palladian window:
A large, arch-top window flanked by smaller windows on each side.

Window Terminology

Panel:
Usually refers to the glazed panel or panels in a door frame.

Parting slip:
A thin wood strip separating the sash weights in the weight box of each jamb of old double-hung windows.

Parting stop:
A vertical strip on each jamb that separates the sash of a double-hung window.

Picture window:
Large fixed windows.

Pivot window units:
Window units in which the sash hardware is located near the midpoint of the stile or rail to permit sash rotation.

Prime sash:
Balanced or moving sash of a window unit.

Prime window:
Window with single or multiple glazing. A storm sash may be installed.

Projected window:
Awning type window that swings either inwards or outwards at the top or the bottom. The window usually may be cleaned from the inside.

Quarrel:
A diamond- or square-shaped glass piece set diagonally. A medieval term for small panes of glass set diagonally in Gothic windows.

Queen Anne window:
A window with small glass windows or lights arranged in various forms, usually only on the upper sash. Appeared 1870s.

Rail:
Horizontal member of a window sash or door panel.

Reglet:
Plastic or wood molding put in a concrete or masonry opening for a uniform groove for a spline-type gasket to hold window glass.

Reversible extension blind stop:
An extension blind stop that is rabbetted to receive 1/2 or 25/32-in. sheathing.

Rough Opening:
A framed opening in which the unit will be installed.

R-Value:
The measurement of resistance to heat transfer in a material. The higher the R-Value, the greater the insulation value.

Sash:
Framework of stiles and rails in which the glass of a window or door is set.

Saddle bar:
Light steel bar placed horizontally across a window to stiffen leaded glazing.

Saddle bead:
Glazing bead for securing two panes.

Sash lock:
A lock applied to the window to pull the sash tightly against the frame (casement) or to pull the check rails together (double-hung) in order to seal the sash from weather and for security.

Single-hung window:
Window similar to double-hung window, except the top sash is stationary.

Seat board:
A flat board cut to fit the contour of a bow or bay window and installed between the sill and the wall surface, providing a seat or a shelf space for plants, etc.

Shading coefficient:
Decimal value which is the solar gain of a window, divided by the solar gain for a clear single-glass

window of the same size. The shading coefficient of clear, double-glazing is about 0.85 to 0.9.

Side light:
A fixed, often narrow glass window next to a door opening or window opening.

Sill:
Horizontal member at the bottom of the window frame.

Simulated divided lights:
A method in constructing windows or doors in which muntins are fixed to the inside and outside of the insulated glass panel to simulate the look of a true divided light. Modern Divided Light® in EAGLE terminology.

Single glazing:
Use of single panes of glass in a window sash or door panel. Not as efficient as double glazing.

Single-hung window:
Window similar to double-hung window, except the top sash is stationary.

Slide-by window:
Windows which slide horizontally.

Smartwindow:
Generic term that refers to windows with switchable coatings to control solar gain.

Solid frame:
Window frame made from a single piece of lumber.

Sound-insulating glass (also sound-resistive glass):
Double glass fixed on resilient mountings and separated so as to reduce sound transmission.

Splayed window:
Window unit set at an angle in a wall.

Stacked windows:
Combined grouping of awning, casement, or non-operative windows to form a large glazed unit.

Stile:
Vertical member of a window sash or door panel.

Stile Lug or Horn:
One of two extensions of the sash stiles to support the upper sash of a double-hung window.

Storm clip:
Device attached to the muntin of a metal sash to stop the pane from moving outwards.

Stool:
An interior trim on a window which extends the sill and acts as a narrow shelf. Often seen on double-hung window.

Stop:
A wood trim member nailed to a window frame to hold, position or separate window parts.

Tandem lock:
A locking system which secures the window at two locking points by the operation of one lever.

Tempered glass:
Special heat-treated, high-strength safety glass which shatters into pebble-sized particles and not in slivers.

Tenon:
A rectangular projection cut out of a piece of wood for insertion into a mortise.

Thermal break:
A thermal insulating barrier between two thermally conductive materials.

Transom joint:
Horizontal member separating a door from a window panel above the door, or separating one window above another.

Transom:
Small window located above a door or another window.

Top hung-in window:
An awning window pivoted at the top and with the bottom swinging-in.

Window Terminology

Transom (also transom bar):
Horizontal member separating a door from a window panel above the door, or separating one window above another.

Triple glazing:
Three panes of glass with two air spaces between, commonly consisting of an insulating glass with a separate storm sash. Also available in an insulating window in a single frame.

Triple window:
Generally refers to any tripartite group of windows with square heads. Found on Colonial Revival houses. Units suggest Palladian windows but are less expensive to construct.

U-Value:
Measurement of heat transfer through a given material. The lower the U-Value, the better the insulation value.

Venetian window:
Same as Palladian window.

Vertical sliding window:
One or more sash that move in a vertical direction.

View sash:
Picture window with the lights divided by muntins.

Venting unit:
A window or door that operates or opens for ventilation.

Wash cut:
Beveled cut in a stone sill to divert water.

Water drip:
Molding sometimes used on exterior surfaces of an in-swinging casement sash to prevent water from being driven over the sill.

Weather-stripping:
A strip of resilient material applied to the perimeter of the sash and/or frame of a window or door to minimize the potential for water and air infiltration.

Weep cut (also drip cut):
Groove in the underside of a horizontal board or masonry unit which projects beyond the wall service below to prevent water from moving back toward the wall surface

Yoke:
Head window jamb in a box window frame.

Yorkshire light:
Window with one or more fixed sash and a horizontally moving sash.

Windload:
The force exerted on a surface by moving air.