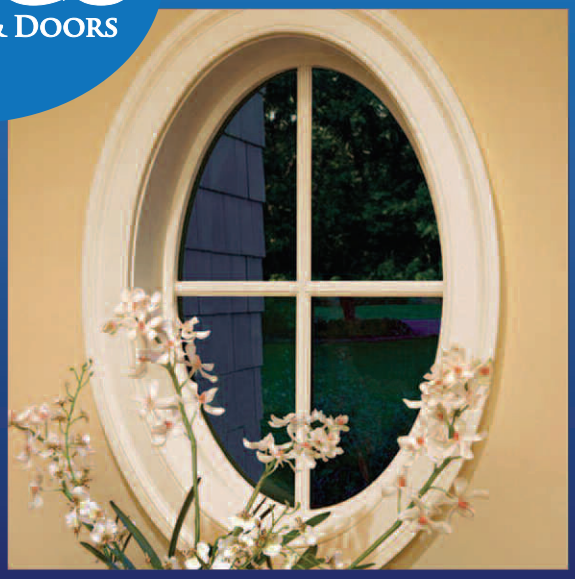
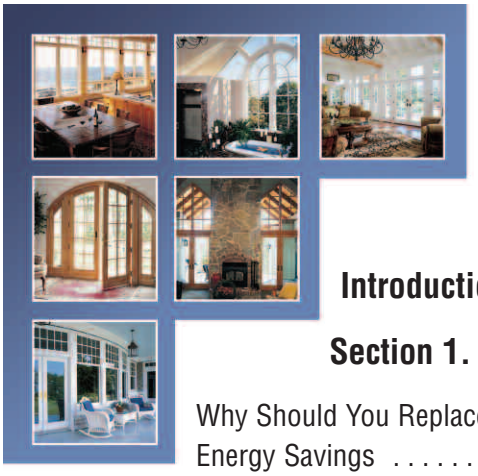
VARCO
WINDOWS & DOORS



WHAT EVERY HOME OWNER SHOULD KNOW ABOUT REPLACEMENT WINDOWS



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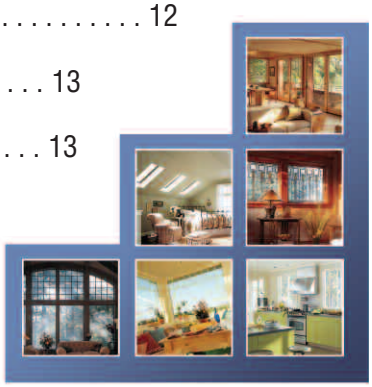


What Every Home Owner Should Know About Replacement Windows

Are you a homeowner that has cold and drafty old windows that are causing your energy bills to resemble your car payments? Or do you have windows that are deteriorating and require a lot of maintenance? Or do you simply want to improve the overall appearance and value of your home?

This report was developed to give you important information about replacement windows that most people don't even consider before buying them. You see there are more options, more choices, more contractors, and more thieves out there than you can literally guard against. Before this business got big, you could trust people. Unfortunately, times have changed and it's very difficult to believe much of anything that you see or hear on TV or anywhere else about the performance of a product without actually seeing it perform in real life.

This free information report exposes the truth, the lies, and the stuff everyone in the replacement window business wants to keep under wraps. If you, or somebody that you know are considering replacement windows for your home, please read this report to make the most educated decision about this major purchases, and to find out what the entire rest of the industry doesn't want you to know.

Section 1

Why Should You Replace Your Windows?

There are many reasons that people replace their windows. If you find yourself always complaining about the draft, the cold, or heat that's coming from in and around them, you probably already know your windows should be replaced. New construction is rarely a guarantee that your windows are energy efficient. In most cases, builders use low grade materials to keep costs down which results in poor quality, and inefficient windows. Windows 10 years older or more should be replaced for comfort and energy savings.

Besides saving dramatically on energy costs and enjoying extra comfort, you can dramatically alter the exterior appearance of your home without major construction with many of the window options that are available. These options are especially helpful when you want to set your home apart from similar looking homes in your neighborhood.

Purchasing replacement windows should be an easy and comfortable process, one that you as the buyer feel in control of. Here is an explanation of some of the most common reasons to look into the purchase of replacement windows

Energy Savings

Did you know that the single largest source of energy loss in a home is its windows? Moreover, older homes with standard windows typically have higher-than-normal energy bills – in part because of doors and windows that seal poorly or offer no insulation. Energy goes out the windows in three ways; **infiltration**, conduction, and radiation.

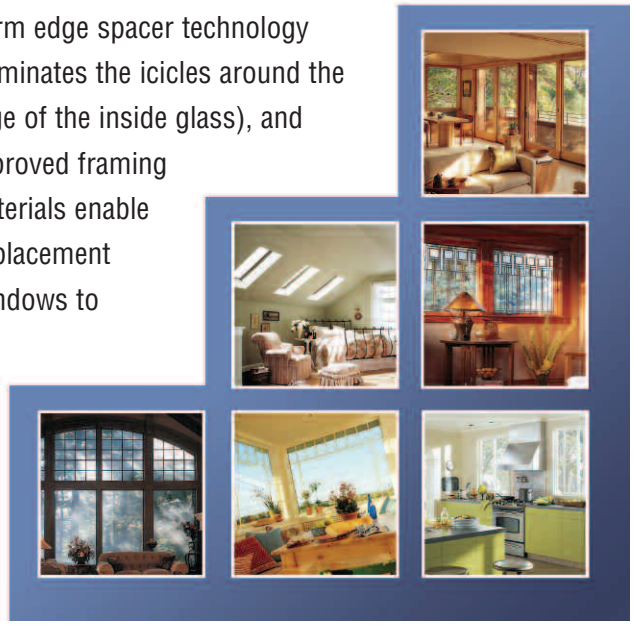
Cold air leaking into your house through your windows can cause rooms to feel drafty and uncomfortable. This is called infiltration. As cold air is coming in through the leaks, and warm air is escaping through other leaks. The same is true for that situation in reverse. The biggest leaks for escaping air are often found in the windows, entry doors, the attic, and recessed lights. Sound like your home?

Conduction is where Mother Nature is heating and cooling the glass from the outside, while your home is trying to do it from the inside. Guess who wins. An example of Mother Nature winning the conduction game is icicles forming around the edge of the window. It's no accident that heating and cooling vents are placed in front of windows.

Radiation is just what it means. Like a car's radiator, your windows (if not properly insulated) will radiate your heating or cooling **(dollars)** right out the window.

From 2004 to 2006, the price of natural gas has tripled. We all know that it's never going to go down. So it's a safe bet that replacing your windows is a sure investment. You can expect to save from 30% to 50% on your energy bills when replacing your windows.

Now, what makes windows energy efficient and saves you a ton of money on your energy bills? Multi-pane glass is no longer the main measure of efficiency. New advanced technologies and designs have dramatically improved the performance of most energy efficient windows. Glass coatings, gas fills, warm edge spacer technology (eliminates the icicles around the edge of the inside glass), and improved framing materials enable Replacement Windows to



deliver more benefits than just simple double pane windows. As you read further in this report, you will see exactly what I mean when we illustrate "The Anatomy of an Energy Efficient Window."

Eliminating Exterior Maintenance

Are "maintenance-free" windows really maintenance-free? Many of us are familiar with the so-called sales talk and advertising when it comes to replacement windows. They all tell us that replacement windows will save us money on energy and maintenance. They all tell us that our home will be more comfortable and cozy. They also tell us that our home will be more valuable. So what is the real truth about replacement windows being maintenance free?

Most thermal replacement windows are made of wood, vinyl, or a combination of the two. Vinyl windows require no painting inside or out. Therefore, eliminating the need to paint windows, homeowners can usually save a significant amount of money. By switching to maintenance free vinyl windows, you could save on your painting bills up to 50%. The truth is that vinyl windows still have to be cleaned, so they are not completely maintenance free. This exposes another issue that most replacement windows dealers don't tell you or want you to know.

Bottom Line – Replacing your windows with new vinyl windows delivers large savings in maintenance costs and convenience, as newer windows don't require the constant upkeep of scraping, replacing putty and new paint.

Comfort

When you get right down to it—it's more than just saving money on your energy bills. Out of 1000 people surveyed from the Consumer Energy Alliance, 67% of the respondents said that COMFORT was the single most important factor to them when discussing energy issues about their home. Let's face it—you want your house to be comfortable.

On cold winter nights, do you avoid chairs near the window or even putting furniture there? Do drafts chase you from room to room? When temperatures drop to the single digits, even tightly sealed double pane windows can still make you shiver. The cold, inside surface of an inefficient window pulls heat away from your body, so you're still cold if you're close to a window unless you have the thermostat turned way up. With the proper replacement windows, the inside window glass stays warmer, so you can relax in your favorite window seat even when the temperatures drop below freezing.

In the hot summer months, do your windows seem like giant heat lamps? Do you find yourself, closing all of the blinds, turning off all of the lights—trying to keep your air conditioning unit from running 24/7? A typical double-paned, clear glass window allows approximately 60% of the sun's heat in your home. That's almost as much as a single pane window. New thermal replacement windows will only transmit 30 percent of the sun's heat without noticeably reducing any light coming into your home. (Information is based on NFRC solar heat gain coefficients.)

Bottom Line – You can relax and be comfortable year round in your home—no matter if you're battling the freezing cold or the dog days of summer by replacing your old windows with new vinyl energy efficient windows.

Ease Of Glass Cleaning

Some homes must weather tough environmental conditions by virtue of their locations, such as areas of heavy industry, or along the coast. Airborne particles are very common in these environments and stick to windows. That means frequent washing. Thankfully, there are now windows on the market that ease that cleaning process. Many double-hung windows feature tilt-in sash designs that allow the exterior glass to be cleaned from the inside. This is one feature that has made the double-hung window, one of the most widely chosen windows in the home improvement industry.

Bottom Line – If one of the most important factors for you replacing your windows is the ease of cleaning, than choosing the double-hung window with the tilt-in sash feature will accomplish this for you.

Add Value To Home

A recent national research study examined the cost of replacement windows in an average-sized home. They looked at how much the windows would add to a house's value if sold a year later. This 2005 research study conducted by Remodeling magazine (a Hanley-Wood, LLC trade publication) utilized professional opinions of over 200 real estate agents and determined that in the Chicago area, new windows will add 125% of their cost to the value of their home.

The benefits start immediately when you replace your windows. From enhancing your home's interior to adding to its curb appeal, new windows transform a home from ordinary to outstanding. What's more, they provide one of the best returns on investment of any home improvement project. You should never buy windows that are not backed by a full lifetime guarantee on the frame, sash, and moving parts. Labor should be included. The glass packs will have a separate guarantee depending on the quality. Read all guarantees carefully. What the large print gives, the fine print takes away.

Bottom Line – Carefully chosen, few investments can add more value to a home than new windows. Replacement windows add value from every perspective. But read the fine print carefully in the guarantees to determine the best value.

Safety

Every day you whisper a promise to your child, “I’ll always love you and keep you safe.” But keeping your home and children safe takes more than promises. It can only be done with safety awareness, planning and preventive action. Fires and falls of all kinds are among the leading causes of injury and death in young children. While some falls occur from windows, it’s important to realize that in a fire, a window can save a child’s

life. That is why windows play a critical role in home safety. Fire is frightening. All too often, the bodies of young children are found after a fire in places where they tried to hide. Teach your children that they can't hide from fire: They must escape it. Decide on at least two emergency escape routes from your home. Windows provide one of the fastest, easiest alternative ways out of a burning home. Teach children how to safely escape through windows and take time to practice with them. Every family member should know how to operate the windows used for fire emergencies. Delays in escaping from a fire, cost lives and increase injuries. Often paint, dirt, or weathering can seal a window shut. Make sure yours open easily from the inside and are not blocked by furniture or other objects. Remember that security bars, grilles and grates not only keep intruders out; they can also lock you in. The same holds true for window guards. Everyone should always be able to get out through a window without using tools, keys, special knowledge or effort.

Another important point to research is the amount of egress, or space that you would have to get out the window in an emergency. Windows with a block and tackle balance system will give you maximum egress versus constant force and spiral balance systems.

Bottom Line – Replacement windows can provide added safety to your family and your home.

Section 2

What Type Of Windows Should You Buy?

Choosing the right windows is sometimes difficult with the wide variety of choices and configurations. That's why it's so important to work with a professional that you like and trust. I cannot emphasize this point enough and this is where so many people get frustrated—and taken to the cleaners. Many times, salespeople will sell you what's in their best interest instead of yours. The best window contractor will help you choose the right windows based on performance and most importantly your needs and budget.

So, in order to help you choose the right windows, please remember that each room in your house is different and has different operating and ventilation needs. For example, a slider or casement window makes more sense above a kitchen sink, because either would provide easier operation than a double-hung.

Let's take a look at some of the different options and possibilities, so that you can figure out what type of windows fit your home best.

Casement Windows

Casement windows give you unobstructed views top-to-bottom and side-to-side. The primary feature of the casement window is that they are hinged from the sides of the frame and open from the side. They open fully - catching breezes and directing the flow of fresh air into

your home. This is one of the primary reasons for considering casement windows.

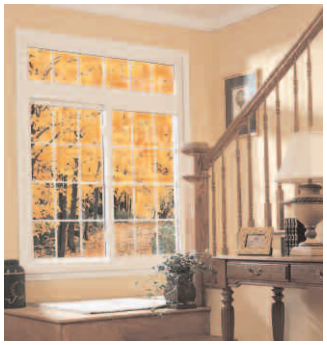
Modern concealed hinge casement windows are also designed to let the sash slide away from the jamb and open past 90 degrees. This permits you to easily clean the outside glass surface from inside the house.

Now, if you're wondering where is the best place to use casement windows .It would be if you're installing windows over a sink, countertop or appliance, you don't want to lean forward and lift? Casement windows crank open, which makes them ideal for these locations. They're also great for decks and patios. **You should request folding handles to avoid interfering with your window treatments.**

Double-Hung Windows

You can choose double-hung windows without consuming exterior space. The primary feature in double-hung windows is that both window sashes open vertically. The appearance of the double-hung is stacked, so that both sashes can slide past each other. The benefit of the double-hung window with the tilt-wash version means that you may never have to go outside and wash your windows again. ***(Important: Look for windows in which the top sash will tilt open without having to squeeze tabs. This will make it easier when the windows are up high to open for cleaning.)*** The glass openings in the upper and lower sash are typically of equal size. The ability to open both sashes allows for cross ventilation. There is also another added benefit to just being able to open the top sash—you can allow for ventilation and provide additional safety measures for your children.

When considering where to place double-hung windows, as mentioned earlier because they don't consume much exterior space, they are an excellent choice next to walkways, porches and patios.



Slider Windows

Many people choose slider windows because of the contemporary look they have, which makes them a very popular style for more modern homes. The primary feature in slider windows is that it has two sashes framed side-by-side and functions with both sliding horizontally. Slider windows are an economical option for filling large openings and allowing maximum viewing.

Bay or Bow Windows

Bay windows are combinations of three windows projecting outward from a room, typically with a large fixed center glass panel. Bow windows are a variation of bay windows, made up of three or more equal sized window units joined at equal angles to form a curve. The primary feature of these windows is that three or more windows are joined together. Typically the center windows are stationary with the outside sections being either casement or double-hung windows.

When considering where to place bow or bay windows—you would need to know that bay and bow windows allow you to maximize space and take advantage of multiple views. It also makes a room appear more open and spacious, increases the flow of light into a home, and can add counter area to a room.

Interior Trim

There are many different variations of specialty windows to choose from. When it comes to picture, garden, geometric, awning, sky light or roof windows, I would recommend that you consult with a window contractor before deciding. A professional will be able to help you make the best decision regarding value, performance and ventilation for your home.

Section 3

What Type of Glass Should You Choose?

Multiple panes improve the energy efficiency of windows, but adding other advanced technologies is necessary to achieve the greatest efficiency. When Low-E coatings, gas fill, warm edge spacers, and improved framing materials are used, more than two panes are rarely necessary, except in extreme climates. Additional panes may be desirable for other purposes, such as increasing impact resistance. (Note: consider how well your walls are insulated. It would not make sense to pay for a thermal upgrade of windows or frame if they are going to be a higher R value than your walls.)

The heart of any window is the type of glass that is installed. The glass type influences the energy efficiency, glare, furniture fading, comfort during winter and summer, and the view into and out of your home. Insulating values of thermal glass panes can range from R-2 to R-8.

Double pane windows typically are insulated with Argon gas which is 4 times denser than air. Triple pane windows are insulated with Krypton which is 8 times denser than air, and hence a better insulator. Some companies will offer a mixture of Argon and Krypton as a middle point between the two. This is a complete waste of money as the Krypton sinks to the bottom of the window while the Argon is the upper portion. Does it make sense to have the bottom portion of window more insulated than the top? You would be better off with just the Argon.

Some manufacturers will offer a product called “Heat Mirror” as a triple pane or quadruple pane window. Heat Mirror is a plastic film similar to Mylar and over time it will yellow. There have also been some issues with rippling on the film portion. These same manufacturers will claim that they are offering three to four panes, but in reality two of them are glass and one to two of them are plastic.

Almost all glass packages include Low-E (low emissivity) glass. Low-E reflects the heat back outside and inside the home. It cuts down on the UV light coming into the home. Hence your furniture and drapes will tend not to fade as much with clear glass. Less expensive windows will use Hard-Coat Low-E (tin finish) which will look splotchy on the glass. Quality windows will have double-layered Soft-Coat Low-E (silver finish) which will be more efficient and uniform across the glass.

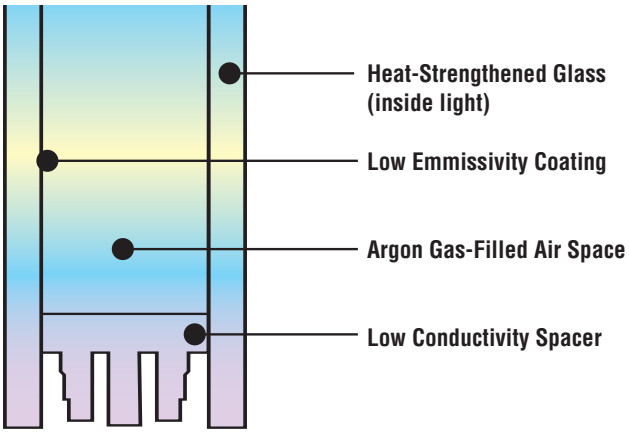
For an illustration, please take a look at the picture below to give you an idea on how the window really looks.

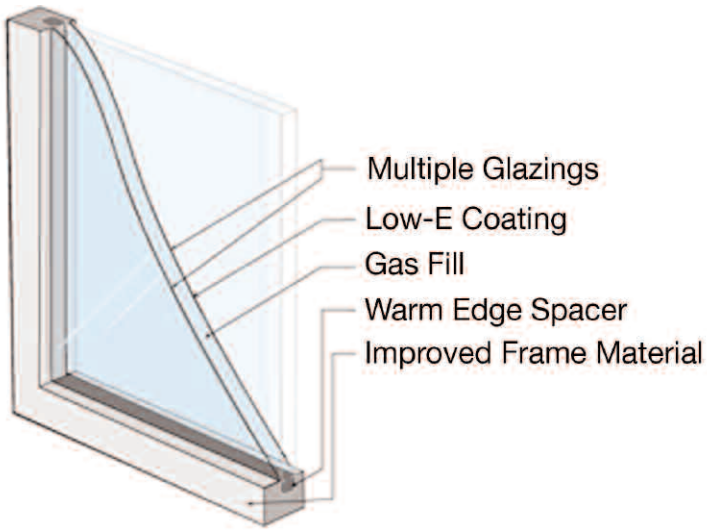
Anatomy of an Energy Efficient Window

What makes windows energy efficient? Multi-pane glass is no longer the main measure of efficiency. In the past two decades, new advanced technologies and designs have dramatically improved the performance of the most energy efficient windows. Glass coatings, gas fills,

warm edge spacers, and improved framing materials enable ENERGY STAR qualified windows to deliver more benefits than simple double pane windows.

See energy efficient window below





Section 4

Window Ratings And What They Mean.

There are several rating systems that provide information about the energy efficiency of a replacement window and how that window performs. There are different measures in which to rate energy efficiency, however the two most widely accepted are "U-Factor" and **"Solar Heat Gain Coefficient"**. The "U-Factor" is a measure of the rate of heat loss through a window, the lower the "U-Factor", the lower the amount of heat loss. This is important in colder climates, where installing windows with lower "U-Factors" will reduce the percentage of heat that leaves your house.

Solar Heat Gain Coefficient

The Solar Heat Gain Coefficient measures the rate of heat gain through a window. The lower the "Solar Heat Gain", the lower the amount of heat that will come in from the outside. This is important in warmer climates, where air-conditioning is commonly used on a regular basis.

R-Value

Is another term that is used in rating energy efficiency, which is the resistance that a window has to heat flow. If a window has a high "R-Value", it will lose less heat than a window with a lower "R-Value". Simply put, the "R-Value" is the inverse to the "U-Factor". **However, when considering windows, the "U" factor is more important because it is indicative of the efficiency of the whole window not just the glass.**

Energy Star label

This was developed by the U.S. Department of Energy and the Environmental Protection Agency for products meeting certain energy performance criteria. Since the energy efficiency performance of windows can vary due to climate, four different climate zones are designated:

1. Northern: mostly heating
2. North / Central: heating and cooling
3. South / Central: cooling and heating
4. Southern: mostly cooling.

The National Fenestration Rating Council (NFRC).

(Fenestration is an architectural term for window opening.) NFRC is a non-profit, public/private organization created by the Window, Door and Skylight Industry. The NFRC has developed a Window Energy Ratings System based on product performance. NFRC labels on window units give ratings for "U-Factor", "Solar Heat Gain", "Visible Light Transmittance" and "Air Leakage".

Energy Star and the NFRC are the two most trusted labels in the window rating industry. It is important that when you choose your replacement windows—these labels are present.

Section 5

What Type Of Frame Materials Should You Use?

Frame material is also important. If you measure the window opening, the window frame accounts for a substantial percentage of the total opening area. The overall effectiveness of the window is determined by the quality of the frame. The most common frame materials are wood, vinyl, and aluminum.

Wood windows have been around for a long time, but are not considered as efficient due to expansion and contraction of the wood. They require a great deal of maintenance and typically are not guaranteed for more ten years. Aluminum frames are not efficient due to conducting heat and cold through the metal frame. Vinyl offers the best of all worlds due to strength, a tight seal, and non-conductivity.

You have to be careful to ensure that you are purchasing a “custom made window” versus “custom fit”. “Custom Fit” windows are purchased off the rack in a hardware store or installed within a week from cheap window dealers. The windows are shimmed to fit into the opening which causes large gaps between the opening frame and the window frame. The extra large gaps allow air and moisture to leak in. In addition, the shims collapse and the window gets out of square, which causes the frame to crack and the sashes not to open properly.

A “Custom Made” window will be carefully measured by a technician. Since the window is made to your specifications, it usually takes three weeks for the windows to come into the dealer. The window will fit tight into the opening to ensure little infiltration of air and moisture. The window will stay square and the sashes will go up and down smoothly for a long time.

Not all vinyl is created equal. Windows that advertise PVC or PVC with virgin vinyl may have up to 49% regrind vinyl in the plastic. UPVC or un-plasticized vinyl is the strongest vinyl material available. The difference between the two will be obvious. UPVC is considerably whiter than PVC. UPVC will be stronger and more flexible. Choose only windows that have been heat welded on all four sides at the same time. This technique gives a sturdier frame that will not go out of square. Ensure that the welds go all the way through

the frame without interruption. There are a lot of manufactures out that make “cut and notch” products. The weld only goes through part way through the frame. The notch part looks like a crack and allows air infiltration and moisture to collect in the frame.

The frame should be thick and contain multiple air spaces. A good frame will have I-beams as a foundation for the channels. It should throw up a red flag if a window rep states that their frames air spaces are insulated or are metal reinforced. Polystyrene foam and metal are typically used to shore up the foundation of the frame. An issue with metal reinforcement is that metal will conduct heat and cold. Some companies will state that the foam insulation will provide an “R” value of R-24. However, this is a waste if your walls are R-13 (standard). Avoid this option if offered as an upgrade as it will be a waste of money. The NRFC website which is non-biased does not note any significant benefits of efficiency with inside frame insulation. A good quality window will need neither metal nor foam inside the frame and will already have insulating values equal to the walls of your home.

The window should sit in a pocket that surrounds the whole window to prevent air and water infiltration. The outside sill should be steeply sloped to drain away the rain water. The window should have at least three areas to drain the water to avoid having mold problems.

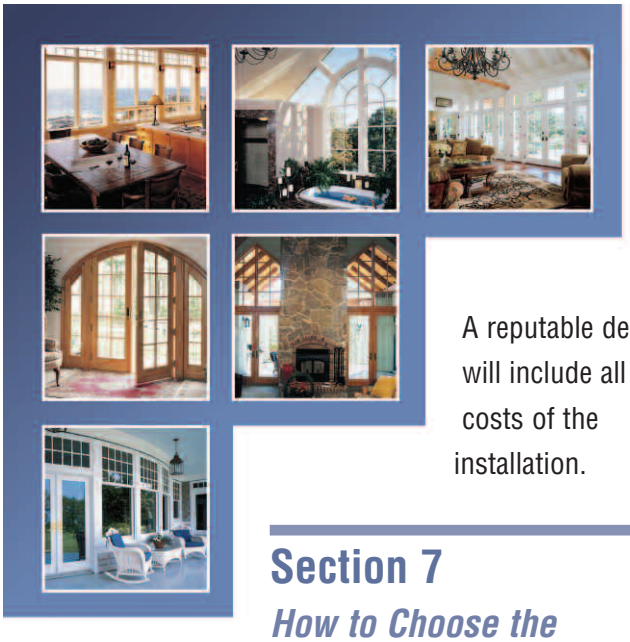
While foam insulation is not needed inside the frame, a flexible foam wrap is critical for the outside of the frame. Many issues with water and air infiltration are caused by gaps around the frame during installation. A foam frame wrap will eliminate frame infiltration.

Left is an example of a great frame. Note that there are numerous air chambers. If you look close you can see the I-Beam construction. The window sits in a pocket on both the sill and header. On the bottom you can see that the exterior slope is very steep.

Section 6

Window Trim.

A good quality window and a good installation will be negated by poor outside trim work. Trim is important for sealing up any gaps and enhances the appearance of the home. Also, you have to be careful when receiving bids from home improvement companies. Many of them don’t include the cost of trimming the windows in their proposal to make them appear less expensive than their competitors.



A reputable dealer will include all costs of the installation.

Section 7

How to Choose the Proper Window Contractor.

Making a major home improvement purchase, like replacing your windows can be a scary proposition. Unlike buying a washing machine or even a new car, most homeowners rarely make major home improvement purchases. The lack of experience can easily bring about fear of making the wrong decision, uncertainty, and general uneasiness.

Unless you have a trustworthy relative or a good friend in the business, it's going to be necessary for you to deal with a window contractor. Your success in finding a reliable, honest, and dependable contractor will probably dictate your ultimate happiness or disappointment in your project.

If you know just eight critical characteristics, you can eliminate 95% of the fly by night and unreputable contractors who give this industry a black eye.

A reputable contractor should be able to provide you with answers on the following:

- Numerous Customer References
- Pictures of work done (with homeowner in at least one picture of each job)
- Detailed proposal of the work that will be done for a specific cost.
- Written Warranties For Product and Workmanship
- Proper Liability Insurance
- Long Term Reputation for Service
- Options for financing
- Amount of Deposits Paid Up Front
- Standards For Installation and Installation Crews

Important Note: Beware of companies that promise percentages off, free financing, or very low prices. If they lie to you to get into the home, they will lie about other aspects of the job.

Many companies will offer discounts of 15 to 50% off if you purchase now. This is a feeble attempt at creating a sense of urgency. The tactic involves raising the list price to account for the discount. In essence, they are not giving any discount.

Any financing over 6 months is costing the company a certain percentage of the sale. The percentage is added to the cost of the job, so the homeowner is really paying for the financing. An honest company will offer financing, but will also offer a lower price if the homeowner agrees to pay cash, check, credit card, or a financing option that is less than 6 months.

It is also very common to see companies advertising very cheap windows as a bait and switch tactic. Two scenarios are possible. The sales rep goes in with the intention of not selling that window, since there is no commission. Instead the sales reps talks the homeowner out of considering the window altogether and purchasing a better quality. Even then, the window that is presented is of mediocre quality due to the business model of such a company. This type of company has lost all credibility by lying just to get into the home.

There are also many companies that will advertise a cheap window, but it may not include all the components for installation. By the time the homeowner has purchased all

the options to make it a complete installation, the price of the window is twice what it was advertised. Again, this company has lied to get into the home.

An exact price for a complete installation should involve the following:

- Cost of measuring windows by window technician for a "Custom Made" window.
- Cost of Material and Ancillary Installation Materials (caulk, trim, extra insulation, etc.)
- Necessary Options
  - Low E glass
  - Argon Fill insulation
  - Exterior Foam Frame Wrap
- Replacement of exterior or interior wood if applicable.
- Removal of obstructions such as storm windows, removal of old windows, and removal of window treatments.
- Installation
- Window Capping (Trim work around window)
- A complete clean up that involves taking away the old windows.

There should not be any other costs with the installation after the technician has inspected the existing openings and taken exact measurements. After this point, any unforeseen expenses should be at the home improvement company instead of the homeowner.

Section 8

Should I Finance My Replacement Windows?

There are many options to pay for your replacement windows, but be careful, financing can be tricky. A reputable contractor should be able to educate you on the options available and secure the best possible method of financing for you.

If you are considering financing your replacement windows, there are several key factors that you will want to research before purchasing your windows.

- What monthly payments are you comfortable with for what period of time?
- What interest rates are being offered and are they competitive?
- Can I finance this through a home improvement loan?
- Is my interest payments tax deductible?
- How long before my payments start?

Section 9

What To Do Next?

Call Varco Windows & Doors for a FREE ESTIMATE. You'll be able to ask the about all the information you have learned about replacement windows.

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