



Homeowner's Guide to **REPLACEMENT WINDOWS**





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Dear Homeowner:

This FREE information report exposes the truth, the lies, and the stuff everyone in the replacement window business wants to keep under wraps.

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 to consider before buying replacement windows. You see there are more options, more choices, more fly-by-night contractors 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.

If you or someone that you know is considering replacement windows, please read this report. It will help you make an educated decision about this major purchase. It will also tell you what the rest of the industry doesn't want you to know.

Sincerely,



Danny Peterson, Owner
Integrity Windows, Siding, Roofing & Doors



Section 1

Why Should You Replace Your Windows?

People replace their windows for many reasons. If you find yourself always complaining about cold drafts, or heat that's coming from in and around your windows, you probably already know that your windows should be replaced. Windows 10 years older or more should be replaced for comfort and energy savings. **However, new construction is rarely a guarantee that your windows are energy efficient. In most cases, builders use low-grade materials to lower cost, which results in poor quality and poor efficiency.** Besides saving dramatically on energy costs and enjoying extra comfort, you can dramatically alter the exterior appearance of your home without major construction. You can set your home apart from similar looking homes in your neighborhood by choosing from a wide array of brands, styles and colors.

Purchasing replacement windows should be an easy and comfortable process, one that allows the buyer to feel in control. The following section will provide you with a more detailed explanation surrounding the reasons why most people purchase new 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. Cold air enters through the leaks, and warm air escapes through other leaks. The biggest leaks of escaping air are often found in windows, entry doors, attics, and recessed lights. Sound like your home?

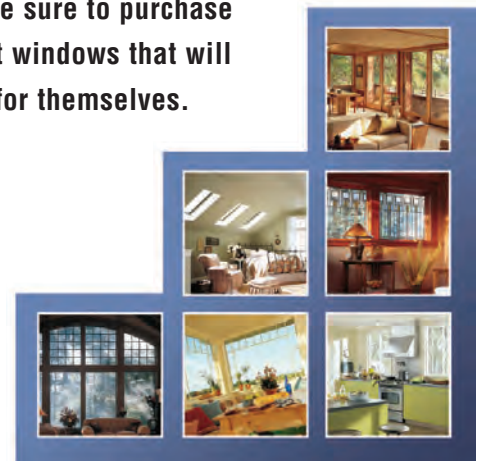
Conduction is where Mother Nature is heating and cooling the glass from the outside, while your home is trying to do it from the inside. Guess who wins. An example of Mother Nature winning the conduction game is icicles forming around the edge of the window. It's no accident that heating and cooling 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 tripled. We all know that it will never go down. So it's a safe bet that replacing your windows is a sure investment. You can expect to save 30% to 50% on your energy bills after replacing your windows.

Now you might ask, what makes windows energy efficient, and how do they save me a ton of money? 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, heat mirror, gas fills, warm edge spacer technology (which 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."

Bottom Line – Be sure to purchase energy efficient windows that will ultimately pay for themselves.





Eliminating Exterior Maintenance

In the world of windows, many of us are familiar with the outlandish sales talk and advertising claims. Are “maintenance-free” windows really 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, and homeowners can usually save a significant amount of money because of it. As a matter of fact, by switching to maintenance free vinyl windows you could save on your painting bills by up to 50%. But, the unfortunate truth is that vinyl windows still require cleaning, so they are not completely maintenance free.

Bottom Line – Replacing your windows with new vinyl windows delivers large savings in maintenance costs and convenience because 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 surrounding 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 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 all 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 your number one goal is to find windows that are easy to clean, then choose the double-hung window with the tilt-in sash feature.

Add Value To Home

A recent national research study examined the cost of replacement windows in an average-sized home to determine the value that the upgrade would add to the home 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 to determine that in the Chicago area, new windows will add 125% of the window cost to the value of the 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. Moreover, new windows 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. Read all guarantees carefully because 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. Be sure to read the fine print to determine the best value.

Safety

Every day you whisper a promise to your child, "I'll always love you and keep you safe." As you know, protecting your home and children's safety takes more than promises. It can only be accomplished with safety awareness, proactive planning and preventative action. Fires and falls of all kinds are among the leading causes of injury and death in young children. It's important to realize that in a fire, a window can save a child's life. Fire is frightening. All too often, the bodies of young children are found after a fire in places where they try to hide. Teach your children that they can't hide from fire; they must escape it. Determine at least two emergency escape routes from your home. Windows can provide one of the fastest and easiest alternatives to exiting 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 in case of emergency. Delays in escaping fires cost lives and increase injuries. Over time paint, dirt, or weathering can seal a window shut. Make sure your windows 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. Windows should be easily escapable without using tools, keys, special knowledge or extra effort.





Another important point to consider is the amount of egress, or space that you have to escape out of a window. Windows with block and tackle balance systems or constant force systems will provide maximum egress in comparison to spiral balance systems. Space is also maximized if the sashes can be tilted, removed, or opened quickly.

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 when you consider the wide variety of choices and configurations available on the market today. That's why it's so important to work with a professional that you like and trust. I cannot emphasize this point enough. 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 your 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 will provide easier operation than a double-hung.

Let's take a look at some of the different options and possibilities, so that you can determine the best fit for each of the rooms in your home.

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. The window screens are connected on the inside of the window, which allows you to easily clean the outside glass surface from inside the house.

Casement windows crank open, so they are best installed over a sink, countertop or appliance, so you don't have to lean forward and lift. Casement windows do require some exterior space when open.

Double-Hung Windows

Double-Hung windows do not consume exterior space, so they are a good fit for walkways, porches and patios. 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 number





one benefit of the double-hung window with the tilt-wash version is you may never have to go outside and wash your windows again. ***(Important Note: Look for windows in which the top sash will tilt open, too. This will make it***

easier to open for cleaning when the windows are up high.) The ability to open both sashes allows for cross ventilation. For example, in a hot and steamy bathroom, you can just open the top sash to allow for ventilation. This will allow you to maintain privacy and it will keep the air from blowing directly at you. You may even want to consider special privacy glass in the sashes as well.

Slider Windows

Many people choose slider windows because of the contemporary look. Slider windows are commonly found on more modern homes. The slider window has two sashes framed side-by-side, both frames slide horizontally. Slider windows are an economical option for filling large openings and allowing maximum viewing. In fact, sometimes one slider can more economically fill the opening of two side-by-side double hung windows.

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 made up of three to six equal sized window units joined at equal angles to form a curve. The primary feature of both 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.

Bay and bow windows are beautiful “FEATURE” windows offering a number of benefits. They maximize space, provide multiple views, and increase the flow of light into your home. Bay and bow windows are big and heavy, so they must be installed in an area of your home that can properly support the weight. In addition, bay and bow windows require special cuts and wall preparation from skilled craftsman, so make sure your bid includes all the costs necessary to properly complete the construction.

Interior Trim

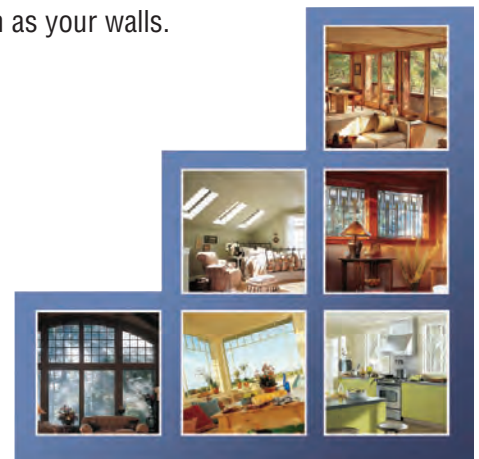
There are many different variations of specialty windows to choose from. When it comes to picture, garden, geometric, awning, sky light or roof windows, I would recommend that you consult with a window professional before deciding. A professional will be able to help you make the best decision regarding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

Section 3

What Type of Glass Should You Choose?

Multiple panes improve the energy efficiency of windows and increase impact resistance, but because of the rising cost of both heating and air conditioning, other advanced technologies are necessary to achieve the greatest efficiency. Technologies such as, Low-E coatings, gas fill, heat mirrors, warm edge spacers, and improved framing materials are important.

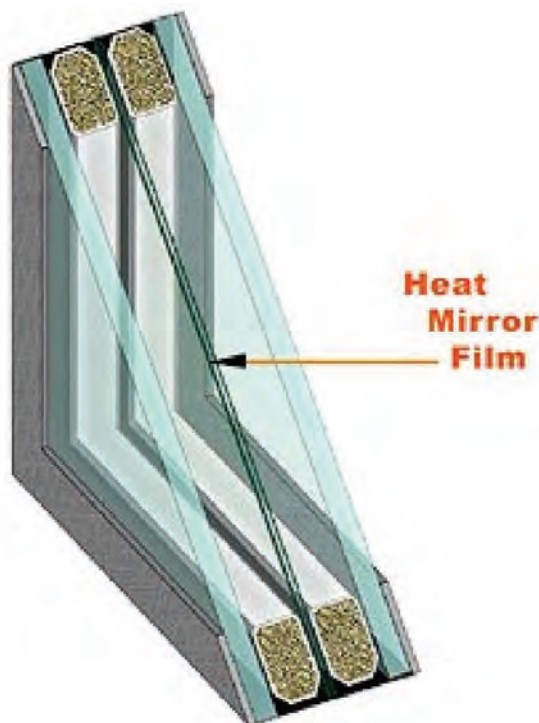
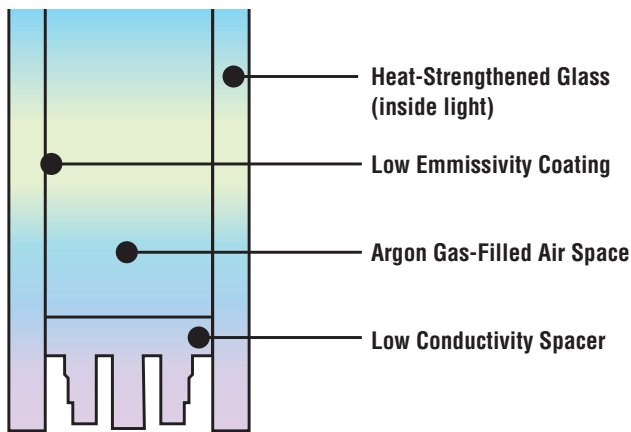
I recommend installing windows and frames with a R-value as high as your walls.





The heart of any window is in the glass. The glass type influences the energy efficiency, glare, furniture fading, comfort and view into and out of your home. Insulating values of thermal glass panes can range from R-2 to R-9.

Anatomy of an Energy Efficient Window



Double pane windows typically are insulated with Argon gas, which is 4 times denser than air. Triple pane windows can be insulated with Krypton gas, which is 8 times denser than air, and hence a better insulator.

Heat Mirror® is the most recognized and the most effective glazing system in the world. Popular Science Magazine recognized Heat Mirror® as one of the Top 100 Products of the Millennium, and the Good Housekeeping Institute allows Heat Mirror to carry their Seal. Washington D.C.'s own world renowned Smithsonian Institute protects many of America's treasures with Heat Mirror, and independent testing by honored laboratories across the nation has proven the effectiveness of Heat Mirror Glazing systems in study after study. Since its inception, millions of windows with Heat Mirror® products have been making homes and buildings more comfortable, beautiful and energy efficient.

Low-E (low emissivity) glass reflects the heat on the outside and the inside of your home. It decreases the UV light entering your home. Hence your furniture and drapes will tend not to fade as much as with clear glass. Quality windows will have double-layered Soft-Coat Low-E (silver finish), which will be more efficient and uniform across the glass.

Anatomy of an Energy Efficient Window

As mentioned earlier in this report, multi-paned glass is no longer the sole 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.

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. However, the two most widely accepted ratings are referred to as the “**U-Factor**” and the “**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 enter the house from the outside. This is important in warmer climates, where air-conditioning is commonly used on a regular basis.

R-Value

The R-Value is another term that is used in rating energy efficiency. It measures the resistance that a glass has to heat flow. If a particular window glass has a high “R-Value”, it will lose less heat than a window glass with a lower “R-Value”. Simply put, the “R-Value” is the inverse to the “U-Factor”. However when considering windows, the “U-Factor” offers more significance because it is indicative of the efficiency of the whole window, not just the glass.

Energy Star Label



The Energy Star label 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 windows can vary in different parts of the country, four different climate zones are designated for measuring performance.

The National Fenestration Rating Council (NFRC)



The NFRC is a non-profit organization created by the Window, Door and Skylight Industry. The NFRC provides a Window Energy Ratings System that measures 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. We recommend choosing windows that include both the NFRC label and the Energy Star label.

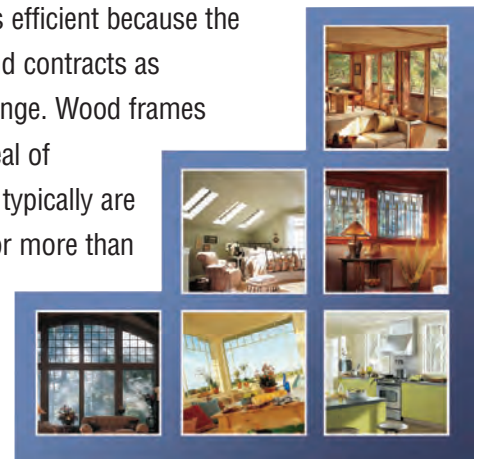
Section 5

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, aluminum, and vinyl.

Wood frames have been around for a long time, but are not considered as efficient because the wood expands and contracts as temperatures change. Wood frames require a great deal of maintenance and typically are not guaranteed for more than 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.

If you are considering a custom window, be sure to verify that you are purchasing a "custom made" window and not a "custom fit" window. "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 extra large gaps between the opening frame and the window frame. The large gaps allow air and moisture to leak in. Worse yet, the shims will eventually collapse, which causes the frame to crack.

A "Custom Made" window is carefully measured by a window specialist. Since the window is made to your specifications, it usually takes three weeks for the windows to arrive to the dealer. The window will fit tight into the opening to ensure little infiltration of air and moisture. Custom Made window frames will remain square over time and the sashes will raise and lower 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. Windows need to be pure (new) virgin vinyl that have UV inhibitors to keep the vinyl white, and not yellow over time. 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 of your windows go all the way through the frame without interruption. The frame should be thick and contain multiple air spaces.

The window should have protection built into the frame to prevent air and water infiltration. The outside sill should be sloped to drain moisture away. The window should have several areas to drain water to avoid mold problems.

An example of a great frame is provided on the left. Note that there are numerous air chambers. The window sits in a pocket on both the sill and header. On the bottom you can see that the exterior slopes away.



Section 6

Window Trim

A quality window and a quality installation will be negated by poor outside trim work. Proper trimming seals gaps and enhances the appearance of your home. Make sure your bid includes all costs of installation. Many home improvement companies will reel you in with a low bid, and then add the cost of trim after you agree to a job. 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.

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 of the fly by night and un-reputable contractors who give this industry a black eye, you can eliminate 95% of them from consideration.

A reputable contractor should provide you with the following:

- Numerous Customer References
- Pictures of Completed Work (with the homeowner in at least one picture of each job)
- Detailed proposal of the work and specific costs of the work to be done
- Written Warranties For Both Product and Workmanship
- Proper Liability Insurance

- Financing Options
- Payment Schedule
- 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 discount at all.

It is also very common to see companies offers a cheap, low quality window to the customer, just to get an opportunity to schedule an in-home meeting. Once the sales rep is in the home, he attempts to sell the customer a higher cost window, a window that will earn the sales rep a higher commission. A tactic occurs when a company advertises a cheap window, but does not include all the components for installation. As a result, the advertised cost sometimes doubles over the initial offering. Bait and switch companies are lying and have no credibility in the marketplace. Anytime you see windows advertised for less than \$375, you should beware.

Section 8

Should I Finance My Replacement Windows?

There are many options to pay for your replacement windows. Many homeowners like to pay cash. Some like to finance. A reputable contractor should be able to educate you on the options available and secure the best possible method of financing for you.





An exact price for a complete installation should include:

- ☑ The cost of measuring CUSTOM MADE windows by a window technician.
- ☑ The cost of material and ancillary installation materials, such as caulk, trim, extra insulation, etc.
- ☑ Any and All Necessary Options
 - Low E Glass
 - Argon Fill
 - Heat Mirror
- ☑ The replacement of exterior or interior wood if applicable.
- ☑ The removal of obstructions such as storm windows, old windows, and/or window treatments.
- ☑ The cost of complete installation.
- ☑ The cost of window capping, i.e. trim work around window.
- ☑ A complete clean up that includes disposing of the old windows.

- ☑ A clear and detailed explanation of the warranties.
- ☑ A clear and detailed explanation of who is responsible for warranty work.
- ☑ A clear and detailed explanation of the Homeowner’s responsibilities.

If you are considering financing, there are several key factors to research before completing the purchase.

- What weekly payments are you comfortable with that won't take food off your table?
- What interest rates are being offered and are they competitive?
- Can I finance this through a home improvement loan?
- Is my interest payment tax deductible?
- How long before my payments start?

Section 9

What To Do Next?

Contact a replacement window contractor and arrange for a no cost, no obligation FREE QUOTE. (Insist on a firm proposal cost. Never accept an “estimate” because it gives the contractor license to add up to 20% more. Your contractor should be open and willing to answer all your questions, so that you can be in control of your decision. ***This report has been provided free of charge by:***

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