

pieces of evidence



pieces of evidence

Just about everything you need to know about buying windows can be learned on the government's ENERGY STAR web site.

So, let us take you there!

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FAQs - ENERGY STAR® Fenestration Products

1. Why should I buy ENERGY STAR qualified windows, doors, or skylights?

Windows, doors and skylights – collectively known as fenestration products – are a major source of heat loss in Canadian homes. Fenestration products that qualify for the **ENERGY STAR** mark have been independently tested and certified to be among the most energy-efficient on the market, so installing them in your home will reduce your energy consumption and save you money. But there's more: **energy-efficient windows will also increase your comfort, cut down noise levels from outside the home, have less condensation in cold weather than standard products, and allow fewer ultraviolet rays to pass through glazed areas, thus better protecting your valuables from sun damage.** Last but certainly not least, by reducing your home's energy consumption, ENERGY STAR qualified windows, doors and skylights also reduce greenhouse gas emissions that are contributing to climate change.

VWD is an industry leader in meeting ENERGY STAR'S challenge for quality!

In your 17 Reasons Magazine, please see:

Reason #5 - Quiet Window Technology

Reason #6 - Diamond Premium Glass

Reason #9 - The right Low E Glass

Reason #11 - VWD glass technology achieves R 8+ C.O.G.



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2. Why should I be concerned about climate change?

Climate change is a serious environmental problem that could have significant consequences for our health, our economy and our children's future. All Canadians contribute to the problem, and we all need to be part of the solution. Making smart energy choices around the home – including installing ENERGY STAR qualified fenestration products – is a great way to start.

VWD is proud to have earned the following awards!





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How much money can I expect to save by installing ENERGY STAR qualified fenestration products?

Homeowners who replace all of their old windows and doors with ENERGY STAR qualified products will typically save about 7 percent on their energy bills, depending on the number of windows and doors replaced, how old they are, and how much air leakage was occurring. Buyers of new homes with ENERGY STAR qualified fenestration products can save up to 12 percent on their energy bills compared to standard products (the savings tend to be greater for new homes because they are typically larger and have more windows and doors than older homes).

The truth is, new windows result in only a 7 to 12% savings on our energy bill. There have been law suits over companies that have made significantly higher promises. Read all about it at:

<http://www.yourlawyer.com/topics/overview/Energy-Efficient-Replacement-Window-Lawsuit>

Replacing your windows is about something far more important than a 7 to 12% savings.
it's about your family's comfort!



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How will I know if I need new windows, doors or skylights?

Unusually high energy bills, uncomfortable drafts around doors and windows, and frost on your windows on cold winter days are among the clues that fenestration products may be in need of repair or replacement.

This is where your family's comfort comes into the picture! And, not just comfort but their health! These situations can be a breeding ground for molds that can impact your family's well being.

Your local, authorized VWD dealer knows what to look for to determine the best way to resolve any issues you have with your windows.



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Choosing the right zone may be another zone!

Many window, doors and skylights qualify for more than one zone in Canada. The more zones a product qualifies for, the more energy efficient it is. **So you can save even more on your energy costs by purchasing a product that is qualified for a zone that is colder than where you live.**

If you live in a location that is significantly higher in elevation than the surrounding area, get a product rated for a zone at least one level colder than indicated on the map. This applies especially to areas in southern and central British Columbia, where energy efficiency levels have been determined for major urban centres that are normally located in valleys.

An HDD is the annual sum of the degrees of the average daily temperature for all days below 18°C. This accumulated sum is averaged over a 30-year period to provide a good indication of the average temperature in a given location. The higher the average HDD value, the colder a location and the longer the heating season.

VWD offers windows for all four zones in Canada.
Consider "stepping up" one zone for tomorrow's
ENERGY STAR windows... today!



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Choosing the right zone may be another zone!

The following tables show the levels for each climate zone in Canada. The ratings given in the tables are for the entire product. Energy efficiency ratings for the glass portion only, often called "centre-of-glass" ratings, usually make the product appear more energy efficient than it really is. Windows must also have an air

Windows					
Zone	Heating Degree-Day Range	Compliance Paths			
		Energy Rating (ER)	or	U-Factor	
		Minimum ER (unitless) Maximum U-Factor 2.00 W/m ² ·K (0.35 Btu/h·ft ² ·°F)			Minimum ER (unitless)
A	<= 3500	21	or	1.80 (0.32)	13
B	> 3500 to <= 5500	25		1.60 (0.28)	17
C	> 5500 to <= 8000	29		1.40 (0.25)	21
D	> 8000	34		1.20 (0.21)	25



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How does a window, door or skylight qualify for ENERGY STAR?

To qualify for the ENERGY STAR mark, fenestration products must meet strict technical requirements for both thermal and structural performance. Products are qualified based on either their U-value (rate of heat transfer from a warm area to a cold area) or their Energy Rating (a scale that takes into account a product's U-value, potential solar gain and airtightness). The colder the climate zone, the more stringent the requirements. Windows, doors and skylights must also have good airtightness to qualify for ENERGY STAR. To ensure the integrity of the ENERGY STAR mark, all product testing is done by accredited laboratories under standardized, quality-controlled conditions.

With 25 years manufacturing windows, VWD has proven that it does create "Windows for Life".

How? VWD is one of only a few manufacturers in North America to have an R&D department complete with an in-house testing facility. Your windows are tested from the prototype level to final design to assure that they will meet your high standards.

Reason #17 - More certifications means that you can trust our quality!



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What if I find a fenestration product with an ENERGY STAR label that does not show information for the Canadian climate zones?

This may be a product that qualifies for ENERGY STAR in the United States but not necessarily in Canada. Remember, specific ENERGY STAR criteria have been developed for Canada's climate, which tends to be colder in winter than most parts of the U.S. **A fenestration product that does not show the Canadian climate zones may not qualify for ENERGY STAR where you live.**

Every VWD ENERGY STAR qualified window is labeled with the appropriate climate zone. Your VWD authorized dealer understands your zone and can make the correct recommendations. Better still, no two homes are the same due to location, geography, height etc. Your VWD authorized dealer will help you choose the right window style for your needs!



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What if I can't find an ENERGY STAR qualified fenestration product?

Look for products that have the features of a typical ENERGY STAR qualified fenestration product. For windows, patio doors and skylights, look for products that have double- or triple-glazing in a sealed unit; low-E coatings; an inert gas fill; low-conductivity spacers; **insulated frames and sashes**; and a high Energy Rating or low U-value.

VWD ENERGY STAR qualified window are easily available. need a dealer? Use our web site's "Find A Dealer" button and let us put you in touch with a great authorized dealer in your region.

And don't forget, we do offer insulated frames and sashes!



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How should I handle installation?

Installation of windows, doors and skylights is best left to a professional. A poorly installed fenestration product may not operate properly and could cause cold drafts, even if the product itself is energy efficient. Poor installation may also allow water to leak into the wall cavity, leading to costly damage. Most manufacturers offer installation services or can recommend a properly trained installer. A good way to ensure a quality installation is to find an installer who has been certified by the Window Wise program, which conducts comprehensive training seminars for installers.

You won't be surprised to learn that VWD is a big supporter of Window Wise and many of our distributors have opted to be part of this voluntary program that results in their work being scrutinized by third party Home Inspectors!



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How should I handle installation?

Have a knowledgeable professional install windows, doors and skylights according to the manufacturer's instructions. A poorly installed product may not operate properly and could cause cold drafts even though the product itself is energy efficient. Poor installation may also allow water to leak into the home, leading to costly damage.

Here are some installation criteria.

1. The installation should provide an airtight, insulated seal.
2. After installation, the window or door should retain its original shape and should be level and vertical.
3. Windows may be installed at an angle (e.g., in an attic) only if they are designed to do so.

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How should I handle installation?

Have a knowledgeable professional install windows, doors and skylights according to the manufacturer's instructions. A poorly installed product may not operate properly and could cause cold drafts even though the product itself is energy efficient. Poor installation may also allow water to leak into the home, leading to costly damage.

When replacing an existing window or door, there are two types of installation: retrofit and "complete tear out." A retrofit involves installing a new window or door into the frame of the window or door that is being replaced. However, **a retrofit should be done only if the existing frame has not deteriorated and is properly sealed and insulated.** A retrofit is usually less expensive and minimizes the disturbance to the surrounding wall and trim. It also narrows a door opening and reduces the glass area of a window by about 10 percent.

VWD windows can easily be made to fit any type of installation. We have a large variety of brick molds and extensions to make tear out installations easy!

Reason #12



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Choosing an energy-efficient product is a good start, but you can optimize your choice by selecting windows and exposed glazed doors with properties that more precisely meet your needs.

Homes that have a southern and/or eastern exposure not obstructed by another home or building can take advantage of the passive solar energy from the sun by choosing glazings that have a high or moderate solar gain.

On the north side of the home, choose window and door models that have the lowest overall U-factor that you can afford. Models with a lower U-factor normally have glazing with a low or moderate solar gain and are very resistant to heat loss. You may also want low solar gain glazing on the west side if the windows are not properly shaded during the summertime. You should know that rooms with a higher than average amount of glass area on the west or south sides may experience too much solar gain at certain times of the year. To reduce unwanted solar gain, choose windows with moderate to low solar gain.

In your 17 Reasons Magazine, please see:
Reason #9 and Reason #11



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Where can I get more information on energy-efficient windows, doors and skylights?

More information is available in the OEE's publication on energy-efficient fenestration products or fact sheet about ENERGY STAR qualified windows, doors and skylights. As well, "Sill to Sash," a consumer video guide to buying energy efficient windows and doors, is available on the Web site of the Canadian Window and Door Manufacturers Association.

We can not emphasize enough the importance of a good installation!

Oh, and by the way, did you know that more registered ENERGY STAR dealers choose to sell VWD than any other single brand?



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Bonus question! What is the best air space between panes of glass to reduce heat loss from convection (Air movement in the spaces between the glass) and conduction (the natural transfer of heat from warm to cold)?

if the space is too large, convection becomes easier and heat loss increases. if the space is too small, conduction increases, causing heat loss. **In a sealed unit, 1/2" to 5/8" is the ideal space** for minimizing heat loss in a balance between conduction and convection.

VWD is a leader in offering 1/2" spaces.... in
Casement and other architectural Windows
with TRIPLE GLAZED UNITS!



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Bonus question! What gas does Natural Resources Canada recommend to further reduce heat loss?

The inside of the IG unit is filled with an odourless, colourless, harmless inert gas, such as argon or krypton, to reduce heat transfer through the glass. For maximum efficiency, argon is normally put into double glazed units and krypton put into triple or quad-glazed units.

At VWD, our windows are NOT NORMAL! We already have seen that a ½" to 5/8" air space is ideal. In this space, expensive krypton only works marginally better than inexpensive argon, so argon is NORMAL! Most window companies have much smaller air spaces in triple or quad sealed units and must use expensive krypton to achieve good ratings! VWD offers many triple glazed products that still have a ½" air space and get great ratings with argon! We're not normal, we're better than that!

Reason #11 - VWD glass technology achieves R 8+ C.O.G.



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Bonus question! What spacers do Natural Resources Canada recommend to further reduce heat loss?

Traditional aluminum-box spacer bars in IG units contribute to heat loss and condensation problems. Spacer bars designed with thermal breaks that use materials such as foam, plastic or glass or that are made with other types of metal, such as **stainless steel will reduce heat loss.**

Our stainless spacer meets or exceeds everything Natural Resources Canada wants in a spacer, however, **Stainless spacers have many other advantages that improve the durability of your window!**

Reason #8 - Stainless Warm Edge Spacer



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Bonus question! What window is designed to meet the stringent requirements of Natural Resources Canada's ENERGY STAR program for windows?

No bonus points for getting the answer correct...



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Windows For Life™





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Weatherstripping and hardware

Weatherstripping is used to create a seal between the frame and door or window sash to block rain and dust and to minimize air leakage. There are three basic types of seals: compression, brush and sweep. A fourth type, called a magnetic seal, may be found on some door systems.

Compression and magnetic seals provide superior airtightness. Casement, awning, hopper and tilt-turn-style windows, most operable skylights and swinging doors have compression seals to provide the primary air barrier. **Sliding and hung windows have brush seals.**

Not so fast! VWD windows uses compression seals on our sliding windows where the windows close tight!



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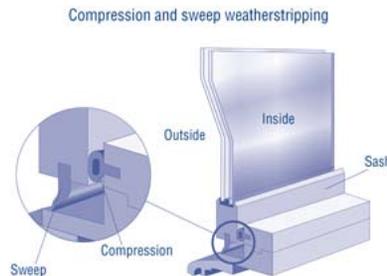
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Hinged Windows are tighter!

Among operable products, hinged windows (casement, awning, hopper, tilt, turn) are generally more airtight than sliding-style windows because the closing mechanism pulls them tight against the frame.



Not so fast! VWD windows uses compression seals on our sliding windows where the windows close tight!

Casement



Awning

