

Windows

The Case for Traditional Wood Windows

Older windows can be just as energy efficient as contemporary ones, if not more so. In some cases, heritage windows have achieved a better airtightness result than the Canadian Standards Association criteria for new vinyl windows—with less than \$100 worth of improvements.

Unfortunately, many people mistakenly believe that a complete changeout of windows is needed to achieve modern standards. On this basis, traditional wood windows are often simply removed and replaced with new thermal units.

These replacements not only represent a significant loss of heritage value but are also wasteful. Traditional wood-framed windows can have a lifespan of hundreds of years, in contrast with contemporary vinyl windows that last only a fraction of that time. Heritage wood windows can be repaired and maintained, keeping materials out of the landfill and avoiding the creation of new energy-intensive materials. As an added bonus, retrofits are also usually cheaper than replacement.



Photo Credits: VHF

Traditional wood-frames windows can have a lifespan of hundreds of years



Photo Credits: VHF

Taking care of your windows

Heritage wood windows come in a variety of forms, from single or double hung to casement windows. They are typically single-glazed and made with individual components. Because of these features, there are multiple ways to improve the performance of traditional wood windows by repairing, air sealing, and outfitting them with interior or exterior storm windows

If a single window or its components are beyond repair, there is also the option of replacing sections or installing a new traditionally made wood window. When implemented as part of a larger strategy, these updates have a big impact on energy efficiency while also improving the comfort of an older home.



Photo Credit: VHF

Top three ways to improve

01 Repair

Every intervention should begin with an assessment of the window's condition. The first step is to address obvious issues like broken glass, deteriorated wood, or worn-out putty. If the window is not in good condition, further interventions will not have the desired effect.



Photo Credit: VHF

02 Add weather-stripping and air sealing

Weather-stripping can increase window efficiency by up to 50%. For best results, consider high quality weather-stripping such as the traditional sprung bronze type. Weather-stripping is usually applied around the window sash where it meets the frame.

Any fixed part of the window can be sealed, like the area between the jamb frame and the wall, or between a fixed sash and the frame. For more information about air sealing, see “Energy Retrofit Guide: Air Sealing.”



Photo Credit: VHF

03 Add storm windows or interior window inserts

Installing storm windows or inserts is a fast and effective way to protect your heritage windows while improving heat retention in your home. These solutions mimic the effect of double-glazed windows by adding another layer to either the interior or the exterior of the window. To facilitate the addition of storm windows, VHF’s Heritage Energy Retrofit Grant program provides support for eligible storm window and window restoration. Eligible storm windows must be made to heritage specifications; see “Further Reading” for VHF’s storm window criteria.



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Getting Results

There is no way to completely eliminate heat loss through windows. Glass is not a good thermal barrier regardless of the window type. This is why window replacement is often not the best solution. Instead, homeowners can focus on improving the performance of windows as part of their overall energy-efficiency strategy. With proper maintenance, traditional wood windows can be both a characterful and functional part of an older home.



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Measuring window performance

The heat retention of a window is indicated by its U-value, which measures the transfer of heat through a material. A lower value indicates a better performance.

The U-value of a typical single-glazed wood window generally ranges from 0.88 to 0.99. However, the addition of a storm window can reduce this to between 0.44 and 0.49. By contrast, a double-glazed metal window without any thermal break only performs at 0.6.

Further Readings

Your Old House: Wood Windows

https://www.vancouverheritagefoundation.org/wp-content/uploads/2021/03/VHF_YourHouse_Woodwindows_3-2.pdf

Fine Homebuilding: Should Your Old Wood Windows Be Saved?

<https://www.vancouverheritagefoundation.org/wp-content/uploads/2021/03/ShouldYourWindows.pdf>

Canada Home Builder Report: Heritage Window Restoration

https://www.homebuildercanada.com/2605_Heritage-Window.htm

VHF's Storm Window Criteria

<https://www.vancouverheritagefoundation.org/wp-content/uploads/2021/03/HERG-Storm-Window-criteria-May-2018.pdf>

Region of Waterloo's Practical Conservation Guide for Heritage Properties: Windows, Shutters & Doors

<https://www.regionofwaterloo.ca/en/exploring-the-region/resources/Documents/PracticalGuideWindowsShuttersDoors-access.pdf>

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