

HOME ENERGY GUIDE

REPLACING WINDOWS

At some point, repairs may be too costly or time-consuming and replacement may make more sense. But, before you invest in a complete replacement of all components, consider some less-expensive alternatives:

Replacement window sashes. Older, double-hung windows can have new sashes installed that are multiple-paned and tightly sealed. The window frames remain, and new jamb inserts are installed to accept the somewhat smaller sash units. This approach may not require the removal of interior or exterior trim, and provides an opportunity to seal and insulate all around the unit.

Replacement storm windows and doors. Aging, damaged, or poorly made storm windows and doors can allow air leakage directly onto the main unit, reducing its thermal performance. Replacing the storms can be considerably cheaper than all new windows and can provide good air leak control as well.

Interior window coverings. Although drapes and blinds are important for reducing solar gain during the summer, specially designed interior window coverings are not considered as important for winter energy saving as they were a few years ago. Because they keep much of the warmer room air from the glass surface, condensation from any small air leaks can cause frost buildup, which can lead to component damage.

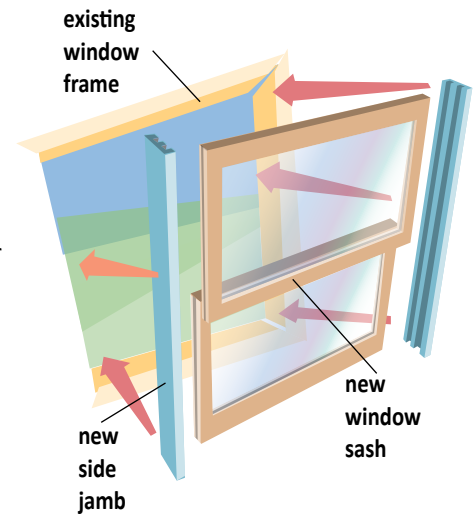
Interior panels. Sometimes thought of as “inside storms,” these consist of glass or acrylic panels that are custom-sized for each window. Some are designed to be installed in the fall and removed in the spring (much like exterior storms) and others have a permanent mount with an operable sash. Because of the considerable risks of condensation and damage to the main window unit and components, proper installation and air-sealing of interior panels is essential.

Interior films. Interior plastic films (“shrink wrap”) are an inexpensive way to eliminate air leakage around windows. These products use an easily removable tape to fasten the film to the exterior moulding or sometimes parts of the frame. Installed in the fall and removed in the spring, interior films are very effective and can be installed by most homeowners and renters to reduce air infiltration.

What to look for in new windows

If damaged beyond repair or if there are cosmetic reasons for replacement, it may be time to purchase new windows. Buying windows, however, can be confusing. There are multiple options available, including the materials

(over)



Window repair options

If the basic frame of the window is in good or repairable condition, a jamb and sash replacement may be an economical and efficient choice.

used in the frames, the finishes, the types and quantities of insulating and sealing materials, coatings, and more. But for evaluating energy efficiency, there are some basic things to look for:

The NFRC label

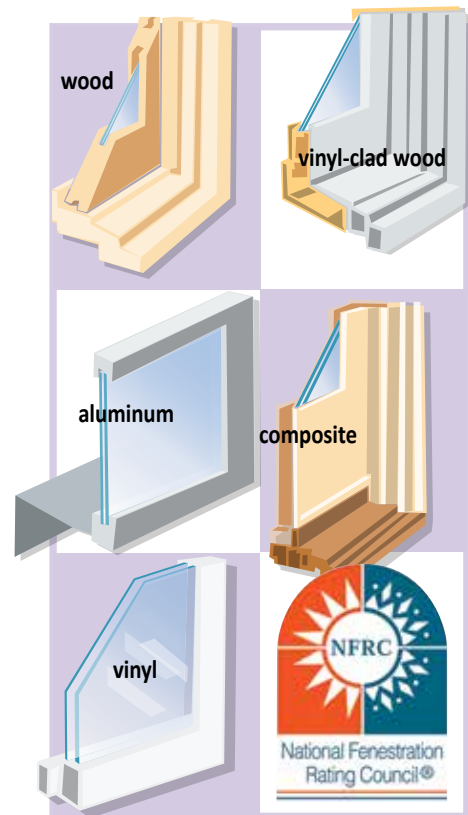
The first thing you should look for is a label from the National Fenestration Rating Council (NFRC). The NFRC is a nonprofit organization that provides consistent energy and performance ratings of windows, doors, and skylights. It evaluates products according to several categories, including:

- **U-factor:** The ability of a window to conduct heat (the inverse of an R-value, used to evaluate products like insulation). U-factor ratings generally fall between 0.20 and 1.20; the lower the number, the better the energy efficiency of the unit. The recommended U-factor for windows is 0.30 or less.
- **Solar Heat Gain Coefficient:** Measures a window's ability to reduce heat gain in

the summer, thus reducing cooling loads. Based on a zero to 1 scale, a lower number will reduce solar gain. In Minnesota, a good balance of about 0.50 is recommended.

The ENERGY STAR® label

The U.S. Department of Energy and Environmental Protection Agency have developed an ENERGY STAR® designation for products meeting certain energy performance criteria. Since the energy performance of windows, doors, and skylights can vary by climate, product recommendations are given for specific climate zones.



Window replacement options

If new windows are needed, there are several materials and finishes available (above). Check the NFRC label for information about efficiency and performance.