



## Steps in the Home Energy Series

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**Storm Windows**

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### Storm windows

Even windows that are caulked and weatherstripped lose a great deal of heat through the glass. Installing storm windows can reduce heat loss and air leaks around the window frames.

One of the best insulators is trapped air. A storm window installed inside or outside traps air between it and the existing window. Air space of  $\frac{3}{4}$  to 4 inches is recommended. If they have a good seal, storm windows also reduce moisture condensation, which can freeze on the window.

### Storm window options

There are three basic types of add-on storm windows:

- **Plastic film storm windows** are a low-cost plastic type that you can make yourself or purchase as a kit to place inside or outside the existing window.
- **Glass or plastic sheets** are medium-priced removable glass or rigid plastic windows; rigid plastic storm windows should be mounted inside the home.
- **Combination storm windows** are a more expensive but permanent option (usually with an insect screen) mounted outside the existing window.

All three are equally effective, but the more expensive windows are more attractive and convenient. They also give you the option of opening your windows to allow for natural ventilation.

### Selection and do-it-yourself installation tips

#### Plastic film storm windows\*

- Plastic films — vinyl, polyester and polyethylene — are available in several thicknesses. The thicker the plastic, the more expensive it is. However, thicker plastics will last longer and be easier to work with.
- For the best appearance, look for clear plastic window kits that stretch to provide a tight fit when warmed with a hair blow-dryer.
- When using films as storm windows, there are a variety of installation methods. Although tacking and stapling is inexpensive and quick, this method damages the window frame. A better solution might be to construct a low-cost 1-inch-by-2-inch frame. The plastic film is stapled to the frame, and the frame is then mounted to the window frame.
- Most hardware stores offer special mounting tracks or frames for making your own plastic film storm windows. These frames mount to the frame of the inside window and may be permanent. This allows you to save money by using the same frame each winter and only replacing the plastic film.

#### Rigid plastic sheets\*

- These are made from acrylic (often known as Plexiglas®). Although they cost more than films, they are more durable and are closest in appearance to glass. Rigid plastic is lightweight, easily cut and drilled and does not

\*Although plastic films and rigid outdoor sheets can be applied to the window, they are easier to install on the inside. That is especially true in apartments and multistory homes. There is no wind damage when they are installed indoors. Interior-mounted storm windows also cut infiltration heat loss when mounted on the outside frame of a window.



Ensuring your windows are properly sealed and weatherstripped is a good way to save energy.

- shatter when broken. However, it does scratch easily.
- To hold the plastic on the window frame and create a dead air space, rigid plastics should be mounted in frames. Magnetic, self-adhesive and other frames and mounting hardware are sold at hardware stores and building centers. Installation instructions are included with the frame kits and should be followed closely.

### **Combination storm windows**

- Combination storm windows have glass panes and a screen, and they open and close. Generally, they have aluminum frames mounted to the window's exterior.
- Quality varies among different brands despite similar appearances. Look for weatherstripping around the storm sash, tight-fitting but easily sliding windows and screens, welded corners rather than screws, sturdy hardware, ease of maintenance, and a reputable dealer offering and backing a warranty.
- Though these windows are permanent, they are the most expensive of the storm window options, and short-term energy savings may not merit the expense of the units.

### **Air-sealing storm windows**

The effectiveness of a storm window depends on the airtightness of the primary existing window sash and frame. To ensure an energy-saving installation and to control window moisture, caulk and weatherstrip the primary window sash and frame. To create an effective air space, weatherstrip the storm window.

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