



## STORM WINDOWS

Even windows that are caulked and weather-stripped lose a great deal of heat through the glass. By installing storm windows, you can reduce this heat loss and cut air leaks around the window frames.

One of the best insulators is trapped air. A storm window traps air between it and the existing window (a space of 1/2 to 4 inches is recommended). Storm windows also reduce moisture formation on the window. This moisture, or condensation, can freeze resulting in frost and ice on the window.

### Storm Window Options

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

1. Plastic film storm windows—the low cost plastic type that you can make yourself and place inside or outside the existing window.
2. Glass or plastic sheets—medium-priced removable glass or rigid plastic windows (rigid plastic storm windows should be mounted inside the home).
3. Combination storm windows—more expensive, but permanent (usually with an insect screen).

All three are about equally effective, but the higher-priced windows are more attractive and more 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\*

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

#### Rigid Plastic Sheets\*

1. These are made from acrylic (often known as Plexiglas®). While they cost more than films, they are more durable and are closest in appearance to glass. Rigid plastic is lightweight, is easily cut and drilled and does not shatter when broken. It does scratch easily, however.
2. 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 mounting hardware and frames (Figure 3) are sold at

hardware stores and building centers. Installation instructions are included with the frame kits and must be followed accurately.

\*Although plastic films and rigid outdoor sheets can be applied to the window, they are easier to install on the inside. That's especially true for apartment dwellers and those with multi-story homes. There's no wind damage when they are installed indoors. Interior mounted storm windows also cut heat loss when mounted on the outside frame of an interior window.

caulk and weather strip the primary window sash and frame. To create an effective air space, the storm window should also be weather-stripped

### **For More Information**

Before purchasing storm windows or for more information on low cost ways to save energy, contact your local utility company, the Community Action Agency/Human Resources Development Council, the tribal weatherization office or the Extension office in your county.

### Combination Storm Windows

1. Combination storm windows have glass panes and a screen and they open and close. Generally, they are made of aluminum frames mounted to the window's exterior.
2. Different brands may appear to be the same, but quality does vary. Look for weather stripping around the storm sash, tight-fitting but easy sliding windows and screen, welded corners rather than screws, sturdy hardware, ease of maintenance, and a reputable dealer offering and backing a warranty.
3. While 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 air-tightness of the primary window sash and frame. To assure an energy-saving installation and to control window moisture, you should