

# Protecting Windows from a Hurricane

Guarding your home with storm panels or shutters can significantly reduce damage from a hurricane, because the doors and windows are the weakest places on your house.

The most important thing a homeowner can do is keep wind out of the house by covering the windows, said Bob Sheets, retired director of the National Hurricane Center.

Plan early. If you wait until a hurricane is approaching, you might not be able to get materials.

You should cover all windows, French doors, sliding glass doors and skylights. If these fail, the wind can rip off the roof and cause walls to collapse. Even if the structure remains intact, the wind can scour the interior and wreck the contents. Many homeowners use plywood; it's the least expensive alternative and can be very effective. It generally costs from \$15 to \$18 for a low-grade, 5/8-inch sheet of plywood measuring 4 feet wide and 8 feet long. This can be just as good as the highest grade commercial shutters, if they are installed properly.

Plywood has its disadvantages, however. It's big, bulky and heavy. Finding a place to store it can be a problem. You should use 5/8-inch exterior grade plywood and add 8 inches to the width and height of the window to allow for a 4-inch overhang. Attach to the house with lag bolts and anchors. The bolts should penetrate the wall and window frame at least 1-3/4 inches for smaller windows and 2-1/2 inches for larger ones. For masonry houses, use expansion bolts and galvanized expansion anchors.

Homeowners should make sure the product they buy has been tested and meets city codes. Also, the installer usually must get a permit. Ask the contractor if he has testing data from an independent engineer showing the product has been tested. Installation is the most important thing. Many shutters fail because they aren't fastened properly. Four of the most popular types of shutters are the storm panel, accordion shutter, Bahama awning and the roll-down shutter.

**Storm panels**—This is the least expensive of the three. These are sheets of corrugated aluminum or steel that fit into a track around the window. They cost anywhere from \$7.50 to \$11 per square foot of window space, installed. The advantage is they are cheaper than other shutters, but they require a large amount of

storage space, and they must be attached by hand when needed. Outfitting a 1,500-square-foot house could cost about \$3,000.

**Accordion shutters**—Made of aluminum, these open and close along tracks located at the top and bottom of the window. These are more expensive than storm panels, running from \$15 to \$18 per square foot. They are much more convenient than panels, however, and can be easily closed and locked. The same 1,500-square-foot house could cost \$5,000 to \$7,000.

**Bahama awnings**—These are permanently fixed louvered awnings that collapse and lock against the wall. They cost about the same as accordion shutters.

**Roll-down shutters**—These are stored in a box above the window and roll down on tracks to cover the window. They are made of aluminum or PVC. They can be operated electrically or manually from inside the house. These are among the most expensive of the alternatives but also the most convenient. They range from \$20 to \$35 per square foot, depending on the material and whether they are electrically or manually operated. Covering a 6-foot-wide patio door can cost \$1,000 or more, and a 1,500-square-foot house could cost \$8,500.

Shutters are expensive, but some insurers may provide discounts on homeowner's policies, and they also are helpful in keeping out burglars.

**Window film**—This option is much less expensive than shutters, and is more easily applied than plywood. Window laminates do not prevent the glass from breaking, or hold the glass in the frame. Broken windows, with protective laminate resemble a broken windshield on a vehicle; the glass is shattered, but it is held together. These specialty laminates are especially designed, and should not be confused with the standard window films that are designed strictly for energy savings.

Adapted from <http://www.tbo.com/weather/hurricane/>

## **Taping windows is not recommended.**

Using masking tape or duct tape to place tape in the shape of an "X" across the window is ineffective and provides a false sense of security. It also creates a problem by leaving a sticky residue on the window when the tape is removed.