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Is this because it is too expensive, too difficult, or that there is not enough information available about how to prepare for the next big storm? No, it is because many people still believe that this will not happen to them. Unfortunately meteorologists say we are in the midst of an active hurricane cycle that places millions of us - not only in Florida, but across the Gulf states and up the East Coast - in harm’s way.

If last year’s events and the start of the current hurricane season teach us nothing else it should convince us we must be ready. After 40 years, the people of Charlotte County, Florida, learned that lesson the hard way. It’s not if the big storm will hit your community, it’s when.

In this issue of Blueprint for Safety News we cover some effective ways to strengthen your home against hurricanes and high-wind events.

For more information, visit www.flash.org.

There are a number of dangerous myths about storm preparation that still persist among homeowners today. These myths pose serious danger to both individuals and homes, so FLASH is offering the following reality check for the 2005 hurricane season.

**MYTH Number One:**
Placing masking tape or solar window film over windows will prevent window damage during high wind events.

**REALITY:**
Masking tape or solar window film will not protect windows from windborne debris during hurricanes or severe storms. Some believe that tape or solar film may help to keep the glass from shattering into small pieces. For effective family and home protection, all windows and openings (entry doors, garage doors, gable end vents, etc.) should be covered with tested and approved impact-resistant coverings or be constructed of impact-resistant materials.

**MYTH Number Two:**
Cracking or opening windows to allow wind pressure inside the house to equal pressure outside will prevent damage.

**REALITY:**
Opening windows to relieve pressure is a myth that has persisted for some time because of the way buildings are damaged during severe wind storms. Today, experts and wind scientists agree that the most important thing to do in a windstorm is to keep all windows and doors closed to prevent wind from entering the building and causing a condition known as internal pressurization. For optimal protection, windows, doors and garage doors should be covered with approved impact-resistant coverings or be constructed of impact-resistant material.

**MYTH Number Three:**
Only windows and doors facing the ocean need to be protected.

**REALITY:**
Wind can come from any direction or angle and may change direction quickly.

Covering windows, entry doors, and garage doors with tested and approved impact-resistant coverings is the best way to prevent damage from flying debris or wind pressure. If no system is in place, use 5/8-inch plywood as an emergency board-up measure, but be sure to use appropriate attachment methods or the plywood will become windborne debris and increase potential for damage.

(See page 3 of this edition for information on how to build and install plywood shutters.)

# The Three Deadliest Hurricane Myths

It’s Not If the Big Storm Will Hit, It’s When

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**CEO’s Corner**
Ten Questions to Ask Before Installing Windows, Doors and Skylights

1. What will protecting openings (doors, windows, garage doors, skylights) in my house do for me?

Impact-resistant windows and doors will protect occupants from flying debris, including the glass from the windows. In addition your possessions will not be exposed to the elements, preventing damage and possibly even the loss of irreplaceable personal items.

Further, breach of the exterior openings in a high-wind event has often compromised the overall structural integrity of the home.

2. What choices do I have for protecting window and door openings in my home?

Impact-resistant windows and doors; hurricane shutters customized to fit openings; and, as an emergency measure, plywood panels can be used if installed properly (see article on facing page).

3. How are products tested and is it necessary to insist on a product that has met these standards?

Impact-resistant glass and shutters are designed and tested to meet a combination of impact and continuous wind pressure. Always use products that have been tested to one of these standards and have been designated as such by a recognized product approval: SBCCI SSTD 12; ASTM E 1886 and ASTM E 1996; Miami-Dade Protocols PA 201, PA 202, PA 203, or other approved impact standards.

4. Is it also necessary to protect my garage doors?

Garage doors are particularly vulnerable to high winds because of the long span of the opening they cover and the relatively lightweight material they are made of. Two options are available for strengthening garage doors: 1) replace the door and track with a system that is designed to withstand high winds and windborne debris; or 2) use a tested and approved impact-resistant covering. Garage doors must be tested in accordance with ASTM E 330. Glass panels should be rated with ASTM E 1996 standards.

5. Do I need both impact-resistant windows and shutters to protect my home?

No. While installing shutters over impact-resistant windows would give added protection if the outer system failed, it is not necessary to install both.

6. If I choose impact-resistant windows, should the window frames also be wind resistant?

Impact-resistant window frames are equally as important as the strength of the glass. Windows are tested as a unit - that includes the glass, frame, attachment hardware and installation method. Impact-resistant windows and shutters should always be installed following the manufacturer’s recommendations.

7. Is there a difference between "Florida Building Code Approved" and "Miami-Dade Approved" shutters?

Yes. The testing procedures are quite similar but the acceptance criteria are significantly different. An impact rated covering, meeting only the "Florida Building Code" could allow the glass behind the "covering" to break upon impact from the 2 x 4 lumber test missile used to simulate windborne debris. Whereas a Miami-Dade approved product must prevent the glass from breaking during the test and there must be at least 3 inches of clearance between the glass and the "shutter.

8. How do galvanized shutters compare with aluminum shutters?

If both have been tested and qualified systems must be tested in accordance with SBCCI SSTD 12; or ASTM E 1886 and ASTM E 1996; or Miami-Dade Protocols PA 201, PA 202, PA 203, or other approved impact standards.

9. Where can I find information about possible insurance credits or discounts my home may qualify for by installing opening protection?

Discounts and credits may be available through your insurance carrier but will vary from one company to another. Contact your insurance company or agent for information. You can also learn more at www.floridawindincentives.org.

10. For opening protection that is not permanently mounted (panel type protection), what kind of pre-planning is necessary?

Make sure your installer pre-drills the mounting holes and marks the panels to identify which opening they are to cover. Go through the process of installing covers on one or two openings before a storm threatens to get a feel for time needed and difficulty.
**Step One:**
**Plan the Project.**

Count and measure each window and door that has glass including French doors, sliding glass doors as well as skylights. You might also want to include roof and gable end vents or any opening that if damaged would allow wind to enter your home.

Measure each opening horizontally inside the exterior trim and vertically from the sill to the bottom of the top trim. Add eight inches to both the height and width to provide a four-inch overlap on all sides.

- Next hold the plywood firmly in place over the opening to mark where to drill mounting holes.
- If the window sill is flush to the wall, secure the plywood on all four sides. If the window sill extends out at the bottom, secure the plywood on the top and sides.
- For windows 3 feet by 4 feet or smaller installed on a wood frame house, use 1/4-inch lag screws and plastic coated permanent anchors.
- The lag screws should penetrate the wall and frame surrounding the window at least 1 3/4 inches. For larger windows, use 3/8-inch lag screws that penetrate the wall and frame surrounding the window at least 2 1/2 inches.

- For windows 3 feet by 4 feet or smaller installed on a masonry house, use 1/4 inch expansion bolts and galvanized permanent expansion anchors. The expansion bolts should penetrate the wall at least 1 1/2 inches. For larger windows, use 3/8-inch expansion bolts that penetrate the wall at least 1 1/2 inches.

- If a window or door is larger than a sheet of plywood, you will need to join the panels with 2X4 bracing along the entire seam. Attach the 2X4s to the outside of the plywood panel with 10 gauge, 2-inch long galvanized screws (exterior deck screws) spaced every 4 inches. Use the widest side of the 2X4 to run the length of the entire seam.

When measuring a window with an extended sill measure from the top of the sill to the top of the window and add four inches instead of eight. Sheets of plywood are generally 4 feet by 8 feet. This will help determine how many sheets to buy. Be sure to purchase plywood that is 5/8 inch or greater, exterior grade (CDX).

**Step Two:**
**Assemble Your Tools and Hardware.**

You will need:
- circular saw
- drill and drill bits
- hammer and wrench
- work gloves
- safety goggles
- an assortment of hardware including bolts, wood or masonry anchors, nuts and large washers. Wood homes use lag bolts and plastic coated permanent anchors. Masonry homes use expansion bolts and galvanized permanent expansion anchors.

**Step Three:**
**Get Started.**

Having someone help you with this project will make things a lot easier.

- First drill holes in the same diameter as the bolts or screws, 2-inches in from the edges of the plywood at each corner and at 12-inch intervals around the panel.
- When you’re done, mark each panel with the name of the opening so you will quickly know where to install it when a storm is approaching.
- Store the shutters, washers and nuts together in a location away from the elements. You can also waterproof the shutters with paint or seal to prevent the plywood from warping.

**For an animated step-by-step on how to build temporary shutters, visit www.flash.org and view our Homeowner How-To on Emergency Board-Up. 🌟**

**The Cost of Plywood Shutters**

The cost of a plywood shutter depends on the size of the window. If you do the work yourself, you can expect plywood shutters to cost about 75 cents to $1 per square foot. So, protecting a window 3 feet wide and 4 feet high will cost between $10 and $12.

This cost covers only materials. If you hire a contractor or handyman to do the job, you will have to pay for time as well as materials.
On roof systems

All doors should have
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Disaster Safety Through Partnership

Strongen your roof. On roof systems at least a year old, you can increase the wind uplift resistance of your roof deck (over nails or staples alone) by applying a 1/4 inch bead of APA AFG-01 certified wood adhesive along the joints on both sides of the joints between the trusses or rafters.

Inspect your roof (on the outside). Even the smallest leak or curling shingle can signal a bigger problem if left unchecked. Look for: shingles that are buckling, curling or blistering; loose material or wear around chimneys, pipes and dormers; and excessive amount of shingle granules in gutter. Granules protect against the elements and ultraviolet rays of the sun. Also be sure to regularly clean the roof and gutters of tree limbs and leaves.

Shutter gable and vents. Shutter or seal gable and vents to prevent wind and wind-driven rain from entering the attic.

Check your doors. All doors should have three hinges and a deadbolt lock with at least a one-inch throw. While metal and solid wood doors should withstand the impact of wind-borne debris, French doors, sliding glass doors, and doors with hollow cores or glass should be shuttered for the most protection. Double doors should also be reinforced with barrel bolt restraints. Be sure the bolts connect through the door header and through the threshold into the subfloor to prevent them from opening from hurricane pressures.

Seal outside wall openings. Use a high quality silicon caulk, to seal around outside wall openings including clothes dryer, kitchen and bathroom vents, outdoor electrical outlets and openings where cables or pipes go into the building.

Clean up your yard. Clear your yard and drainage area of debris. Remove dead tree branches and prune tree limbs that are close to your house. They can cause damage to your home or utility wires during a storm. Identify your home with legible and clearly marked street name and house number so emergency vehicles can rapidly find you in case of emergency.

Secure outdoor items (or move them indoors). Secure large objects or vehicles like boats and travel trailers. If you have furniture and other outdoor equipment on your patio or deck, bring them inside when severe weather threatens. Don’t forget trash cans, grills, toys, and potted plants. Keep them from becoming flying objects that can cause additional injury or damage during storms with high winds.

Don’t forget to shutter gable end vents.

For more information on how to strengthen your home and safeguard your family from natural disasters, visit www.flash.org or call FLASH® at 877-221-SAFE.

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