

Ask FLASH

FLASH Researches your Safety Questions:

What should I look for when shopping for window and door protection?

It's important to know what to look for before you start shopping. The Florida Alliance for Safe Homes recommends only "tested and approved" window and door protection systems. Go to www.buildingcodeonline.com to obtain a complete listing of all companies and products that have passed Miami-Dade testing standards. This means considering products that have been independently tested for wind-borne debris impact and cyclic wind loads. Three testing standards currently being used are listed below:

- **ASTM E 1996 Standard Specification for Performance of Exterior Windows, Glazed Curtain Walls, Doors and Storm Shutters Impacted by Wind-borne Debris in Hurricanes** (written by the American Society of Testing and Materials)



- **PA 201 Impact Test Procedures** (written by the Miami-Dade Building Code Compliance Office)
- **SSTD 12 Test Standard for Determining Impact Resistance from Wind-Borne Debris** (written by the Southern Building Code Congress International)

Impact Testing Procedures

If the product is going to be installed below 30 feet, a 2x4 is fired at the product, simulating larger objects that would be picked up and carried by the wind.

If the product is going to be installed above 30 feet, small objects are fired at the product, simulating small rocks and other debris that would be picked-up and carried by the wind.

Following the impact test, the specimens are put through cyclic wind loading, intended to simulate both positive and negative wind pressures created by a hurricane.

Test Results

The testing results in two designations:

- **Impact Resistance – Yes or No**
- **Design Pressure Rating – in pounds per square foot (both positive and negative)**

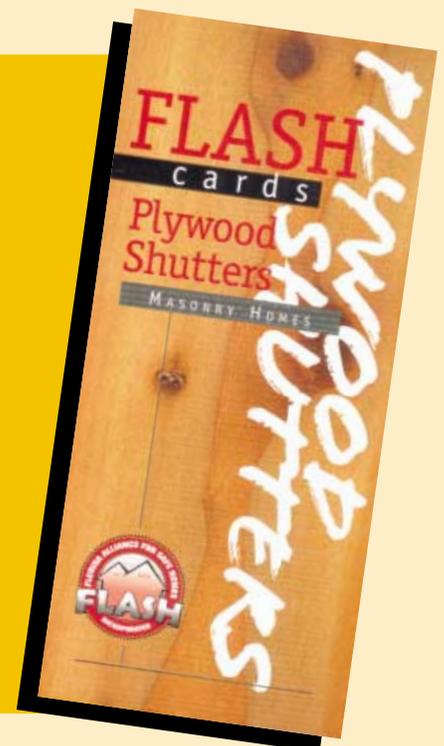
A common misconception is that a window or door protection can be designated to withstand a specified wind speed. Each tested and approved product is given a design pressure rating, not a "wind speed rating."

Use Plywood Properly

Learn how to make safe, effective plywood shutters for masonry or wood frame homes. The instructions are included in this FLASH card.

For more information on ordering these and other fact-filled FLASH cards, call

877-221-SAFE.

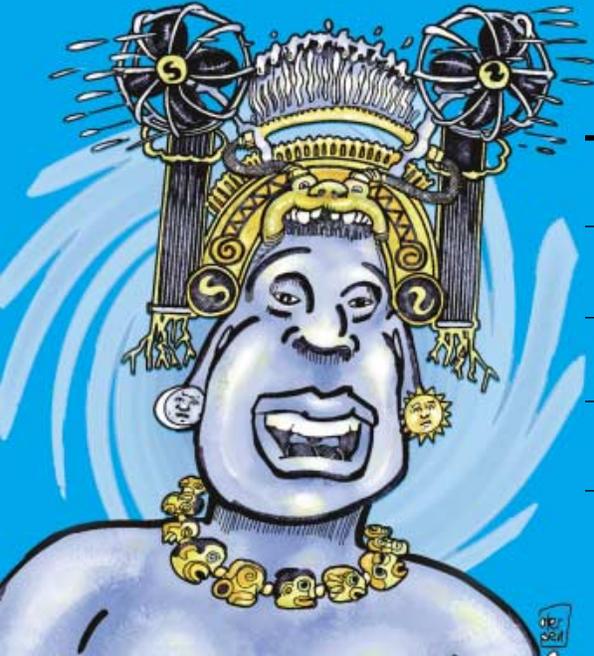


KID'S CORNER

Did you know the ancient Mayan Indians believed a god controlled the winds? They called the god "Hurakan" – the earliest form of the word "hurricane."

Today scientists are studying ways to control the devastating winds and rains of hurricanes. But until they find a way to control the weather, scientists will continue to

rate a hurricane's strength by measuring its wind speed. The Saffir-Simpson Scale, below, rates the speeds of hurricane-force winds by category.



HURRICANE LEVEL	WIND SPEED (Miles Per Hour)	POTENTIAL DAMAGE
1	74-95 mph	• Slight damage to trees and mobile homes
2	96-110 mph	• Roofs are slightly damaged • Trees are blown-over
3	111-130 mph	• Large trees are uprooted • Mobile homes are destroyed
4	131-155 mph	• Signs are blown down • Homes have structural damage
5	155+ mph	• Homes and buildings are destroyed • Waters rise up to 15 feet



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FLASH is a non-profit, 501(C)3 charitable organization dedicated to disaster safety education.

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Fall 2001 • "High Wind Edition"

FLASH Point of View



"The Winds of Change"

"All of Florida is hurricane-prone, and the threat doesn't stop there. Florida's communities routinely face high wind from thunderstorms, down-line storms or tornadoes in addition to tropical systems."

Story Inside



Dedicated, toll-free, home safety hotline (877) 221-SAFE

FLASH Links

Put the Blueprint for Safety "Interactive Shutter Tools" to work for your family:

www.blueprintforsafety.org

Read more about the new Florida Building Code on the following Web sites:

www.floridabuilding.org - Florida Department of Community Affairs

www.boaf.net - Building Officials Association of Florida

www.fhba.org - Florida Home Builders Association

"The Winds of Change"

By Leslie Chapman Henderson,
Executive Director



The new Florida Building Code will take effect on January 1, 2002, bringing sweeping changes to the way new homes are designed, built and inspected throughout the state. Residential structures' wind resistance is a key consideration in the new code, and it includes progressive requirements for window and door protection on new homes in coastal areas. Affected homes will include those constructed in areas defined as "wind-borne debris regions" and certain coastal areas of the Panhandle.

The new code provisions are a milestone in the state's effort to protect its citizens from natural disasters, however, they are just a starting point as they only affect new construction and only in certain parts of the coast.

All of Florida is hurricane-prone, and the threat doesn't stop there. Florida's communities routinely face high wind from thunderstorms, down-line storms or tornadoes in addition to tropical systems.

All Florida residents, whether inland or coastal, could benefit from window and door protection. Families who face high wind without it suffer injury, loss of life and property damage. We believe that installing window and door protection is one of the most important family safety investments for Floridians.

So how do we get started?

We now offer two Web-based, interactive tools to help consumers take the guesswork out of selecting window and door protection. The tools provide information on types of protection and calculate the approximate installed costs. Web users can use either the "simple" or "comprehensive" tool. The simple tool requires users to enter the homes' square footage. It then provides six different protection systems by type with the approximate cost. System types include plywood shutters, metal panels, accordion, swing (Colonial) shutters, roll-down shutters, and impact-resistant glass.

The comprehensive tool allows users to enter the exact number and size of each window and door on the

home. It provides more precise cost estimates for the six different types. Consumers without Web access may call the FLASH toll-free hotline at 1-877-221-SAFE and leave square footage or window/door information. A FLASH consumer specialist will run the tool(s) and provide the results.

The advent of the new Florida Building Code validates the need for residential high wind protection and sets Florida on a path to building safer, stronger homes for tomorrow; but achieving that goal means taking action today. Use the FLASH Web tools to plan for safe, effective window and door protection *before* disaster strikes your community.

Editor's Note: At the time of printing, the Florida Legislature was considering a July 1, 2002 effective date for the new Florida Building Code. Click on www.myflorida.com for the latest information on this issue.

Blueprint for Safety Interactive Shutter Tool

Put it to work for your family at: • www.blueprintforsafety.org • www.flash.org

Sample Results	1,550 sq. foot Home	1,850 sq. foot Home	2,250 sq. foot Home	3,350 sq. foot Home
Plywood Shutters	\$256	\$305	\$371	\$553
Temporary Panel Shutters	\$1,918	\$2,289	\$2,784	\$4,146
Accordion Shutters	\$5,371	\$6,410	\$7,796	\$11,608
Swing (Colonial) Shutters	\$10,230	\$12,210	\$14,850	\$22,110
Electric Roll-Up Shutters	\$12,020	\$14,347	\$17,449	\$25,979
Impact-Resistant Shutters	\$10,230	\$12,210	\$14,850	\$22,110

*Editor's Note: The approximate costs include product and installation charges and may vary depending on new or retrofit construction. Homeowners may log on to www.flash.org or www.blueprintforsafety.org and use the comprehensive shutter tool for a more detailed estimate and check with local distributors for precise cost information.

The **Ins & Outs** of Window and Door Protection Products

Plywood Shutters

Plywood is perhaps the best-known type of covering because of its widespread use when tropical storms and hurricanes threaten populated coastlines. Available at most home improvement stores, plywood panels are usually the cheapest covering option – about \$1.00 per square foot. The installation of plywood panels is usually a do-it-yourself project.



Ins:

- Temporary
- Inexpensive
- Portable
- Widely available
- Easy to replace

Outs:

- Heavy
- Require storage and protection from water and insects
- Require immediate installation once weather warnings are issued
- Should be installed **ONLY** on the ground floor of a home

*Note: Florida Alliance for Safe Homes recommends the use of 5/8" plywood panels—NOT oriented strand board, commonly referred to as OSB.

Temporary Metal Panels

Metal panels are typically made of galvanized metal, aluminum or clear polycarbonate. This type of covering is available through commercial window and door distributors. While metal panels may cost more than plywood panels, they are typically lighter weight and easier to handle.



Ins:

- Moderately priced
- Temporary
- Portable
- Easy to replace

Outs:

- Require storage
- Require immediate installation once weather warnings are issued
- Require a ladder for installation above the ground floor

Accordion Shutters

Accordion Shutter systems are permanently installed on the home to provide quick and effective protection from wind and wind-blown debris. Homeowners might find accordion shutters more aesthetically pleasing than metal panels or plywood.



Ins:

- Quick and easy to operate
- Can be installed above the ground floor
- Protects windows and doors from break-ins

Outs:

- Cost is considerably more than plywood or metal panels
- Require a ladder for operation above the ground floor
- Might detract from visual aesthetics of the home

Swing (Colonial) Shutters

Swing or “Colonial” shutters are the most traditional variety of window and door coverings. While this type of shutter offers protection from wind and wind-blown debris, it is also more attractive



than other protective systems and fits easily into the aesthetic scheme of the home.

Ins:

- Quick and easy to operate
- Permanently installed on the home
- Can be installed above the ground floor

Outs:

- More expensive than plywood, metal panels or accordion shutters
- Requires a ladder for operation above the ground floor

Roll-Down Shutters

Electric or manual roll-down shutters offer protection from wind and wind-blown debris, as well as protection from possible break-ins. While manual roll-down shutters require a ladder for



use above the ground floor, electric roll-down shutters can be operated with the flip of a switch inside the home.

Ins:

- Quick and easy to operate
- Permanently installed on the house
- Can be installed on any opening

Outs:

- Require periodic maintenance
- Might detract from the visual aesthetics of the home
- Cost is considerably more than plywood, metal panels or colonial shutters

Impact-Resistant Glass

Impact-resistant glass requires the installation of heavy-duty aluminum frames. A special silicone glazing process helps keep the glass from breaking away from the frame, and an “interlayer” of polyvinylbutyral (PVB) plastic is “sandwiched” in between two outer layers of conventional glass. This system works to protect the opening from being penetrated by wind and flying debris.



Ins:

- Permanently installed on the house
- Provide unobstructed views from inside and outside the home
- Offer constant protection -- no need to operate or install anything when a storm comes
- Price is comparable to the combined cost of conventional windows with protective shutters on new home construction projects

Outs:

- Cost is considerably more than other types of shuttering systems; except roll-down shutters
- Installing and replacing windows must be completed by a certified installer
- Replacing broken or cracked windows is more costly than conventional windows

FLASH Facts

Garage Doors: The Weakest Link in Wind Protection

- The garage door is usually the largest and weakest opening on a home for two reasons: the relatively long span of opening that they cover and the weak materials from which they are built.
- In a hurricane, approximately 80% of residential wind damage starts with wind entering through the garage doors
- Once strong winds blow through the garage door, wind uplift can cause the home's roof to blow off
- Many commercial door companies carry impact-resistant, wind-tested garage doors
- Depending on size and model, the average cost of a tested and approved garage door is \$200-\$300 more than a standard garage door

