# Is your garage the weakest link?

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The feature of your house that provides safety and security for automobiles - or in some cases, everything but automobiles - could, during a hurricane, become the weak link in home protection:

The garage. More specifically, the garage door.

"For older construction, the garage door is very vulnerable," said Kurt Gurley, an associate professor of civil engineering at the University of Florida. "And the larger the garage door, the riskier it is. It's such a large surface and can catch a lot of wind and blow in or come off its tracks."

When the garage door blows in - or even out under certain wind conditions - the air pressure can build inside the structure to such an extent that, if strong enough, it could cause the roof to be damaged. Gurley said the roof actually could be blown off after a garage door fails when air pressure inside the attic becomes greater than the pressure outside.

"The roof system becomes more vulnerable," he said.

Just how vulnerable garage doors can be has been demonstrated from Hurricane Andrew in 1992 through last year's record four hurricanes to hit Florida.

Andrew and other storms led to establishment in 1994 and 2001 of building-code standards for garage doors, including their ability to withstand specific wind speeds and resist impact from debris. The strictest is the Miami-Dade Building Code standard that requires garage doors in coastal areas be impact-resistant and able to withstand winds of 150 mph.

In interior Florida, the requirements are less stringent. In Alachua County, garage doors for all new construction built from 2002 onward must be able to withstand 110-mph winds, said Doug Murdock, building official for the City of Gainesville.

A garage door built before the new codes went into effect typically isn't wind-rated, but "might hold up to 60 or 70 mph winds," **said Ed Hoeft, owner of Lester's Garage Doors in Gainesville**. Wood doors tend to be a little stronger, he said, but they also are more susceptible to water damage.

Hoeft said garage doors built to the new codes feature heavier-gauge galvanized steel, bracing and stronger rollers and tracks.

After Hurricane Charley, just in Charlotte County 2,147 building permits were issued for replacement of garage doors that failed during the storm's winds in excess of 140 mph, according to the Tampa-based Institute for Business & Home Safety. The Gainesville area, which in September saw winds from Hurricanes Frances and Jeanne peak at around 60 mph, saw no such numbers.

But even in those winds, a handful of garage doors did fail in Gainesville last year, Hoeft said.

"We had limited numbers of failures during the storms," he said. "However, we have had a large number of people who simply replaced their garage doors with an upgraded door certified to 110 mph."

Hoeft said that since last August, his company has replaced about 150 older garage doors with doors rated at the 110-mph wind-load requirement.

The cost of such a replacement door for a double-car garage is about $1,200, he said, compared to about $900 for the same door before the new wind-load requirements went into effect in 2002.

Mark Fetko had no serious damage to his wooden garage door during Frances and Jeanne.

But the storms and information he'd seen about Hurricane Andrew convinced him that he needed a stronger door.

So he upgraded, going even beyond the 110-mph rating for local construction to a door certified for the 150-mph coastal requirement.

"For Gainesville the rating is 110 miles per hour," Fetko said. "But hurricanes don't necessarily go with the codes."

He said he initially planned to get a bracing kit to install on his existing door, but it wasn't readily available locally. So he replaced the door, which had developed some wood rot on the bottom.

"I had seen something that with Andrew, if a roof came off it was usually because of the garage door," Fetko said. "I'm thinking that if we had a big one coming in from the west or east coast and making a beeline for Gainesville, it would be good to have an upgraded door."

Gurley said older doors don't have to be replaced. There are kits available to retrofit old doors with braces.

According to the Institute for Business & Home Safety's Web site (<http://www.disastersafety.org/>), the Florida Building Code has approved at least one vertical-bracing kit.

But it cautions people that while retrofit kits may help keep the door from buckling, they do not provide any additional protection from flying debris.

Only hurricane-rated doors do that, it says.

Another alternative, the institute says, is to "shutter the garage door opening with a wind-pressure and impact-rated system appropriate for your area." It advises people to check the code requirements for garage doors where they live and to use only a licensed contractor to replace an old door with an upgrade.

Hoeft said a number of factors related to the construction of the house contribute to how safe or vulnerable a garage door will be. They include the roof height, construction materials and even exposure of the house.

"A house that doesn't have structures or other obstacles in close proximity has a higher risk

exposure," he said.

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