

**TAMPA BAY
Business Journal**

Friday, August 10, 2001

Buildings brace for the big one

Preparedness: Office towers compile plan to survive inevitable onslaught of hurricanesTampa Bay Business Journal - by [Carl Cronan](#) Staff Writer

TAMPA -- The Tampa Bay area is in the midst of the 2001 hurricane season, but up until "Barry's" brush with its coastline, the only reminders have been advertisements for products designed to protect coastal structures.

Most of the sales pitches are geared toward home owners, especially in advance of new building codes set to take effect in Florida on Jan. 1, 2002.

Metal shutters and film-coated windows are offered as the best protection against wind-borne debris.

While the building codes primarily affect residences in heavily populated coastal areas, experts say commercial building and business owners also should heed rules intended to minimize weather damage.

Owners of tall buildings need to be concerned about the lower levels of buildings, where objects along streets and sidewalks can cause the most damage.

Under the new rules, the first 30 feet of buildings should be protected from impact by large objects, such as park benches, directional signs or even newspaper racks. Heights of 30 to 60 feet should be protected from small objects such as flying rocks and other particles.

"Flying debris is inevitable," said Mark Baker, president of IBA Consultants Inc., a Miami engineering firm that recently opened an office in Sarasota. "Once the glass is broken, it pressurizes the building and the roof is going to blow off."

Baker, who has supervised exterior construction of several major construction projects in the United States and abroad, said impact-resistant glass is the best protection available for commercial and residential buildings, especially when it is attached to a solid frame.

Companies such as PGT Industries Inc. in Venice sell impact-resistant glass and promote the product through free videos and on-site courses.

Dave Olmstead, a code compliance specialist with PGT who teaches classes on Florida's new building codes, said the windows aren't designed to be hurricane-proof.

Rather, they offer added protection for objects inside buildings, namely electronic components and office furnishings, he said.

Insurance carriers offer substantial discounts to building owners who take steps to increase hurricane protection, although Olmstead said they worry less about the cost of repairing a damaged building.

"The real value of the building, and their exposure, is the contents," Olmstead said.

He said that a building's contents can cost up to three times the replacement value of the building that actually holds them.

As an alternative to expensive high-performance glass, some firms offer window film installation to home and building owners.

But even those installers point out that film isn't the only solution.

"Even the best window film does not eliminate glass breakage during a severe hurricane or make a home or building hurricane proof," said Darrell Smith, executive director of the International Window Film Association in Martinsville, Va.

Smith made the point that film can prevent a window from shattering on impact, thus preventing shards from flying about. But Baker said that may not even be an issue for a building in a hurricane evacuation zone.

"It doesn't make sense for an office building, which is probably going to be closed anyway," he said. "It's more of a psychological thing."

The biggest threat to taller buildings during a hurricane, and one often overlooked in preparations, is roof debris. Older buildings still use gravel as ballast and leave air-conditioning units and antennae exposed to the elements.

However, modern roof systems are being designed to respond to strong winds.

The 28-story Hillsborough County Center building in downtown Tampa received a roofing system produced by 2001 Co. in Waterbury, Conn.

A series of strategically placed "equalizer valves" use wind to pull air and moisture from under the roof membrane, creating a vacuum

effect that attaches it to the top of a building. In other words, hurricane related wind and rain work to make the roof more secure.

Thomas Lopez, president of THL Enterprises Inc. which is handling the \$740,000 County Center project, said he has installed similar roofing systems on National Guard armories, buildings that are often counted on as shelter following a disaster.

"The government feels like it works for them," said Lopez, a past president of the West Coast Roofing Contractors Association.

Baker said many roof systems are designed to resist strong wind gusts, although building owners and managers should take care to ensure other objects do not pose a potential hazard.

"Make sure everything up there is battened down and won't fly off," he advised.

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