WINCO PROJECT PROFILE
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Florida Emergency Shelter/ Command Center Features Tornado Rated Windows

Project

Pinellas County Emergency Response and Control Center

Project Description

The modern two-story 80,385 sq. ft. Pinellas County, FL operations building, built at a cost of $26.1 million in 2010, is constructed of reinforced tilt-wall concrete precast wall panels, with a flat concrete composite roof and with structural steel interior. It is a fully-equipped emergency storm shelter, the first new construction project furnished with Winco tornado rated windows.

Located at 22211 U.S. Highway 19 in Clearwater, the sprawling multipurpose structure has achieved LEED GOLD certification by the United States Green Building Council (USGBC).

Citadel storefront system with Survivalite impact windows complements Winco tornado windows.

Designed for Performance

Objective: Wind Damage Protection Beyond Hurricane Velocities

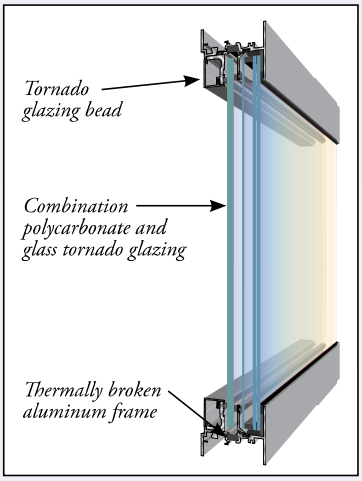
Tornado season came in with a vengeance the Spring of 2011 in parts of the southeast and in the Midwestern region known as Tornado Alley. In April more than 300 died in over 600 tornado-velocity storms – the worst month for U.S. tornadoes, smashing the previous record of 267 set in 1974, according to the U.S. Weather Service.

With tornado incidents on the rise, a new generation of heavy commercial aluminum windows and doors offers a higher degree of protection from wind damage. The 164 tornado-rated windows in the Pinellas County Emergency Response and Control Center, engineered and manufactured by Winco Window Company, St. Louis, MO., achieve a once-unobtainable level of protection from extreme velocity storms approaching 200 mph. The windows are modified Series 3350 fixed units. Average window size is 4 ft. by 3 ft. The 1-½-inch IG glazing system consists of green-tint low-e laminated heat-strengthened glass with half inch polycarbonate interior panel.

Disaster Protection Combined with Environmental Efficiency

If disaster strikes, the operations center will serve as the public works emergency center and shelter for first responders, and can house three shifts of 50 people each for up to seven days without outside supplies. Up to 32 emergency vehicles can be protected inside the same building.

- *The building is designed to Category 5 hurricane event (156 mph one-minute sustained wind, or 190 mph three-second gust) with redundant emergency systems and seven days of sustainability for power, water, sewage, and building systems*
- *Officials anticipate an annual reduction of 20 percent in electricity, 65 percent for water and 70 percent for waste water will be realized in the LEED-certified building that opened in 2010*
- *Windows and doors were FEMA 361 impact tested at an independent test lab*
- *Outstanding protection from noise and water infiltration*
- *SteelCraft front doors and SecureTech secondary steel doors*
- *Citadel storefront with Survivalite impact window system features 3/4" Safglas*
- *Construction materials are over 20 percent recycled-content*
- *Energy-efficient air conditioning and lighting*
- *Highly reflective "cool" roof*
- *Low-flow plumbing fixtures and recycled gray water*
- *Xeriscape water-efficient landscaping*



Planning and Execution

The project architect is Mason Blau Associates of Clearwater FL. Hennessy Construction of St. Petersburg FL is the general contractor. Countryside Glass, Dunedin FL, is the glazing contractor. Winco rep. John Murray, Jr. represented the window manufacturer along with Kurtis Suellentrop, Winco project manager.

Phase I planning was begun in March 2008 for the design/build project. Phase II costs were approved. Construction was initiated in early 2009 and finished in July 2010.

"The project was an unusually smooth one," observes Sid Talsma, senior project manager for Hennessy Construction, " with all involved working well together with very few problems."

Installation

Rick Miner, Countryside glass project manager supervised window installation over five weeks with a five-man crew. "We used regular flashing and a steel angle was installed using Winco's clip system to fasten the windows."

Installation went smoothly. Windows arrived in time to keep to the five-week installation schedule.

Why Tornado Windows Were Specified

Says Hennessy's Talsma, "Normal wind velocity requirements for this area are up to 160 mph, or Hurricane Category 5. The windows in the Control Center are rated for 190 mph, or FEMA 361."

Architect Mike Mason of Mason Blau and Associates has been designing in the hurricane-prone Gulf area for years. "After the 2004-5 hurricane season we began doing critical buildings for public works facilities. Everybody was looking for higher wind speeds than what was previously considered normal for Florida coastal areas. While the local building code calls for a wind speed of 127 miles per hour, the county governments and some municipalities were now looking for much higher wind speeds. So we set the threshold for this particular building at 165 miles per hour, sustained wind speed. At the same time, we set the goal for 195 mph for a three-second wind gust, which put us into tornadic wind level. Winco and the two door manufacturers, Steelcraft and SecureCraft, were chosen because they made products that meet FEMA 361 standard."

Design and Performance Options

All Winco tornado impact windows are made with reinforced aluminum frames with a 1-½-inch glazing leg. Laminated interlayer and polycarbonate sheets can save property and lives. They also provide outstanding protection from noise, wind and water infiltration, as well as energy-saving thermal ratings of 0.35 U-Value or better. Operating models are also available from Winco.

AAMA Releases Tornado Fenestration Specification

The American Architectural Manufacturers Association (AAMA) has released a voluntary specification for testing and rating building components that will be exposed to tornados and similar wind and rain conditions.

AAMA 512-11, Voluntary Specifications for Tornado Hazard Mitigating Fenestration Products uses existing test methods and other procedures to qualify windows and other glazed fenestration products for hazard mitigation. The newly released document provides a system for rating the ability of windows to withstand impact, pressure cycling and water penetration, which are generally associated with tornado conditions.

The AAMA Tornado Hazard mitigation Task Group was chaired by Gantt Miller, chairman of Winco Window Company, St. Louis, a leading manufacturing of tornado windows. "In creating this specification," says Miller, "the intent is that injury, loss of life and damages resulting from tornadoes and severe weather conditions can be prevented or greatly lessened."

Downloads and hard copies of AAMA 512-11 are available at www.aamanet.org.

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