



# FEMA



## “Show Goes On” at Kravis Center Window Laminate Exceeds Expectations

**West Palm Beach, FL** - Vaulting walls of glass surround the entire lobby of the Alexander W. Dreyfoos Jr. Concert Hall at the Kravis Center for the Performing Arts. When Hurricane Frances (2004) came through, it severely damaged the roof membrane allowing rain to enter the building. This, in turn, resulted in severe damage to the interior of the structure. While work was underway to repair the roof and restore the interior, Hurricane Jeanne arrived. “Water coming in through the previously damaged roof, cascaded over the balconies from one level to the next and flowed down the grand staircase like a waterfall,” said James Mitchell, Sr., director of Building and Production Services at the center. But in spite of that, Mitchell managed a smile.

The Kravis Center for the Performing Arts features a unique and grand facade. Its round front soars almost five stories with over 15,000 square feet of glass. Since its 1992 opening, the building has sustained only minor damage to the glass panels from windborne debris during moderate storm events and, on occasion, from vandalism. Over the years, the management and board of directors discussed installing some type of protective laminate film on the windows.

After an act of vandalism almost 5 years ago, the board of directors decided to strengthen the glass panels in the front of the lobby against high winds, windborne debris and acts of vandalism. In October of 2001, they purchased and installed the anchored film glass laminate system for the lobby windows, considered one of the products best suited for retrofitting existing fixed commercial tempered or plate glass windows. Installation was completed in the spring of 2002.

“Yes, we bought the system [anchored film glass laminate system] for \$170,000,” said Mitchell. “Quite frankly, however, we didn’t think it would work. But then another incident occurred. Although a high window panel shattered when hit by a bullet, the broken glass, held by the anchored laminated film, stayed in the frame. The bullet was trapped between the broken glass and the film laminate.” In fact, the damaged window remained in place until the replacement panel could be installed.

Then came the back-to-back hurricanes in 2004. The windows remained in place, without damage. They kept the wind out of the building, and that, according to Mitchell, helped keep the roof system intact. “If the roof system had been structurally damaged, we [Kravis Center] could have been shut down for our entire season.”

“Culturally, the cost of closing the center would be immeasurable,” said Brian Bixler, publicist for the Kravis Center. The estimated economic loss to the community, based on governmental surveys of money spent by those attending theater events, would exceed \$20 million if the season was lost, and that does not include the cost of repairs.” Had the windows been breached, allowing wind into the building, repairs to a damaged roof system could have exceeded \$1.5 million.

“There is not one member of the board of directors who is wondering, at this point, if they made the right decision by purchasing the anchored film glass laminate window system,” said Bixler. “It worked.”

Palm Beach County,  
Florida



### Quick Facts

- Sector:  
**Private**
- Cost:  
**\$170,000.00 (Estimated)**
- Primary Activity/Project:  
**Retrofitting, Structural**
- Primary Funding:  
**Private funds**