

STORM LOSS MITIGATION WITH SECURITY FILMS

Despite creating better building codes, severe weather (such as windstorms and hurricanes) wreaks havoc on properties causing serious damage, injury and death to occupants and bystanders. Much of this destruction is due to one simple and often preventable force. Shattered glass.

The current test standards for Hurricane Protection products were adopted in November 1999 by the Miami-Dade County Commission. These test standards are designed to emulate various aspects of a hurricane. The standards are much more rigorous than those from previous years.

There are three stages to this testing. The first is a small missile impact test (PA 201): performed by shooting 2gram steel balls at the target glass at a speed of 130 ft/sec (81mph). This test emulates small debris (i.e. - gravel, pieces of roofing tile...) being picked up and thrown at the structure. The second stage of the test (PA 202) is the Uniform Static Air Pressure and Water Infiltration Test. It is designed to emulate very strong bursts or gusts of wind (usually much stronger than the constant wind speed used to categorize a storm) along with water. PA 203 (third phase) testing is designed to emulate the constant wind that a storm carries as the intensity builds then subsides as the storm passes. The equipment builds up to a predetermined wind pressure (equated to velocity-mph) using both positive and negative air pressure over several thousand cycles, holds that pressure for several thousand cycles, then builds down for several thousand cycles for a total of 9000 cycles.

It is first important to realize that the testing is held in a controlled environment and performed one test at a time. In a real Hurricane, all of these different aspects are happening at the same time. It is also important to remember that the test is performed on a specific type of glass with a specific type of frame (usually found in commercial or sliding door applications). Thinner glass or different framing systems may not perform as well but still have great benefits of protection with security film and attachment system versus glass alone.

There are no 4mil thick products in the market today that have passed the current test standards for Small Missile Impact. Thicker products have passed the first phase of testing then went on to successfully pass the second and third stages. No 4 mil product as survived the Small Missile Impact at the speed which the test is designed. Make sure that all statements made by dealers and sales people can be supported through documentation from the manufacturer, not something they typed up on their own. It is important to have the home owner actually call competing manufacturers for proper information.

Shutters play a different role in the protection process. They are designed keep objects from impacting the glass at all. One issue remains, however, that is the shutter itself can impact the glass and shatter it, leaving the home or building open to internal wind and rain damage. Wind pressure alone can cause enough stress on the glass to shatter and then constant bending from the wind causes the remaining glass to flex out of the frame. Again, this can leave the home open to internal pressure from the storm creating more structural stress.

The role of security film during such an event is to hold the glass together in the event it should break for as long as possible or until the storm passes. If there is an impact during a storm, the glass will more than likely shatter depending on the object and its velocity. With security film and an attachment system, the likely hood of a storm entering your home is decrease. Even many shutter companies recognize the benefits of security films and have added it to their product offerings for an additional line of protection or for areas of the home that can not be covered with shutters.