



 **MADICO**[™]

 **Frame X GARD**[™]
Anchoring System

“Patented System
Increases Performance
of Security Window Film”

Proven Blast Resistance

Protection Against Forced Entry

Reduces Glass Related Injury

The Uses

Security window film is a proven way to protect persons against shrapnel injury in the event of violence or severe weather. Security window film also helps protect property and equipment from damage and increases the likelihood that business operations can continue uninterrupted.



Glass without a daylight application of security window film is blown out of the frame producing lethal cutting shards on breaking.

Window film is generally applied as a “daylight” installation - to the edges of the visible portion of the window. This means that the untreated glass around the perimeter of the pane is not protected and will break on impact releasing the pane. Under impact, the force applied to the window is concentrated at the edge where the “daylight” gap exists. A common result under blast load or wind load conditions is that the entire pane of filmed glass fails and falls out of the frame. A daylight application of security window film will greatly reduce glass fragment hazards, however once the window fails injury may result from impact by the filmed glass.



Glass with film applied is blown out of frame. Fragment hazard greatly reduced. However risk of body impact and loss of controlled environment.

**MADICO**TM

**FrameGARD**TM
Anchoring System

The Madico FrameGardTM Anchoring System has been designed to prevent filmed glass from erupting from its window frame under blast load conditions. Madico FrameGardTM improves and extends the principle of edge battening by incorporating a specific movement zone (Patent applies) which allows the film to move under applied load without putting excessive force onto the fixings and frame. The movement zone (⊕), (indicated on Steps 2 & 3 of Example B) absorbs a high degree of the impact energy before loads are distributed to the Madico FrameGardTM profile and window frame. The Madico FrameGardTM Anchoring System significantly improves the performance of security window film against blast pressure and body impact loads when compared with traditional daylight film applications.



Window with FrameGardTM and MadicoTM security window film after a blast - The glass has been held securely in place.

Madico FrameGardTM also improves the performance of security window film against burglary in “daylight” film applications. In “daylight” applications it is possible to attack the untreated edge of the window, levering the glass out of the frame.

*Multinational corporations
and foreign governments use the
Madico FrameGardTM Anchoring System
coupled with security window film to
improve safety and security.*

The Benefits of FrameGard™ & Madico™ Security Window Film

- Minimizes the risk of personal injury from broken glass
- Deters forcible entry
- Reduces liability
- Cost effective
- Effective and attractive alternative to replacing windows and framing
- Can be installed in a finished environment without disrupting business
- Limits “smash & grab” burglary

Protect your personnel & property

Reduce glass-related injuries

Safeguard information & equipment

Protect against forced entry

Protect against the elements

Ensure business continuity

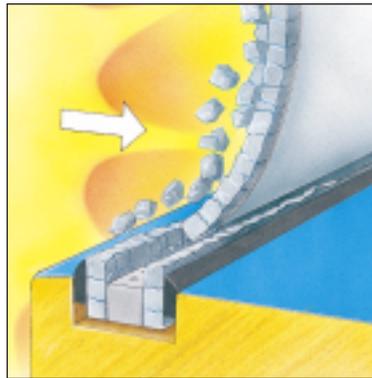
Protect against terrorism

Helps reduce insurance loss

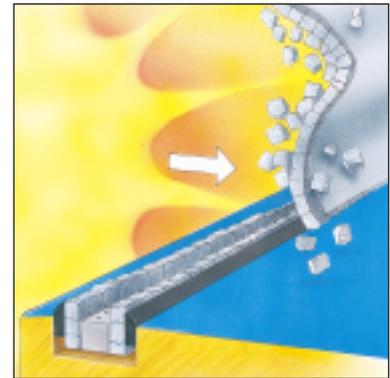
Example ‘A’ - Glass Remains Vulnerable with Daylight Installation of Window Film



Step One: Daylight window film with gap shown around edge.

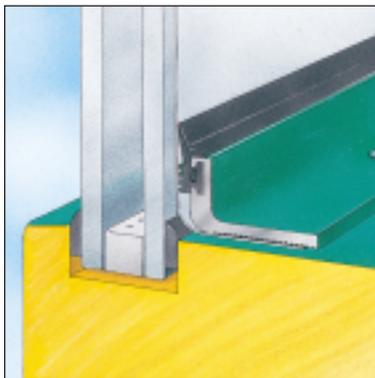


Step Two: Untreated edge of glass breaks and separates at the unsealed edge of the glass.

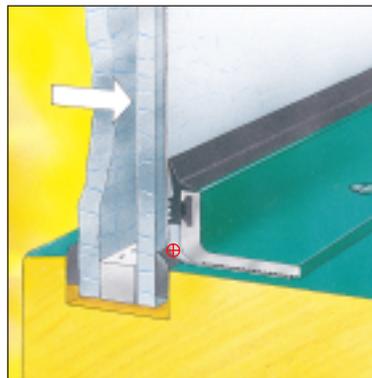


Step Three: Fragments from untreated glass leave the window pane and enter the room.

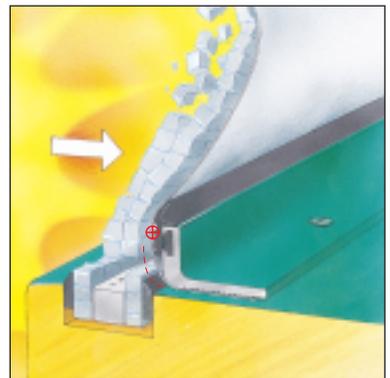
Example ‘B’ - Madico FrameGard™ extracts Maximum Performance from Security Window Film



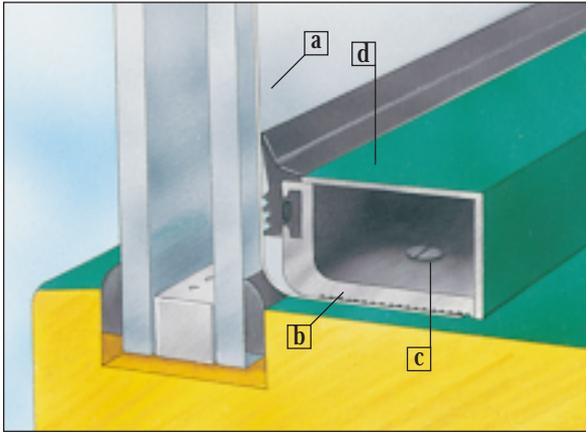
Step One: Madico FrameGard™ secures the film tightly in place to the window frame.



Step Two: Blast impact shatters external glass and drives it against the inner pane.



Step Three: Madico FrameGard™ movement zone absorbs energy by allowing window film to stretch. Radiused edge prevents cutting of film. Gripped surface clamps film in place.



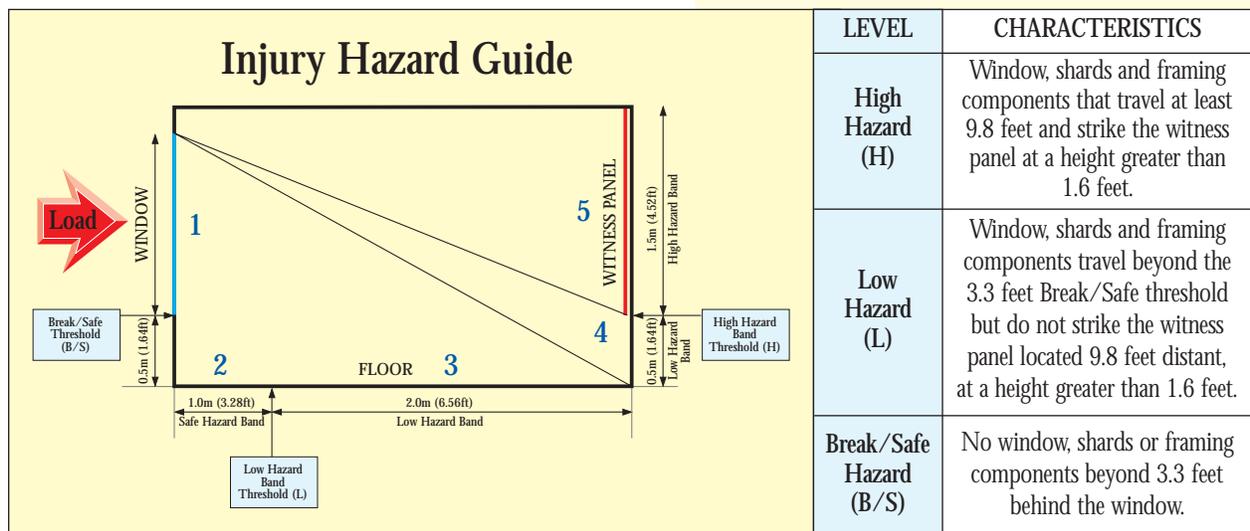
Approved Installation Method

- a. Madico™ security window film installed on inside of glass and carried on to frame.
- b. Madico FrameGard™ is placed over window film.
- c. Screw drilled through base profile into window frame. Grip surface clamps window film in place.
- d. Optional cap piece to close off base section, available in colour to match decor.

The Madico FrameGard™ anchoring system is suitable for use on a variety of different window and door profiles including steel, aluminium or wood. Because of the different materials and installation conditions it is necessary for trained staff to inspect each site to confirm suitability of the Madico FrameGard™ system and to determine the appropriate method of installation.

The Madico FrameGard™ anchoring system has been tested in accordance with US GSA explosion hazards standards and has proven to provide significant injury protection when coupled with security grade window film.

Tests have proven that Madico FrameGard™ can achieve category 1-3 in accordance with the Injury Hazard Guide indicated below.



The above chart represents a test cubicle measuring approximately 10ft front to back with the window element on the left-hand side. A witness panel is installed on the rear of the test cubicle and this is used to record any loose glass fragments or similar impacts. The interior of the cubicle is divided into different hazard zones (threshold/category 1-5) which identify where fragments have been ejected from the window specimen. Annealed float glass proves highly hazardous under blast impact load and is classified as category 5 - High Hazard. Daylight window film applications, or laminated glass set into standard rebates, typically fails to achieve higher than category 4 performance.

The Madico FrameGard™ anchoring system extracts the maximum performance from window safety film.



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