

## **Burglar Resistant Glass**

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I know many have already installed and some are looking at installing security film on windows.

I have visited with 4 different people/companies in the St. Louis Market that apply the security film. I will just point out to all of you is to ask questions and understand what and how they are applying. It seems that if not applied/anchored correctly that the whole glass window could just be kicked in.

The question to ask is how the whole security filmed glass is installed/anchored into the frame. Some do nothing, some remove the trim and add adhesive type caulk, then reapply the trim. Some add a complete new piece to anchor more securely.

I just want to make sure that we are all not spending money for false sense of security.

Sometime a picture explains it all, again this is so we all don't waste money. I don't know the exact answer on this, but just helping us all be informed

First here is a video of glass with very heavy film applied but was not anchored (First outer doors, the inner door does not have film)

[https://www.youtube.com/watch?v=CPRSKE8\\_b18](https://www.youtube.com/watch?v=CPRSKE8_b18)

They break right through, the whole glass with the security film just come out in one piece.

## **The Use of Structural Silicone Sealant for Film Attachment on Tempered Glass**

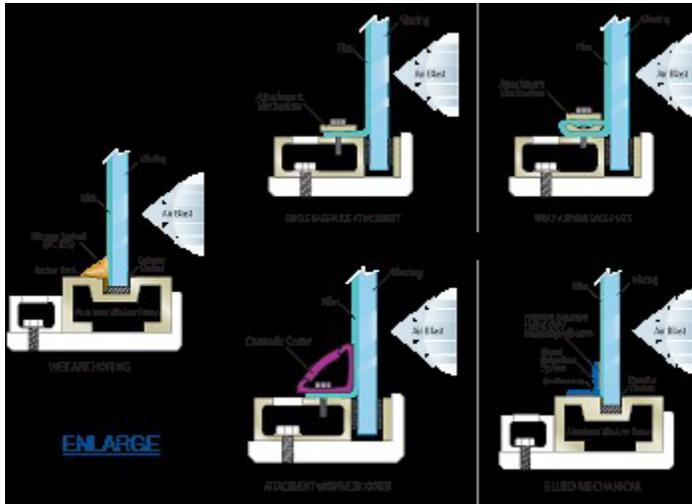
There are 3 common glass types :

- Annealed Glass - Common in homes. Annealed glass is easily broken into irregularly shaped fragments. The laminate is applied to the annealed glass with a 1/8" gap between window frame and edge of laminate. This allows for expansion in heat and to power squeegee out the slip agent used during installation.
- Double Pane Glass - We recommend only clear laminates for double pane glass due to heat build-up with the tinted films. The laminate is applied to the inside pane of the glass inside your home or business.

- Tempered Glass - Tempered glass is the type of glass commonly in automobiles, many commercial properties and sliding glass doors. Tempered glass is much stronger than annealed glass. If you are applying window security film to tempered glass, you must anchor the laminate / security film to the window frame or door frame. We recommend DOW 995 Structural Sealant to anchor the security film to the window's frame. The window security film is applied to glass leaving a 1/8" gap between the window frame and edge of the laminate. Apply the DOW 995 caulk bead overlapping the window laminate and window frame, so that the caulk creates a seal between the laminate and window frame. Use only the DOW 995 and not other common window caulks. We carry DOW 995 in both Black and White for the best possible color match to your window or door frame.

The image below illustrates how to properly caulk various frame types with DOW 995 Structural Silicone:

## Tempered Glass Installation: Using Silicone Sealant to Anchor Security Film



For your information, descriptions of several Anchoring or Edge Retention systems are listed below to help you understand some of the systems that may be proposed to you. We have performed tests proving the strength of our films and anchoring systems, but that alone says little about the correct solution for your application. Please contact a local window film professional who specializes in blast protection films and Edge Retention systems for further details.

The 3 categories of anchoring systems:

Wet Glaze, Screwed Mechanical, and Glued Mechanical; each have benefits and drawbacks.

The "Wet Glaze" method involves removing the rubber gaskets from the window frame and replacing it with Dow 995 Silicone, which overlaps the frame, glass, and film anchoring them all together. The positives of this system are lower cost and flexibility for different frame types.

The "Screwed Mechanical" system uses a metal angled frame, which is literally screwed into the frame and potentially the wall. The film is installed "oversized" to allow a wrap under the metal frame. Then, screws are placed through the anchoring frame/film into the window frame tying the system together. Screwed Mechanical systems are often the strongest option because of the wrap of film under the anchoring frame and longer screws can sometimes be used to increase the anchorage of the frame to the building, greatly increasing protection. Drawbacks include high cost and the permanent nature of the installation; if you ever wanted to remove the anchoring system, the frames will have holes exposed.

The "Glued Mechanical" system is an adhesive backed anchor medium. They can be flexible or stiff, but they come with adhesive already applied to one side. The installation is a relatively simple process of removing the protective backing strips and applying the adhesive side across the glass/frame edge. This is the easiest type of retention system to install, so less experience may be required. They are generally not as strong as top-of-the-line screwed-in systems, and since they are applied only on the surface of the film and the frame, they cannot help anchor the frame to the wall.