

Wisconsin Crime Prevention Practitioners Association

Windows and Glass

Two components of CPTED—Surveillance and Access Control—tend to counter one another. Glass affords excellent surveillance capabilities but is not as secure as metal doors. Many entries to buildings are through windows and/or glass doors. The photos below are from Sandy Hook Elementary School where the shooter gained entry to the office area of the school through the windows.



Glass originally was not designed to resist windblown debris, explosions, vandalism, forced entry or anything else that can put stress on it. When broken, this glass would produce lethal shards or fall in large pieces. To prevent this, legislation was passed in the 70's mandating the use of tempered glass. The mandates however only cover particular areas such as: floor to ceiling windows; glass doors; panes of glass next to doors; and glass areas next to heavy pedestrian traffic.

Over the years there has been other advancements to the manufacturing of glass to try and strengthen the glass while allowing the surveillance and aesthetically pleasing qualities that it affords.

Types of Glass

There are many different types of glass that are available and we will highlight those below:

Standard

- Inexpensive to produce.
- Weak glass and will not slow down or stop entry.
- Breaks into large and sharp pieces.
- Typically found in interior settings



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Tempered

- 3x to 7x stronger than standard and breaks into small pieces
- May slow entry, but not by much.
- Can be found in car side windows and exterior windows
- Using toughened glass can pose a security risk in some situations because of the tendency of the glass to shatter completely upon hard impact



Wired

- Primarily a safety related product used in fire doors
- Will keep glass in place which will delay entry
- Glass is kept intact in large pieces due to the wire
- Wired glass is actually weaker than unwired glass due to the incursions of the wire into the structure of the glass.



Laminated

- Two layers of glass that are bonded together by an interlayer of polyvinyl
- In the event of breaking, the glass is held in place by the interlayer
- This produces a characteristic "spider web" cracking pattern when the impact is not enough to completely pierce the glass.
- Used in vehicle windshields, storefronts, doors, and exterior locations



Security Film

- Is a polyester, type film that is applied to glass and glazing in order to hold them together if the glass is shattered (similar to laminated glass).
- Works the same as laminated glass and will delay the intruder
- Best to have this professionally installed so that the entire window is covered.



Ballistic Glass

- Bullet-resistant glass is constructed using layers of laminated glass. The more layers the higher the protection.
- Very costly to install.
- Also need to consider the surrounding area for ballistic capabilities such as the walls, doors, frames, etc.



Even though glass can be penetrated a little easier than say a steel door, there are ways that we can make good use of glass and still secure our properties. This information hopefully will help guide you as you look at ways to target, harden, and deter those who would be criminals!

For more information contact your local crime prevention officer