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Issue #9 Three Ways Glass Can Protect and Save Lives View this email in your browser











One of the many signs of modernization one can look out for is in its country's typical CBD building façade – do they use glass, or do they use concrete?

Glass as a building material has gained a huge share in the façade materials used in a developed city today; just look at Singapore's skyline, or New York City, or London, or Hong Kong. Many people prefer glass as it offers a stunning view of one's surroundings with its transparency, yet shelters occupants from elements of nature. However, can glass really protect occupants from external harm such as glass breakage incidents, terrorist attacks and natural disasters when it comes down to it?

We're here to show you how.

3 Ways Glass Can Protect and Save Lives

Recent spate of glass breakage incidents happening in condominiums



From the Trizon to the Cradels condominium, Singapore's condominium scene has been plagued by glass breakages this year. One of the windows in a unit in the Trizon shattered spontaneously, sending glass shards into the bedroom in July. In the same month, glass panels in Cradels condominium's infinity pool crashed down from the fifth-storey, sending glass and pool water down the building. Glass breakages occur for a variety of reasons; it could be wrong handling and installation methods, spontaneous breakage (if glass has been tempered) or bad quality of the glass.

To protect yourself from glass breakage, SSG recommends that tempered glass should be heat soaked (an additional heat process that tests for, and prevents most spontaneous breakage) and laminated (<u>DuraSafe-SGP</u>) so that if breakage does occur, the glass pieces will still adhere to the interlayer, instead of falling out and injuring others.

Glass protection in terror attacks



We live in an increasingly connected world, where information can be found at a tap of your finger or where we can get to just about anywhere in the world with increasingly cheaper air fares. While this increased connectivity is mostly good, it has also resulted in an increase of widespread terror attacks, such as the airport attack in Brussels and the truck attack in Nice. How do we protect ourselves from this kind of attacks when we never know when it might happen? Movies often portray a delicate image of glass: just think back to all those action movies you watched where heroes breezily smashed through glass walls, or broke a glass wall by shooting at it with a pistol.

The truth is, those movies usually use a single piece of thin tempered glass, for it to shatter so easily. Glass can be

and villains will no longer be able to break through glass walls using their bodies or even a sharp object (like a hammer), if they used <u>DuraShield</u> instead. This is because it is made up of multiple layers of glass capable of resisting even the most severe hits by a sharp object.

For protection against bullets and bombs (in light of the recent attacks), you can also look at bullet-resistant glass (<u>AmmoShield</u>) or blast-resistant glass (<u>BlastShield</u>), all of which has different glass make-ups to cater to different gun types and bombs.



Glass protection in natural disasters

Natural disasters such as hurricanes and typhoons can occur frequently in some countries, especially if they are in coastal regions. Typhoons form due to heavy winds accumulating speed and turning into intense circular storms. Typhoons cost lives, damage properties, and disrupt communication lines, all of which affects the daily routines we have in place. So, how can glass structures protect inhabitants from the typhoon's damage?

With the rapidly advancing technology today, there is now glass specially designed for typhoon-prone areas, with the ability to resist excessive wind speeds and penetration from flying debris. Our StormShield has undergone testing and been able to resist impact from a piece of timber weighing 4kg (100mm x 50mm cross section), travelling at 160km/h lengthways. In the event of glass breakage, the glass pieces will still adhere to the interlayer, thus maintaining a water-tight environment during the storms a typhoon may bring. StormShield has also been tested to withstand extreme wind speeds of 500km/h which means that it can withstand even the fiercest of hurricanes; to put it into context, a mild (category one) hurricane's wind speed starts from 119km/h and an extreme (category five) hurricane starts from 252km/h on the Saffir—Simpson hurricane wind scale.



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