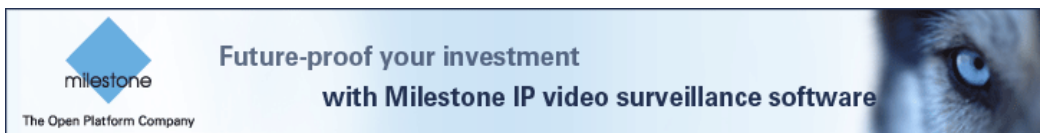




Notice

Since the production of this document, Solar Gard has been purchased by Saint-Gobain Performance Plastics Corporation. Solar Gard is now a subsidiary of Saint-Gobain. All references within this document to Bekaert, Bekaert Specialty Films or Bekaert Specialty Films LLC, including but not limited to legal notes, copy and or copyrights are null and void. All rights and responsibilities expressed or written within this document have been transferred from Bekaert Specialty Films, LLC to Saint-Gobain.

Saint-Gobain Performance Plastics
Unit 13, Ball Mill Top Business Park
Grimley, Worcestershire WR2 6LS
United Kingdom
Tel: +44 (0) 1905 640 400
E-mail: solargardukinfo@saint-gobain.com
www.solargard.co.uk



[Home](#) > [Editor's Blog](#) > [Blast Protection With ROI](#)

Blast Protection With ROI

Published on 26/10/2010 by Jonathan Newell, Editor

Protective window film meets bomb threat mitigation requirements for glazing whilst improving energy costs

With the threat of terrorism in the UK remaining at high levels and likely to continue at least until after the Olympic Games of 2012, businesses are under continued pressure to provide protection to building occupants from bomb threats not only within the building but also within the vicinity.

Naturally, emphasis is placed on preventive measures and the focus falls on technology solutions for intruder detection, surveillance and behavioural analysis but there remains the question of mitigation. What if a device detonates within a radius of half a kilometre of the building and what can be done to protect the occupants of that building? This was the subject of a recent discussion between ProSecurityZone and Ian Penfold, the UK Architectural Manager at window film company, Solar Gard.

Solar Gard takes building protection back to basics. There is a clear and continued need for prevention but basic protection is also necessary if the prevention techniques fail. For this reason, Solar Gard takes a holistic approach to building protection. This is done by surveying the premises and making a straightforward risk assessment of the type of glazing installed, the purpose and occupancy of the premises, its location and layout.

Ian explained that part of his task is to provide improved awareness in the business community of the terrorism threat. The National Counter Terrorism Security Officers have identified recent trends which distribute the threat beyond the centre of the capital and into the regions with prime targets being public places such as shopping centres, bars and market places. This represents a significant difference to the kinds of target trends of 30 years ago.

The polyester film which Solar Gard produces is attached to the inside of the glass panel and is made up of two components. A polyester film provides tensile strength and elasticity designed to absorb the energy of the blast in a way which brittle glass cannot do. The adhesive layer which bonds the polyester film to the glass also plays an important energy-absorption role in addition to holding the fragments of glass together.

Ian explained that the primary function of the film is to "buy time" and the time which is bought is measured in mere milliseconds, the time required for the energy of the blast to dissipate. Those few milliseconds are when all the damage is done and if the film can hold the glass together and absorb the blast impact energy during that small amount of time, then it has served its protective function.

I asked Ian what happens if the film fails during this crucial time period and he explained that there are two main failure modes. Either the whole pane blows out of the window frame or the edge gap breaks and the window folds within the frame.

If the whole pane blows out, the distance it travels is rarely greater than a metre from the window frame which is a far shorter distance than the flight of unprotected glass fragments. The concept of the dangers of shattered glass are hard to imagine in extreme circumstances but to put this in context, it is possible for the blast from a car bomb located 400 metres from the building to cause glass from a broken window to hit a wall at a distance of 5 metres at a speed of 75 metres per second which is just under 170 mph.

In terms of edge-gap, this is a necessary consequence of sealing glass without removing it from the frame. There will always be an edge gap and this could break. If this breaks, fine particles of glass dust result which can be a significant problem for equipment such as in server rooms and so in these kinds of installations, the edge gap can be eliminated during installation.

Energy Saving Benefits

Part of the holistic approach to protection that Ian mentioned includes solar protection and the resultant energy savings through reduced air conditioning requirements in buildings with a large glass content. In the past, there was some question over payback for using tinted glass coatings since they reduced light levels and drove higher lighting energy consumption but improved film technology enables solar protection benefits to be achieved without significantly reducing ambient light levels. The bomb threat protection is therefore enhanced by ROI through energy efficiency.

[Read more from the Editor's Blog](#)

Ads by Google

[Terrorism](#)

Visit the Safe site for advice about counter terrorism
www.safe.met.police.uk

[Flightline Official Site](#)

The Cheapest Flight Deals! Book Our 2010 Bargains Today
www.FlightLine.co.uk

[red24 Corporate Security](#)

Mobile alerts to inform individuals of high risk activity whilst abroad
www.red24.info/corporate

[Money Off Your Xmas Shop](#)

Save Up To 50% Off Major Brands 1000s of Leading Retailers Online!
www.MyVoucherCodes.co.uk

[I Paid Off £20K at £200pm](#)

Simple government insolvency scheme Find out if you can claim in 2 mins
DirectDebtAdvice.co.uk/PayOf

