



**NEW BUILD AND
RETROFITTED SOLUTIONS**

**PERMANENT AND
TEMPORARY INSTALLATIONS**

**ULTRA HIGH STRENGTH
STEEL STRUCTURES**

COUNTER TERROR

Bomb Blast Protected Glazed Shelters, Screens & Enclosures PATENTED

Protecting people and property from terrorist attack

Applications

- Government, Public & Commercial Buildings
- Public Transport Systems - Airports, Bus & Train Stations / Shelters
- Sporting Events, Venues & Arenas
- Shopping Centres & Communal Areas
- Conferences, Exhibitions & Events

Fully Certified System

- Compliant to International, BS & ISO Standards
- Tested to ISO EXV25 (100kgs High Explosive at 25mtrs)

Range of Solutions

- Permanent & Temporary/Portable Installations
- New Build & Retro-fitted Solutions

Fully Certified System

Compliant To International, BS & ISO Standards
Tested To ISO EXV25 (100Kgs High Explosive At 25Mtrs)

trueform



Bomb Blast Protection



Bomb Blast Portals



Protection in Crowded Places



Anti-Terrorist Shelters



Public and commercial buildings as well as crowded places are potential terrorist targets

Protect your employees, customers and property from terrorist attack

The worldwide political climate has made it more critical than ever for organisations to physically protect buildings, crowded places and the people who frequent them from terrorist bomb attack.

Terrorist targets include key government, public and commercial buildings as well as crowded places such as shopping centres, sport venues, airports, public transport terminals, bus and railway stations.

In the event of an explosion in a built-up environment, approximately 90% of fatalities and injuries are caused by projected glass shards.

The personal cost of the injuries is considerable, and is exacerbated by disruption to the efficient running of business and public services due to injured personal and damaged properties.

Although conventional anti-fragmentation window films can often reduce the quantity of smaller shards, in many cases the window frame will not be strong enough to retain the glass and prevent it from being projected 'en masse'. The projected glass and often the window frame itself pose a high risk of death and serious injury to persons nearby.

Conventional systems with thin PVB laminated glass are mis-sold as being 'blast resistant' when they are not. Bomb blast rated enhanced glass with a special retaining system is required.

Many companies and public organisations are now implementing bomb blast protection systems in response to government initiatives on protecting people in public spaces.

Bomb Blast Protected Glazed Screens & Structures

In response to this requirement, Trueform has developed and tested a range of security and anti terrorism products and patented specialist bomb blast protection systems in order to help maintain safety and security, and dramatically minimise disruption should a terrorist attack occur.

Trueform's high strength bomb blast resistant structures are designed to conform to and have been extensively tested to recognised UK, US and international bomb blast standards, typically 100kgs of high explosive at 25 metres range.

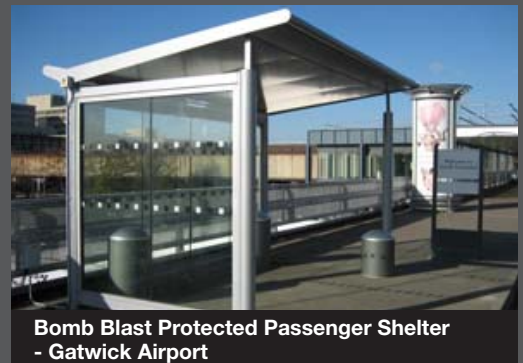
The high strength steel framed structures are fitted with bomb blast rated enhanced glass uniquely secured using Trueform patented ultra-high strength 'dry fit' retention system.

Trueform have recently installed its bomb blast resistant waiting shelters, check-in areas, door entrance portals and retail enclosures at the UK's Heathrow, Gatwick and Edinburgh airports.

The ultra high strength construction incorporates Trueform's high strength bomb blast rated shallow foundation and thus provides robust physical protection, including protection against explosive attack by a vehicle borne explosive device (VBIED).

Features of Trueform's Patented System

- Fully tested to withstand bomb blast of 100kgs of high explosive at 25mtr distance with no formation of hazardous glass shards
- Compliant to ISO international standards - ISO EXV25
- As used by British Airports Authorities - BAA
- Can be provided as part of a new build or retrofitted for protection to existing buildings / areas.
- Instant protection immediately after installation
- Provides bomb blast protection to people and property
- Protection against 'Vehicle Borne Improvised Explosive Devices' (VBIEDs)
- Contemporary, architectural design appearance
- Temporary solutions for conferences and events
- Ultra high strength steel structure
- Specialist high strength shallow blast resistant foundation design
- Ultra high strength dynamic 'Dry Fit' glazing retention system
- Special bomb blast rated laminated annealed and toughened laminated blast resistant glass with specially enhanced interlayers
- Comprehensive range of standard structures / designs available to suit a range of applications
- Flexible/custom design: our designers can design/modify the system to suit individual project requirements
- Rapid installation and commission



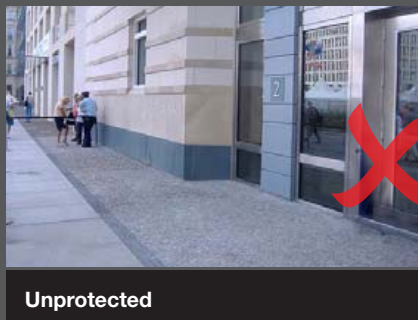
Bomb Blast Protected Passenger Shelter - Gatwick Airport



Bomb Blast Protected Screen for Costa Coffee - Heathrow Airport



Bomb Blast Protected Check-In Area & Digital Passenger Display - Heathrow Airport



Unprotected



Protected with retrofitted glazed bomb blast screen

Retro-fitted and Temporary/Portable

Trueform provide a range of both permanent and temporary / portable blast resistant screens that can be installed as part of a new build, or 'retrofitted' to existing locations, providing instant bomb blast protection.

Applications Include:

- Buildings
- Venues & Arenas
- Exhibitions & Conferences

Utilising Trueform's high strength bomb blast rated shallow foundations, the blast protection screens can be rapidly erected outside existing commercial or residential buildings, hotels, embassies, shops, taxi ranks etc. with minimum disruption.

Providing physical protection to employees, delegates, customers and property in the event of terrorist attack, the special blast protected structures have been architecturally designed with contemporary clear glass appearance to complement any architectural surrounding.

Each structure can be manufactured to meet individual customer requirements and colour schemes, including corporate identity and branding.

Trueform have provided blast protection security screens for many clients, including retail screening for Costa Coffee and check in screens for Emirates and Singapore Airlines at Heathrow Airport.

Please contact our sales engineers to discuss your requirements and to arrange a site survey.

Protect Your Employees, Customers And Property From Terrorist Attack

The worldwide political climate has made it more critical than ever for organisations to physically protect buildings, crowded places and the people who frequent them from terrorist bomb attack. Terrorist targets include key government, public and commercial buildings as well as crowded places such as shopping centres, sport venues, airports, public transport terminals, bus and railway stations. In the event of an explosion in a built up environment, approximately 90% of fatalities and injuries are caused by projected glass shards. The personal cost of the injuries is considerable, and is exacerbated by disruption to the efficient running of business and public services due to injured personal and damaged properties. Many companies and public

organisations are now implementing bomb blast protection in response to government initiatives for the protection of people in public spaces.

Bomb Blast Protected Structures

In response to this requirement, Trueform has developed a range of security and anti terrorism products and patented specialist bomb blast protection systems in order to help maintain safety and security, dramatically minimising disruption should a terrorist attack occur. Trueform's high strength bomb blast resistant structures are designed to conform to and have been extensively tested to recognised UK, US and international bomb blast standards, typically 100kgs of high explosive at 25 metres range. The high strength steel framed structures are fitted

with bomb blast rated enhanced glass uniquely secured using Trueform's patented ultra-high strength 'dry fit' retention system. Trueform have recently installed its bomb blast resistant waiting shelters, check-in areas, door entrance portals and retail enclosures at the UK's Heathrow, Gatwick and Edinburgh airports.

The ultra high strength construction incorporates Trueform high strength bomb blast rated shallow foundation and thus provides robust physical protection, including protection against explosive attack by a vehicle borne explosive device (VBED).

Limitations of Conventional Bomb Blast Protected Systems

Although conventional anti-fragmentation window films can often reduce the quantity of smaller shards, in many cases the window frame will not be strong enough to retain the glass and prevent it being projected 'en masse'. The projected glass and often the window frame pose a high risk of death and serious injury to persons nearby.

Conventional systems with thin PVB laminated glass are mis-sold as being 'blast resistant' when they are not. Bomb blast rated enhanced glass with a special retaining system is required.

Conventional safety glazing retention systems suffer from a number of problems. The surfaces of both glass and frame need to be carefully cleaned and primed to ensure satisfactory adhesion by the silicone.

It is difficult to achieve this if the process is performed "on site". It is also difficult, if not impossible, to ensure that the silicone has filled all the gaps between the edge region of the glass and the surfaces of the frame. Insufficient filling can lead to insufficient adhesion. Moreover, the silicone takes a long time (days or weeks) to cure fully and the adhesion between the retaining member and the glass sheet is weaker during this curing period. Further, the final strength of the adhesion may be reduced if the glass sheet is inadvertently moved, for example by the wind or members of the public, during the curing process. If the glass sheet is damaged, replacement is onerous as the cured silicone needs to be removed completely from the frame and the frame surfaces cleaned thoroughly before a replacement glass can be fitted.

These limitations expose people and infrastructure to a greatly increased risk of damage, serious injury or death.

Trueform's Dry Fit System is a simple mechanical process that does not require adhesion between the glass sheet and the retaining members. It can be carried out readily on site by personal with no experience of silicone bonding. Unlike conventional blast-resistant glazing systems which require formation of a silicone bond between the glass and the retaining members, there's no risk of insufficient bonding due to incomplete filling of the gaps between the glass and the rebate with silicone, no risk of inadequate bonding caused by dirty surfaces and no risk of weakening of the bond by movement of the glass sheet during curing.

Trueform's system provides instantaneous protection.

Government Agency Driven

In order to combat terrorist threats the UK government has instigated a counter terrorism strategy, which is driven by a number of government agencies, the Home Office, Office for Security and Counter-Terrorism, working closely with the Police, and the Centre for the Protection of National Infrastructure (CPNI).

CPNI®

Centre for the Protection
of National Infrastructure

The CPNI encourages the implementation of physical security measures to locations at potential risk and provides security advice, awareness and training, including designing out vehicle borne terrorism.



NaCTSO
National Counter Terrorism Security Office

The National Counter Terrorism Security Office coordinates the activities of local police force Counter Terrorism Security Advisers (CTSAs) who deliver guidance on protecting a wide range of assets, including crowded places.

Applications

- Airports
- Public Transport Terminals
- Bus Shelters
- Bus & Railway Stations
- Shopping Centres
- Sports Venues
- Government & Commercial Buildings
- Embassies
- Crowded Places