



BsecB

The ultimate perimeter security solution

The threat from terrorist or criminal attack remains both serious and real

Today's most significant threat derives from international terrorism aiming to organise 'high impact' attacks that combine mass casualties with substantial disruption to key services such as energy, transport and communications. Businesses also encounter a range of other threats which are able to cause major disruption including activist groups driven by political or social issues and organised crime. Therefore commercial, public or private organisations need to be prepared and protect sensitive buildings and infrastructure.



Your team for perimeter security solutions

At BBS we provide an impressive range of high quality products and are committed to develop durable, cost effective solutions designed to reduce space requirements and increase perimeter security. We understand the importance of a secure perimeter. Our ultimate perimeter security solution – BsecB – is a proven system that has undergone extensive testing. It can be teamed with other approved products to provide an all-encompassing solution, including security gates, fencing and intruder monitoring systems. BsecB was first launched in 2009 and since that period installations have been carried out to protect sensitive buildings and infrastructure such as airports, power stations and cash handling facilities throughout the UK.

We work with a team of dedicated professional advisors to assist our clients in all aspects of the specification process. The relationship with our Licensed Installers, partners and suppliers gives customers a single source for perimeter protection solutions. From the very start, we offer the expertise and guidance needed to make the right perimeter security decision.

We understand how difficult and also time consuming it can be to find exactly the right product for each stage of a project. Finding the right perimeter protection for now and into the future is no different. BBS Licensed Installers are happy to meet with you and discuss your requirements to make sure we recommend the right solution for your specific needs.

Defence begins at the perimeter

Protecting critical assets starts at the perimeter. The aim is to keep threats away from sensitive or high-security environments by strengthening site perimeters to prevent unauthorised

access. This is why BBS has developed the BsecB perimeter security protection system, the ultimate line of defence against criminal or terrorist threat.

Key benefits of BsecB

- One single line security solution resilient to both vehicular and intruder attack
- Acts as a foundation for fences, lighting and CCTV masts
- Successfully tested to PAS 68
- High level of vehicle containment
- Residual barrier prevents follow-on vehicle encroachment
- Long term permanent perimeter physical security solution providing a serviceable life of at least 50 years
- Requires minimal maintenance
- Rapid installation
- Aesthetic design variations
- Minimal space requirements
- Constructed by highly experienced Licensed Installers
- Surface mounted design
- Concrete provides built-in resistance to fire
- Economic and sustainable

BSI PAS 68

BsecB The ultimate perimeter security solution



PAS 68 the industry standard for vehicle impact testing

PAS 68 is the impact test specification for vehicle security barriers. It defines vehicle type, speed, angle of impact and provides an impact rating for a vehicle security barrier when subjected to a single impact.

BBS has subjected BsecB to a series of impact tests in accordance with PAS 68 at the UK's Transport Research Laboratory (TRL).



BsecB is the anti-terrorist and anti-criminal insitu concrete barrier to protect sensitive buildings and infrastructure.

It is a long term permanent perimeter physical security solution. Combined with a security fence it is a single defensive line rather than

two separate fencing lines, saving valuable space, protecting infrastructure assets from peaceful protest to terrorist threats. The barrier has been specifically designed to meet the security impact standards of PAS 68.



The benefits of BsecB



ULTIMATE PERIMETER

PROTECTION

■ **A Tested high impact system.**

BsecB has been successfully tested to PAS 68 and will restrain 7.5 tonne vehicles impacting head-on at 40 and 50mph, and as such has the ability to prevent a follow on attack by a second vehicle.

■ **Investing in the future.**

The design life is over 50 years. With the installation of BsecB you are investing in a long term security solution, to protect for years ahead.

■ **Low maintenance.**

Concrete is an inherently durable material capable of maintaining its designed engineering properties under conditions of extreme exposure. The barrier will require little or no maintenance, apart from a routine inspection.

■ **Protects assets.**

BsecB comprises a single defensive system for permanent perimeter protection, as opposed to the option of separate fencing and vehicle line. It is tamper resistant and protects assets from a wide spectrum of threats.

■ **Experience and expertise.**

BBS has a history of successful concrete barrier installations, in various applications, all installed by highly skilled Licensed Installers, backed by an independent audit process.

■ **Rapid installation.**

Up to 300 linear metres of BsecB can be installed in an 8 hour shift, in a fully automated, accurate construction process using modern mechanised paving technology.

■ **Combined system capability.**

As well as BsecB being a stand alone system for your perimeter, it can be combined in a cost effective way with other solutions such as a range of fencing, lighting and CCTV masts.

■ **Surface mounted design.**

The BsecB system is designed as a surface mounted product allowing it to be installed virtually anywhere on a hardened surface without encroaching on buried services or requiring significant excavation works. This also reduces construction time, traffic management and material usage.

■ **Cost effective.**

BsecB is a cost effective solution, providing a durable long lasting barrier solution to your security needs.

■ **Flood containment.**

The solidity of the barrier system allows it to perform as a flood containment device with minor enhancement of the joint details to improve resistance to water penetration.

■ **Economic and sustainable.**

BsecB offers a long serviceable life, uses recyclable materials and employs lean construction techniques, using slipform processes and continuous steel strand to minimise waste. With no requirement for routine maintenance except where severely impacted, BsecB presents a sustainable solution that encompasses social, environmental and economic benefits.

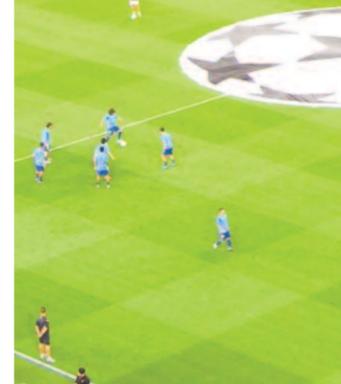
Applications

BsecB is a long term physical perimeter security solution. It can be constructed by the mechanised paving construction method and is therefore ideal for protecting large perimeters such as those around airfields, key industrial sites, power stations and fuel distribution depots. Short lengths can easily be constructed using traditional fixed formwork.



Protects sensitive sites demanding maximum security

- Government, military, police and custodial infrastructure
- High security manufacturing and storage (power plants, oil refineries, fuel and gas storage)
- Transport infrastructure – airports, rail, ports, other major transport hubs
- Petrochemical and nuclear infrastructure
- Crowded places – sports arenas, concert venues, shopping centres
- Financial sector such as cash handling depots
- Research centres



government buildings
military installations
police stations
power plants
oil refineries
fuel and gas storage
airports
rail
ports
petrochemical plants
nuclear sites
sports arenas
concert venues
shopping centres
cash handling depots
research centres

Construction Methods

BsecB is constructed either using slipform concrete paving equipment or traditional fixed formwork.



Slipform Paving

BsecB has originally been designed to be slipformed making it an extremely cost efficient system to construct. Within this mechanised paving construction method standard supply trucks feed ready mixed concrete into the slipform paving machine. The high

performance, computer controlled machines consolidate and shape the material into the specific profile of the BsecB system incorporating reinforcement as required. This construction method provides high productivity and is ideal for protecting long perimeters.

Traditional Fixed Formwork

For shorter lengths the traditional fixed formwork is applied comprising a system of modular steel shutters. This system is quick to install, strip and relocate. It is set and fixed to accurate tolerances and provides a first class finish.

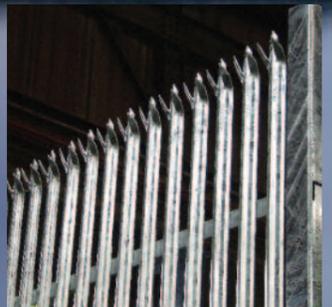
Features

The robust concrete design of BsecB is an ideal foundation for a range of fence toppings, lighting columns and CCTV masts. When installed in combination with a security fence fixed on the top, BsecB provides a comprehensive single line perimeter security boundary resilient to both vehicular and intruder attack rather than having the need for multiple fencing and security solutions around your perimeter. Specialist fixings ensure long life, high performance connections between the barrier and the steel security features mounted upon it.



SYSTEM OVERVIEW

System Designation	System Description	Test performance rating	Relevant test report
BsecB 40 0.9m high x 0.5m wide at base Additional width required if supporting a fence system.	Surface mounted barrier with anchorages at discreet positions	V/7500[N2]/64/90:0.6/8.6 (centre impact)	B4007
		V/7500[N2]/64/90:0.0/9.8 (end anchorage impact)	B4042
		V/7500[N3]/80/90:15.5/19.4 (end anchorage impact)	B4051
BsecB 50 (900) 0.9m high x 0.5m wide at base <i>Additional width usually required if supporting a fence system to accommodate base plate detail.</i>	Barrier system with a continuous anchorage foundation	V/7500[N3]/80/90:15.5/19.4	B4051
BsecB 50 (1200) 1.2m high x 0.6m wide at base <i>Base width generally increased to 700mm for long distance coverage. Additional width may be required if supporting a fence system.</i>	Surface mounted barrier with anchorages at discreet positions	V/7500[N3]/80/90:2.5/25 (centre impact)	TRL004
		V/7500[N3]/80/90:0.0/5.6 (adjacent to end anchorage impact)	TRL008
		V/7500[N3]/80/90:0.0/12.3 (end anchorage impact)	TRL017



BsecB Invicta - the single line of defence

Our latest product BsecB Invicta combines BsecB and a Barkers Engineering Stronguard™ fence topping.

Barkers Stronguard™ fencing offers excellent protection against climbing and cut-through for sites that require maximum security. Stronguard™ provides unrivalled attack delay against saws, cutting, hammers, jacks, levers, power tools and hand tools. The long term permanent perimeter physical security solution BsecB combined with Stronguard™ maximum security palisade provides an ultimate single line of defence.



Aesthetic design variations

BsecB provides design variations to blend aesthetically into the specific environment.

Options for the application of surface finishes are:

- Standard concrete finish
- Exposed aggregate finishes, which show the colour and texture of natural aggregates
- Imprinting with a range of shapes and patterns
- Epoxy-coating using stencils with colours and motifs

- Coloured concrete can be used with any of these finishes
- Painting of the barrier
- Cladding with masonry, stone or timber is an option
- Advertising boards and hoardings can be mounted on the barrier in appropriate locations

The life expectancy of finishes depends on the type of finish applied and for many it is the same as the concrete structure itself.

BsecB - a Guarantee of Quality

BBS operates a system of Licensed Installers. A BsecB Installer must be approved by BBS and hold a BBS Security Barrier licence.

All of the current licensed contractors have an extensive experience in the slipforming process and are able to demonstrate the quality of their work throughout the country.



BBS ensures that controls are implemented so that the promoted security barrier products are installed in accordance with the as-tested system and BsecB Product Specifications.

BsecB Product Specifications provide strict controls including material design, testing criteria, as built tolerances as well as quality and environmental certification. The minimum quality and environmental standard for the Design Organisation and the BsecB installer is third party certification to ISO 9001 and ISO 14001 by an accredited certification body.

BsecB licensees have access to advice, guidance and technical support from BBS. By incorporating a BBS security barrier system into your project, you will be accessing the experience and knowledge of the whole of BBS - this will help to ensure the successful completion of the designed works.

ENVIRONMENT

BsecB and the Environment

BsecB presents a sustainable solution using slipform processes and continuous steel strand to minimise waste. The barrier offers a long serviceable life, uses recyclable materials and employs lean construction techniques.

Sustainability matters

Concrete is one of the most versatile and durable construction materials known to man, making it the most widely used construction material in the world. Concrete is also one of the more sustainable building materials when energy consumed during its manufacture and inherent performance properties are taken into account. BsecB is completely recyclable at the end of its life.

Environmental effects

The cement and concrete sector is committed to an ongoing, concerted and co-ordinated effort to reduce its impact on the environment. Worldwide, the cement industry is dramatically reducing its carbon footprint.

Key issues include

Reductions in polluting and greenhouse gases during production; Efficient use of resources such as re-used materials and by products from other industrial processes, such as water, aggregate, fuel or alternative cementitious materials; Recycling and reduced reliance on quarried material; Environmental restoration after industrial activity has ceased; Development of low-energy, durable and maintenance-free buildings and structures.





Disclaimer

All advice or information herein is intended for those who will evaluate the significance and limitations of its content and take responsibility for its use and application. No liability (including that for negligence) for any loss resulting from such advice or information is accepted by either the authors or BBS.

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BBS Barriers

Atrium Court, The Ring, Bracknell, Berkshire, RG12 1BW United Kingdom.
Telephone +44 (0) 1344 393300

www.bbsbarriers.com