

Permanent perimeter and stand-off protection

Bi-Steel wall system

Introduction

The current threat from terrorism remains real and serious. Enhanced building stand-off protection to help deter attack and reduce consequential loss, particularly from vehicle borne improvised explosive devices (VBIEDs), is increasingly specified for many vulnerable site perimeters and crowded places. Bi-Steel's permanent perimeter and stand-off protection solutions have been designed to deliver high level protection to meet long term security needs, from protecting key government and commercial buildings to critical national infrastructure such as airports, utilities and key industrial sites.

Benefits

- Security that blends with the streetscape
- Proven protection against VBIED attack, unauthorised vehicle access and explosive blast
- Containment of concrete within the Bi-Steel wall units prevents consequential concrete spalling under vehicle impact and blast, thus minimising the formation of dangerous secondary projectiles
- Modular offsite construction enables rapid onsite installation
- Bi-Steel's high strength properties deliver the required protection with a significantly smaller footprint compared with reinforced concrete alternatives
- Rapid-install mini-pile foundations require minimal excavation, reduce the need to divert utilities and services and enable project programme and budget savings



System description

The Bi-Steel wall system has been developed to provide superior protection against VBIED attack and unauthorised access. This permanent system consists of fixed walls with simple pre-fabricated, rapid-install mini-pile foundations.

A variety of wall configurations is available to meet individual requirements, ranging from standard blast walls, to highly engineered solutions providing unrivalled protection for security sensitive sites.



The Bi-Steel walls have been carefully designed to blend aesthetically into the local environment and can be painted, clad in brick or stone, or cement rendered in keeping with the surrounding streetscape. In addition to the standard walls, balustrade and bespoke design options are available. The wall system can also be used in conjunction with the Bi-Steel bollard system.

Modular, offsite manufactured Bi-Steel wall units are easy to position. The rapid-install mini-pile foundations are based on a simple steel post foundation technique requiring minimal excavation. This helps reduce any requirements to re-route local utilities (such as power/gas supplies and communications cables), which can enable savings to be made on both project programme time and budget. Once in position, the Bi-Steel units are filled with concrete to provide vehicle impact and blast resistant walls for perimeter and stand-off protection.

Applications

Bi-Steel perimeter protection systems have been installed at several high profile city centre locations as well as at transport hubs, industrial facilities and government and defence establishments. Many of these projects provide robust protection for key locations, hence protecting life, property and operational continuity. At each location the Bi-Steel system is providing an effective and highly reliable solution to the client's individual needs.

System performance

Bi-Steel's security solutions are designed to meet individual customers' requirements. The Bi-Steel team works with clients to develop a protection strategy, assess blast interaction, quantify loading on structural components and finally specify and design the most appropriate Bi-Steel security solution.

Bi-Steel provides superior protection from explosive blast and physical attack. In each case, securing the perimeter and deploying Bi-Steel stand-off protection will reduce security risks and provide additional protection for people and assets.

The Bi-Steel wall system has been extensively tested against vehicle impact and blast and meets the requirements of the relevant agencies operating within the security and defence fields. These tests have included:

- Vehicle impact - successfully tested in accordance with PAS 68*
- Blast - successfully tested

For security purposes testing criteria is not published but can be discussed with potential clients.

About Bi-Steel

A Corus-patented construction material, Bi-Steel comprises two steel plates that are permanently connected together to form panels by an array of friction welded transverse bars. These panels are then filled with concrete to create a construction material with outstanding strength. The resulting composite offers unrivalled protection against explosive blast, meeting stringent security standards.

Quality and integrity from a leading UK company

Corus is one of the world's leading steel producers and a major UK company. Operating to the highest international quality and manufacturing standards Corus is committed to offering the very best in customer service and support.

*PAS 68:2007 - specification for vehicle security barriers

This Publicly Available Specification (PAS) has been prepared to address the needs of organisations who wish to have assurance that vehicle security barriers will provide the level of impact resistance that they seek.



For more information please contact Bi-Steel

T +44 (0) 1344 751670

E bi-steel@corusgroup.com

W www.corussecurity.com

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