

SYSTRA

Protective construction

High performance physical security solutions

Introduction

The current threat from terrorist and criminal attack remains real and serious. Enhanced building protection to help reduce consequential loss from forced manual entry and attack, particularly from vehicle borne improvised explosive devices (VBIEDs), is increasingly specified for high profile buildings.

Protection against blast has become a requirement for many existing and new structures, especially those where stand-off distance between the building and the site perimeter is limited. SYSTRA's composite panel system has been specifically developed to provide structural solutions with inherent blast resistance, making it ideal for use in protective construction projects.

Benefits

- **Security that blends with the environment** - SYSTRA structures can be suitably painted, clad or otherwise finished to complement the building structure and surrounding landscape.
- **Impact and blast effect mitigation** - containment of concrete within the SYSTRA panels prevents the formation of dangerous secondary projectiles.
- **Modular offsite construction** - enables rapid onsite installation.
- **Reduced footprint** – SYSTRA's high strength properties deliver the required protection with a smaller footprint than reinforced concrete.
- **SYSTRA also provides:**
 - Fire containment.
 - Protection against electro-magnetic pulses.
 - Containment/protection of biohazards.
 - A shield against radiation.



System description

Our blast protective solutions, using our proprietary SYSTRA steel/concrete composite material, range from single blast walls to complete blast protected structures, or the protection of security sensitive parts of a building.



SYSTRA

SYSTRA panels comprises two steel plates that are connected by an array of transverse welded bars to form panels. When filled with concrete the resultant SYSTRA panel offers unrivalled strength and performance and is superior to reinforced concrete when subjected to blast and manual forced entry

Depending on the project, panels are usually fabricated into modules that are then transported to site and assembled.

SYSTRA panels are slender in form, fast to erect and the high levels of accuracy which can be achieved during manufacture facilitates ease of installation on site.

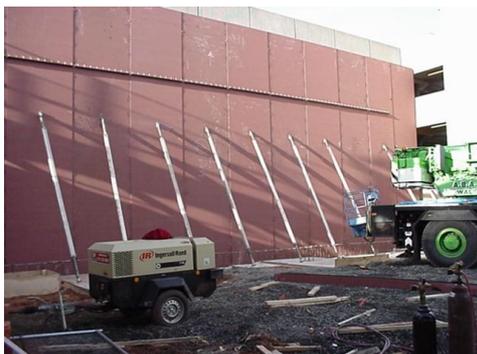
Applications

SYSTRA is ideal for use in sensitive commercial, government and military structures, including:

- **Blast protective structures** – secure areas, financial/data centres, high value commodity storage facilities, control and command centres.
- **Blast walls** – to provide blast protection at communications sites, water supply facilities, roads/bridges, airports, ports and freight terminals, major event centres and sports arenas. Also to provide blast containment at key power generation sites and oil/gas storage facilities.
- **Blast containment chambers** – postal sorting areas, search areas and munitions storage.

System performance

SYSTRA panels have been successfully tested against a wide range of blast attacks. From 50 lbs (23kg) 'in contact' charges, through to over 4400 lbs (2000 kgs) 'close proximity' charges at 10ft (3m).



The material has been specified for UK and overseas Governments' protected buildings work.

Service offering

SYSTRA delivers peace of mind to our customers by offering a complete turnkey project service, including:

- Security review - identifying the threat and alternatives for mitigation.
- Survey and planning.
- Advanced engineering and solution design.
- Sourcing of security products and integration within overall security solution design.
- Installation and full project management.
- Associated civils works.
- Security audit and handover.
- Maintenance and full after-sales service.

We can design, engineer, manufacture and supply, and if required, project manage the installation of the protective construction elements, or the construction of the complete building.

Where our customers have preferred installation contractors, we will provide all necessary support for a seamless project interface. Our team is available to assist at all stages of a project.

Availability

SYSTRA's capabilities enable us to respond to customers' needs, including project installation, wherever they are located throughout the world.

Delivering value to customers

With innovation and continuous improvement at the heart of our business performance, we aim to create value by offering a differentiated product range supported by unrivalled customer service.

For more information please contact SYSTRA Limited.

T +44 (0) 7734 985642

E security@systra.com

W www.systra.co.uk/en/services/article/security

While care has been taken to ensure that this information is accurate, neither SYSTRA Ltd nor British Steel Limited nor its subsidiaries accept responsibility or liability for errors or information which is found to be misleading. Copyright 2022 SYSTRALtd.

Ref: 2018/06/04