









## Innovative solutions to safety applications

Asset Vehicle Restraint Systems is the leading supplier of concrete and steel temporary safety barriers in the UK.

The 'Vehicle Restraint Systems' division of the business was established in 1998 to provide temporary safety barriers to the highways sector. Asset VRS now provides a full installation service from strategically located depots around the UK and Ireland.

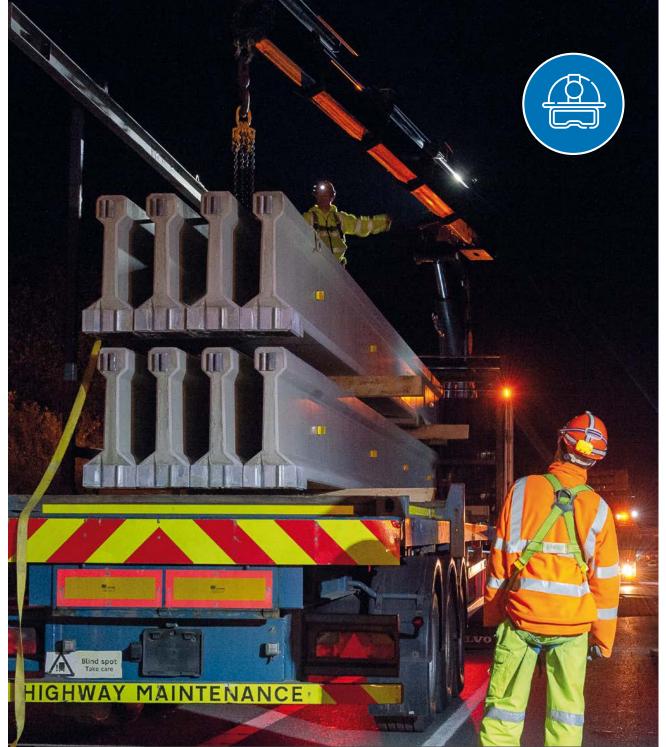
Asset's Zoneguard and Varioguard temporary steel barriers are complemented by REBLOC precast concrete temporary barriers and Vecu-Stop temporary attenuators. The bespoke Zoneguard and Varioguard systems can be temporary or permanent and have amazing advantages over other systems in cases where utilities can't be moved or a large amount of preparation is required. Asset also supply single-sided systems, easy opening crossover gates for permanent installation within permanent steel or concrete barrier systems.

Tested and approved to BS EN 1317-2, all components offer unique energy absorbing features and are quick to install.

Asset's success is built upon providing cost-effective solutions to client requirements, backed up by professionally qualified engineers. Delivering a reputation and service that is unrivalled.

## CONTENTS

ASSET VRS	2	SteelStep Systems	
		and SOLOGUARD®	22
Health and Safety,			
Asset Drilling Rig	4	Bespoke Steel Barriers	24
Temporary Installation	6	VECU-STOP®	
		and QUEST™ CEN	28
ZONEGUARD®	8		
		Installation and Logistics	30
REBLOC Concrete Barriers	s 12		
		Quality and Environment	32
VARIOGUARD®	16		
		Product Class Overview	34
Concrete Barrier System	18		
WORKS SAFETY GATE	20		





## **Health and Safety**

Innovative solutions to new safety applications. Asset VRS understand individual needs, working closely with main contractors and major traffic management companies throughout the country.

Asset undertake every type of installation possible, from tunnel applications to narrow verges. With our extensive range of barrier systems Asset has a solution for most applications. With many years of experience, servicing thousands of sites across the UK, Asset is the leading expert in this market.

Asset is accredited to both Building Confidence and Builders Profile, and employ professional Health & Safety staff.
All installers are trained and hold Sector Scheme 2(b) VRS tickets for installation and CSCS cards.

As part of Asset's continuous improvement programme we are always updating and improving our systematic training regime. With the Work-At-Height Regulations in force from April 2005, Asset increased safety measures by equipping our vehicles with specialist safety frame fall arrest equipment. All of these frames are tested as required by LOLER regulations.



REBLOC RB80SA, M23, Gatwick Spur

## **Asset Drilling Rig**

The Asset Drilling Rig (ADR) was developed to assist with keeping personnel safe from the dangers of works areas during barrier installation and give Zero Hand Arm Vibration during installation.

Alongside this main safety benefit, the ADR also ensures that drill holes are all at consistent depths ensuring any known service ducts under the surface are not disturbed. Fitted with a powerful vacuum system the ADR also minimises debris left on the road surface during drilling. Debris is collected as the unit travels along the barrier and can be disposed of safely at the works depot or designated on-site areas.

The ADR also integrates a personnel unit which includes toilet facilities and additional storage for equipment or work wear.

Alongside directional lighting, the unit also carries an electricity generator and air compressor unit to assist with all eventualities during product installation.





# **Temporary Installation**

It is essential, in these times of litigation, claims and court cases you are 100% confident that your temporary barriers have been correctly installed.

Asset VRS provide an installation service to every part of the UK using our own installers and a nationwide network of specialist sub-contractors.

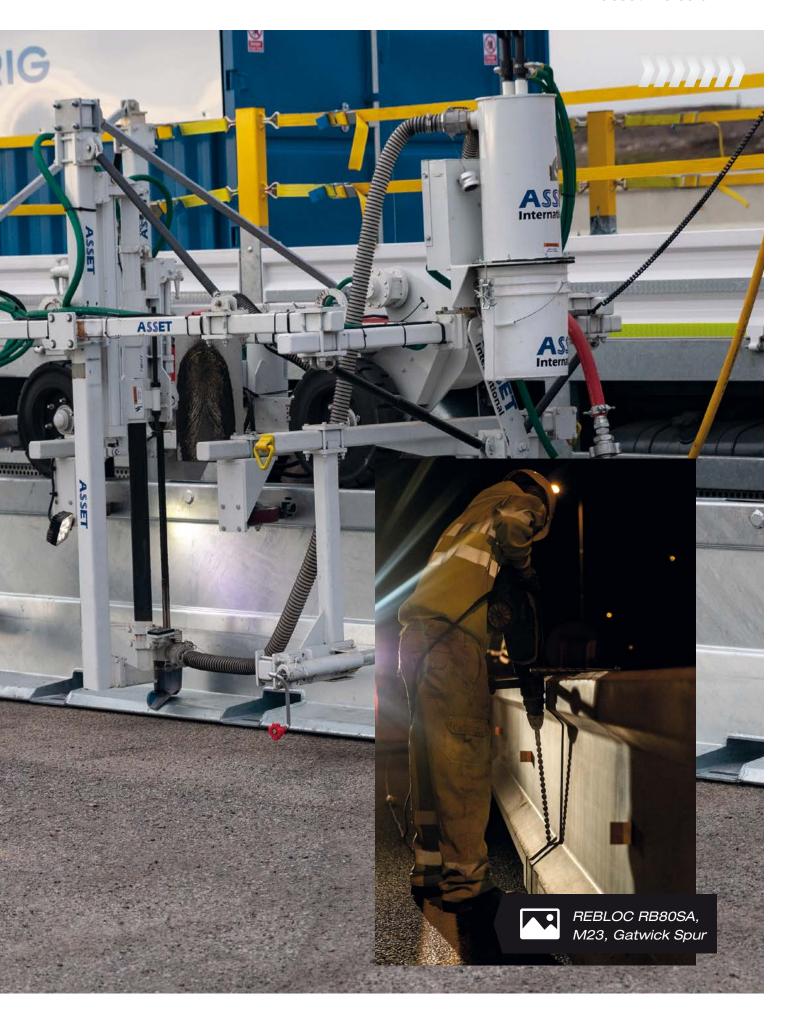
Asset VRS temporary system installers, in line with Sector Scheme 2(b), are required to have successfully completed and kept refreshed the CITB Operative Touch Screen Test and the Lantra Awards Health & Safety Course as well as internal product specific training. In addition, permanent system installers are required to have also successfully completed the Foundation and Installer course, Lantra Awards Level 2 Diploma in work-based

fencing. All lorry loader operators are also trained and accredited separately.

It is also a mandatory requirement that the companies employing these installers are Quality Assured under the Sector Scheme, and have temporary safety barrier installation listed as part of the scope of their Quality Assurance.

Asset can provide the option of full training to install a range of its products, dependant on the scheme circumstances.

















## **Ultimate** Protection

Zoneguard is the lowest deflecting portable steel highway barrier in the world. Energy absorbing permanent and temporary steel barrier, Zoneguard barrier stabilizes as vehicles drive onto the Zoneguard foot limiting barrier deflection.

Successfully tested to BS EN 1317-2 H1 W3, N2 W2, N2 W5, N2 W6 standards, accepted by National Highways, tested to USA standard MASH and other international standards.

Easily transported, Zoneguard weighs 93.5 kg per metre enabling up to 204 m to be efficiently transported on one vehicle for both scheduled and emergency works.

Rapidly installed, Zoneguard can be easily positioned and connects using Zoneguard Speed Joints. Using the ADR gives Zero Hand Arm Vibration and allows upto 2,800 m to be drilled and fixed to a N2 W2 specification in an 8-hour shift.

Integral drainage channels are incorporated into the foot section for ease of handling and manoeuvrability with a fork lift.















Zoneguard portable barrier system is comprised of pressed and galvanized steel panels assembled in 12 m or 4 m sections each being 800 mm high, 700 mm wide and 160 mm wide at the top.

The Zoneguard foot is 200 mm wide on each side ensuring low centre of gravity compared to other steel portable barriers that do not have a foot section.

## **Zoneguard System 4 - Posts and Fence**

Zoneguard System 4 is fitted with protective steel mesh fencing and has been tested to BS EN 1317-2 for use on UK highways, for both temporary and permanent installations.

Two fence heights are available for different requirements

and help reduce debris travelling from works into the passing public and vice versa.

Zoneguard System 5 offers an in-line gated option allowing for work access or contraflow systems in long runs of barrier.

Product Group	System Identifier	Descriptor	Category	Performance Criteria (EN 1317)	Minimum length (m)	Weight per m (kg)	Drawing Reference
Zanaguard System 4		Zoneguard System 2 - with 1.2 m or 1.8 m	FEN(2.6)	N2 W5	96	93.5	VRS-ZG-02505
Zoneguard	System 4	Fence Panels	FEN(2.0)	N2 W4	90	93.5	VN3-2G-02505





### **Transitions**

Transitions enable an end-to-end solution for your scheme, even if different containment levels are required.







#### **Rubber Feet**

Sets of rubber feet have been specifically designed to fit underneath Zoneguard to help protect a newly laid road surface from damage.



## Internal Overhead Markers

Internal Overhead Markers are high visibility markers for use within works to indicate different hazards along the works site, such as low bridges.



#### **GS6 Post Holders**

GS6 Posts indicate to the workforce where an overhead height restriction is, such as a low bridge. The post fits safely into the barrier.



## **Zoneguard Swivel Corner Unit**

Specially designed to enable
Zoneguard to be placed at different
angles within a specific works
scheme area, such as slip-roads and
junctions, making the product more
versatile and offering additional
protection to both road workers and
the passing public.



### Concrete Mass Anchor

Ideal for use on structures where pinning cannot be facilitated.
Utilise on bridges, fly-overs and road surfaces where potential underground services or utilities do not allow for drilling or fixing.



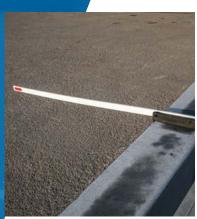
### **Top Reflectors**

High visibility reflectors can be fixed to the top of Zoneguard to define different areas within a works site. The safety of the worksite is enhanced with this simple and easy to use accessory.



#### Accessory Holders

These black rubber attachments can be fixed to the top edge of Zoneguard to hold various accessories including signs or flashing beacons.



#### **Delineation Markers**

Delineation Markers help workers maintain a safe distance from the barrier whilst working within a scheme.



## Chainage and Delineation Markers

Added to Delineation Markers, motorists can identify their precise location using Chainage Marker repeaters on the barrier.



The REBLOC range covers a broad containment level spectrum enabling you to plan the works scheme in line with the specific requirements along its route. All products can be connected to other Vehicle Restraint Systems within the Asset VRS range, including Zoneguard.



#### Slim Construction



### Continuous Element Chain



## Integrated Couplings

In addition to their high containment level and low working width, the narrow foot print of some of the REBLOC barriers, makes them ideal for schemes where space is at a premium.

Individual elements can easily be inserted or removed from the installed barrier for repair, maintenance and structural alteration of the works scheme. The REBLOC integrated innovative coupling system connects the individual elements from either side to form a continuous and strong VRS, which safely dissipates the energy created in a collision and prevents vehicles from breaking through the barrier.









#### **REBLOC RB60H**



The RB60H and RB80S by REBLOC are temporary concrete barrier systems consisting of 12 m long units. RB60H provides N2 W4 containment while the RB80S provides H1 W4 containment. Both systems have been designed and tested in accordance with BS EN 1317-2.

Both RB60H and RB80S utilise REBLOC's innovative coupling system that ensures ease of installation while maximising safety. The systems are adaptive, transitioning into various standard and terminal elements.



## REBLOC RB84XEAL N2 W3



The REBLOC RB84XEAL can be used free-standing along temporary works, or can be embedded 40 mm into the asphalt or concrete to create a permanent barrier.

Tested to BS EN 1317-2 the RB84XEAL provides H2 W1 containment when embedded on install

The RB84XEAL is also available with integrated drainage channels.





## **REBLOC Refence System**

Integrated fences tested in accordance with BS EN 1317-2, protects both workers and the passing public from debris.



#### **REBLOC Delineation Markers**

Delineation Markers help workers maintain a safe distance from the barrier whilst working within a scheme.











# Safety first from Asset VRS

Varioguard is fully tested to BS EN 1317-2 performance levels. Different working width classes are available, dependent on the anchorage configuration.

When used as a temporary safety barrier Varioguard is usually drilled and fixed at each end.

With a huge rental pool of Varioguard located at depots around the UK and Ireland, small installations to many kilometres can be serviced. Emergency call-outs to any part of the UK are routinely responded to within hours. Asset's concrete block anchor system allows Varioguard and Zoneguard barriers to be installed quickly and simply without the need for road surface preparation. Ideal for use on bridge decks and protected road surfaces.

Asset's Safe Taper set-up removes the requirement of cones on the run up to a works scheme.





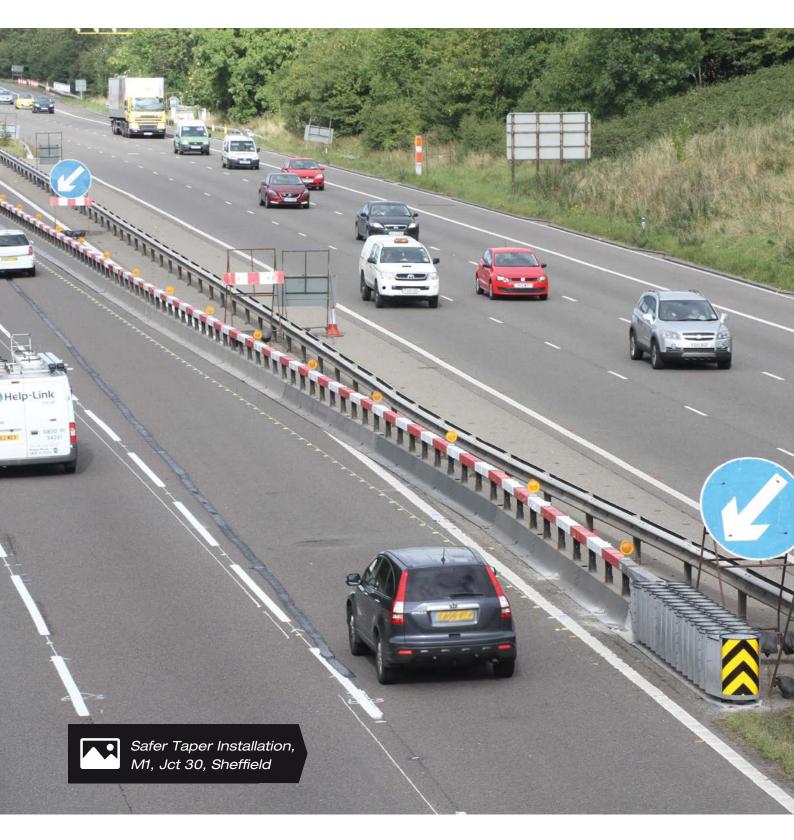






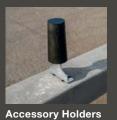
**Concrete Mass Anchor** 

**Rubber Feet** 

















The Multibloc and Maxibloc concrete barriers, also known as TVCB and THVCB, have been tried and tested; with decades of successful service across a broad spectrum of applications, including the continuation of VRS over bridge structures and other applications where drilling and fixing are not possible.













#### **MULTIBLOC**

Multibloc TVCBs are BS EN 1317-2 approved and are designed to deflect an errant vehicle away from local hazards within or immediately adjacent to the highway.

Multibloc is ideal for use as roadway delineators for both large and small construction projects. The added option of using mounted fence systems allows for the prevention of unauthorised site access while also enhancing safety for workers and the general public alike from debris.





#### **MAXIBLOC**

The Maxibloc THVCB is tested and approved to BS EN 1317-2, providing H4a W5 containment when surface mounted and H4a W2 when recessed.

Maxibloc's principal design feature is to deflect HGVs from bridge supports and other vulnerable structures, providing very effective temporary protection during works.

Maxibloc is also ideal for use as roadway delineators for construction sites or depot areas, especially in locations with high volumes of heavy goods vehicles and haulage traffic.





Multibloc Fence System Multifence protects both workers and the passing public from debris.



## Works access point

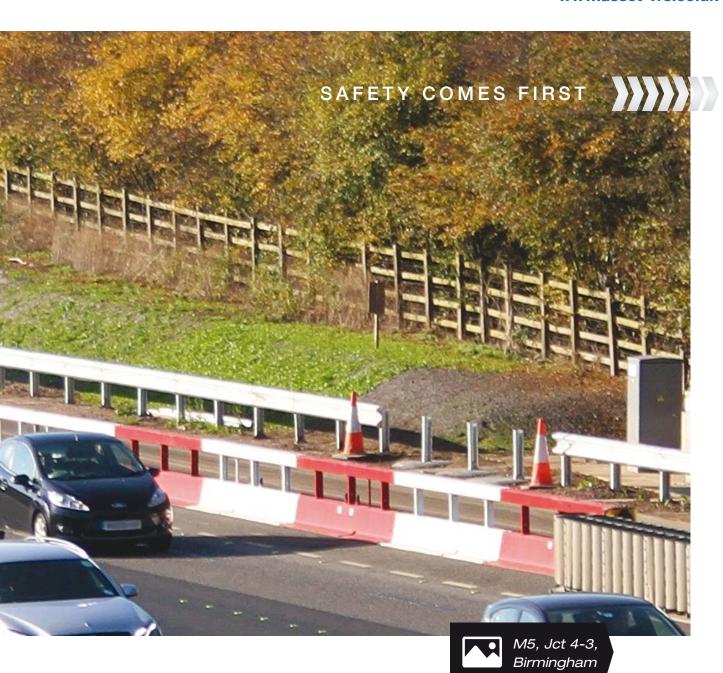
With increased focus on worker safety across the UK road network, Asset VRS, in partnership with Balfour Beatty – Vinci JV, have developed the Works Safety Gate (WSG) to greatly reduce the danger faced by road workers when adjacent to works access points.





Developed with both the approved Varioguard and Zoneguard temporary vehicle restraint systems, the Asset WSG further raises the bar when considering the safety of road workers and the travelling public at the necessary works access points required within major road work schemes.

A typical 48 m length WSG installed at a works access point, can be opened manually by removing the securing pins at 8 m centres and separating the WSG into manually manageable lengths, providing access to works vehicles and subsequently closing using the same methodology maintaining a secure and safe environment at all times during the works.



The highly visible red and white powder coated sections of the WSG clearly define the access points within the works presenting clear delineation for works vehicle drivers. The Asset WSG is part of the unrivalled suite of products on offer from Asset VRS and, working independently of the installed VRS, are available in a multitude of lengths from 48 m to 168 m for any planned or existing works throughout the National Highways network.

The Asset WSG is unique in the fact that existing road worker professionals can be trained by Asset VRS instructors to operate the system safely and when necessary, which means that access to the work site can be arranged at short notice in a controlled and extremely safe manner.









Asset VRS's Sologuard is a safety barrier for carriageway crossover points and can be fitted into existing safety barriers using transition units, allowing opening and closing by two operators in just a few minutes.

Sologuard is instantly moveable, allowing the flow of traffic to be altered quickly and safely by simply removing the securing pins and winding down the sets of hidden wheels.

Many emergency crossing points on motorways and trunk roads have Sologuard installed. Maintenance crossing points at tunnels and bridges around the UK are also protected with this system.

Maintenance Crossing Points to lengths of 150 m and Emergency Crossing Points with 24 m lengths can be accommodated.

In the protection of crossover and contraflow situations Sologuard can easily be moved; so when crossovers have to be frequently opened and closed, the system can simply be raised off the road using a special jacking device and wheeled into its new position. When space is limited, road markings can be applied close to the Sologuard base. High quality reflectors fixed onto the posts provide the additional visibility needed for safe guidance at night, or in wet or foggy conditions.







## SteelStep is a rapid opening and closing bi-directional gate and barrier system.

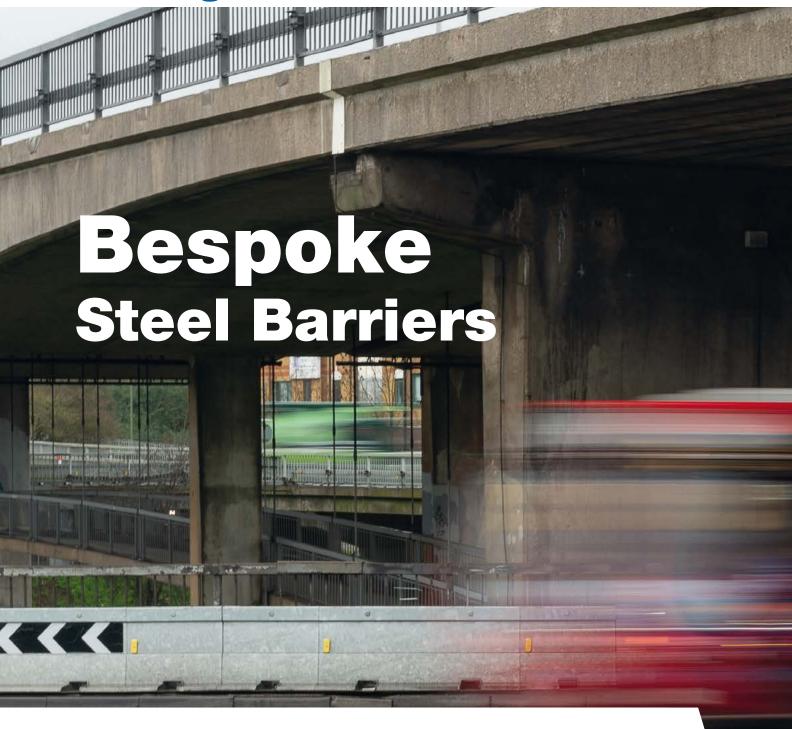
The system, with its extremely low deflection and high containment capability, is the ideal system for emergency access points between central reservation concrete step barrier systems.

The system enables easy opening in different configurations. By removing locking pins at either end of the barrier, the SteelStep System can either pivot from each end or be relocated laterally, thus exposing the full opening. Maintenance training in use of the system is provided by Asset's in-house training facility.

SteelStep System can also be used on bridge decks, where conventional slip form concrete cannot be used due to its weight. Anchored every 5.4 m, the system's performance is equivalent to concrete and is cost-effective.

Asset can undertake installation of this product, or alternatively can train our customers in safe installation under National Highways Sector Scheme 2(b). Redford & reghorn arracks A720, Dreghorn, Edinburgh





## Asset VRS offer bespoke solutions to suit your vehicle restraint system requirements.

In cases where utilities have to be moved, or a large amount of preparation is required for the installation of conventional barriers, Asset's bespoke barrier products are an ideal solution. Varioguard and Zoneguard systems can accommodate tight horizontal and vertical curves, manholes and access points to ducts can be bridged and accessed with site-specific designed and built units. Such as the recent works at Brent Cross Interchange where barriers curved to protect the bridge structure.



Brent Cross Flyover, London, A41 and A406







The systems can also be permanently drilled and fixed at each end, and are both lightweight, allowing bridge deck loading is kept to a minimum. These systems have been installed as a permanent barrier solution at locations including the M5 Avonmouth Bridge and the Kingston Bridge in Glasgow, as well as numerous road-over-rail sites. Both can be used in roadways, on up-stands and kerbs, with transitions to existing road safety barrier systems and pedestrian parapets.

Working closely with each client, we aim to supply the certified bespoke product you need as soon as possible, whether you require a temporary or permanent bespoke road barrier designed to your specification, Asset VRS are able to assist with years of experience, backed up by unrivalled support.













High Visibility



Cushion **Cylinders** 



**Deflector Shields** 

The full 'family' of tests, as detailed in BS EN 1317-3, has been successfully completed and approved to performance class 110 km/h.

Vecu-Stop consists of hollow cylinders arranged in rows. They are highly effective energy and impact absorbing elements which are guided by a steel wire rope system. Once installed, the system elements of Vecu-Stop do not require any maintenance.

Full corrosion protection is provided by a hot dipped galvanized finish. All components are made of steel and may be completely recycled.

The usual method of anchorage is to install a pre-fabricated steel former, then fill it with concrete. Threaded anchorages welded to the reinforcing bars enable Vecu-Stop to be bolted straight into place on the reinforced concrete foundation.





## Providing Enhanced Safety to the Travelling Public

The Quest™ CEN system from Asset VRS has been successfully tested using BS EN 1317-3 criteria for 110 km/h and below. An attenuator system that is suitable for use with Zoneguard, Varioguard and REBLOC.

Consisting of a series of W-beam fender panels supported by diaphragms, the Quest™ CEN features an innovative integrated front trigger mechanism. During impacts, this mechanism releases the support frame assembly to absorb

the energy of the impact. The system is designed to telescope rearward during head-on impacts to absorb the energy of impact and to redirect vehicles during side angle impacts.





#### Fast and Easy Installation

The Quest™ CEN system is designed for fast and easy installation. The free-standing backup is only 610 mm wide and the system can be lifted, transported and dropped into place, fully assembled. Only 15 anchors are required for installation.



# Full Safety Service

## **Installation and Logistics**

All products are stored in Asset's main depot, located in the docks area at Newport, South Wales. However, Asset has established a core of strategically located storage and operational facilities throughout the UK and Ireland, including Southampton, Sevenoaks (Kent), Nottingham, Wigan, Glasgow, Belfast and Dublin.









Storage and operational facilities locations

Asset's products are usually installed by in-house trained installers. All products have National Highways Sector Scheme 2(b) training schemes to which installers are all accredited.

Within Asset's continuous improvement programme, 'in-house' installation training is provided through Lantra registered schemes.

Asset offers a 24-hour call out service for emergency requirements, often following a road traffic collision which has caused damage to a permanent VRS. Our crews are always on standby and can react to any location in the UK within hours.

Asset has access to specialist arctic cab mounted lorry loaders and additional arctic cabs for trailer haulage. All trailers are equipped with fall protection safety frames to facilitate safe working at height.



## **Quality and Environment**

Asset continues to strive towards becoming a sustainable organisation and will continue to implement sustainable development to enable the company to become a more successful business.

As a business Asset recognise the importance of the environment, not just as a physical entity but with regards to job specific pollution, i.e. noise and vibration. These forms of pollution are monitored on a regular basis and are reflected in comprehensive method statements and risk analysis.

As part of Asset's standard process route, regular audits are carried out on installations and uplift removals of our Sector Scheme 2(b) accredited installation teams. The feedback from these audits include the identification of both good and best practices which are then fed back into product specific training courses provided by Asset's technical and training team.

Our comprehensive training of installers and staff includes environmental awareness, and we continually strive to ensure that we exceed our legal and moral environmental obligations.

All of Asset's current accreditations and certificates can be found on our website.



Zoneguard System 4, Control Tower Road, Heathrow Airport, London



# Product Class Overview

		Containment Level									
		H4b	H4a	НЗ	H2	H1	N2	N1	Т3	T2	T1
	W1						REBLOC 80SA_12				
	W2		Maxibloc Recessed				Zoneguard System 2	Multibloc F	REBLOC 60H_12 REBLOC 80S_12		
5	<b>W</b> 3					Zoneguard System 2	Zoneguard System 5 Varioguard System 8 Varioguard System 8P Multibloc REBLOC 80SA_12				
Working Width	W4		REBLOC 140SFS_5.5			REBLOC 80S_12	Zoneguard System 4 Varioguard System 3 REBLOC 60H_12 REBLOC 80S_12				
Work	W5		Maxibloc Surface Mounted			Varioguard System 7	Zoneguard System 4 Varioguard System 5				
	W6					Varioguard System 2	Zoneguard System 1 Varioguard System 2 Varioguard System 6				
	W7					Zoneguard System 3					
	W8					Varioguard System 2					

Product	Test	Level		
Vecu-Stop Temporary	EN 1317-3	Lla tadd O lash		
Quest™ CEN 110	EN 1317-3	Up to110 kph		

Asset products also hold international approvals, ask for details. Technical details and drawing numbers can be found on our website











01902 499 400



sales@asset-vrs.co.uk



www.asset-vrs.co.uk