



HS ROADS

INTELLIGENT HIGHWAY SOLUTIONS

◆ ABOUT HS ROADS

We are a global infrastructure product supplier providing innovative, intelligent highway solutions. As a market leader, HS Roads design, test and manufacture a full range of class leading products that meet international standards. We focus on exemplary customer service and our products provide a lasting legacy in highway infrastructure excellence.

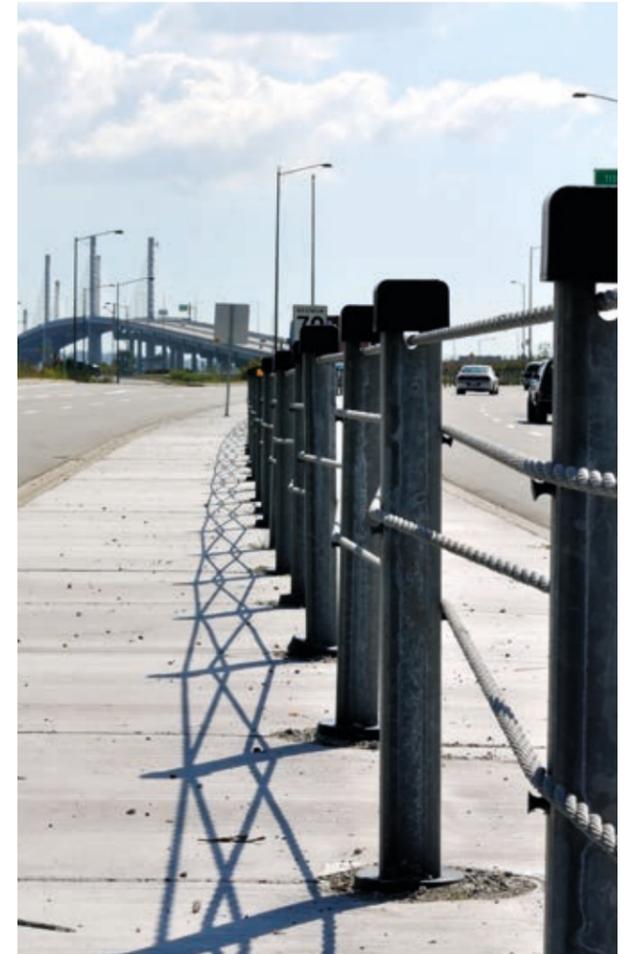
With a wide portfolio of vehicle restraint systems and infrastructure products, HS Roads is the industry's leading supplier of quality engineered safety solutions. From corrugated steel structures to various signage solutions, the HS Roads portfolio is inclusive of world leading products recognised by industry professionals.

◆ ACROSS THE BOARD

From passive posts to bridge parapets, from VRS to temporary traffic management and work zone protection; all HS Roads products are independently tested and certified by a nominated body.

◆ LOCATIONS

With offices in the UK, the USA, part of Europe and Australia, the HS Roads team have unrivalled experience and expertise; the team is committed to not only improving industry expectations but also offering professional valuable guidance and support from start to finish.



INTELLIGENT HIGHWAY SOLUTIONS

SAFETY CRITICAL SOLUTIONS FOR THE GLOBAL
HIGHWAY AND INFRASTRUCTURE MARKETS.

With an entire suite of safety critical solutions, coupled with our ability to deliver a class leading service, HS Roads instantly becomes the preferred partner for highways and infrastructure projects the world over.

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AN OVERVIEW

The classic Flexbeam guardrail is an established Vehicle Restraint System (VRS) used widely across the majority of the UK road network and 60% of Highways England motorway schemes. Developed in 2004 and supported by a stringent testing regime, the Flexbeam VRS portfolio is extensive.

Designed to integrate seamlessly, the Flexbeam system is the most recognised VRS in the UK and is renowned for its ease of installation, quality performance and limited use of components. With a wide range of normal and high containment systems, we can ensure all highways have compliant and approved systems available for installation thus ensuring people can return home safely at the end of every day.

Used in conjunction with our range of tested and approved Bridge Parapets, Transitions and End Terminals, leading the way for innovation, quality engineering and technical support. To complete the portfolio, a range of FMK Vehicle Restraint Systems features a tubular profile and is tested to the European Standard, EN1317. With the same performance classifications as the standard Flexbeam, the FMK Tubular VRS offers a sleek and contemporary finish opposed to the traditional 'W' beam profile, which has proven popular across areas in Europe.

“AN INDUSTRY CLASSIC.”



PRODUCT FEATURES & BENEFITS

- ◆ Manufactured in the UK
- ◆ Tested to EN1317
- ◆ Approved CE Marks
- ◆ Used on strategic road network and local authority roads
- ◆ Quality British and European steel
- ◆ Minimal components with easy installation
- ◆ Fully tested transitions into Varley & Gulliver bridge parapets & Hardstaff Rebloc permanent VRS
- ◆ Seamless phasing through containment and working width

COMPANY

- ◆ Hill & Smith Barrier
- ◆ ATA (Scandinavia only)

SECTORS

- ◆ Highway

AN OVERVIEW

Erected on the edge of structures and retaining walls to prevent errant vehicles from leaving the highway, we have a full suite of systems compliant with the European (EN1317) and American standards (NCHRP350 and MASH). With containment levels N1, N2, H2 and H4a to EN 1317 and containment Levels TL3 and TL4 to the American standards, we can satisfy a variety of requirements. The Parapet systems can also be clad with mesh or sheeted with a range of materials to prevent pedestrian access and improve the aesthetic characteristics.

Fully tested transitions into the Flexbeam 'Tranzflex' Transition means that a full VRS system can be configured from the HS Roads product range. Improved whole life costs can also be achieved by using aluminium Bridge Parapets.

To work in conjunction with the FMK Tubular VRS, the Tubular Bridge Parapets can be integrated to work alongside both the normal-containment and the high containment FMK VRS. The Tubular Bridge Parapets can withstand low impacts from snow ploughs and when combined with the cylindrical beam profile, the drifting of sand or snow can be reduced.

“THE BEST BRIDGE PROTECTION.”



PRODUCT FEATURES & BENEFITS

- ◆ Tested to EN1317, NCHRP 350 and MASH standards
- ◆ Approved CE Marks
- ◆ Fully tested transitions into Flexbeam
- ◆ Aesthetically pleasing finishes
- ◆ Experienced engineers and installers to offer technical support
- ◆ H4a parapets available for very high containment applications
- ◆ Modular height adjustment up to 1.8m on most systems
- ◆ Extensive range of containment classes, N1, N2, H2 & H4a and TL3 & TL4
- ◆ Reduced whole life costs using aluminium

COMPANY

- ◆ ATA (Scandinavia only)
- ◆ Varley & Gulliver

SECTORS

- ◆ Highway
- ◆ Rail
- ◆ Ports
- ◆ Industrial
- ◆ Car Parks
- ◆ Airports

AN OVERVIEW

Used across four continents, the Brifen VRS is the most recognised wire rope safety barrier in the world with a rapid installation speed of approximately 5km a day. The patented weave profile contributes to the performance of this system considerably, as it ensures post engagement is maximised upon impact. Designed to capture, contain and redirect, the Wire Rope VRS is a flexible and reliable alternative to the classic Flexbeam VRS.

The Brifen VRS has been specified globally on large highway developments, even in extreme geographical locations, due to the flexibility in performance, the low maintenance life cycle costs and the ease of repairing after impact. Tested to EN1317, NCHRP350 and MASH, the Brifen VRS range continues to grow and incorporates tested transitions and an end terminal. The support by our experienced International partners continues to contribute to the growing global success of the Brifen VRS.

“AN INDUSTRY LEADING WIRE ROPE VRS WITH GLOBAL RECOGNITION.”



PRODUCT FEATURES & BENEFITS

- ◆ Tested to EN1317, MASH and NCHRP350
- ◆ Approved CE Mark
- ◆ Woven wire rope profile
- ◆ Patented design recognised Internationally
- ◆ Normal Containment and High Containment systems available (TL3 and TL4)
- ◆ Low maintenance life cycle costs
- ◆ Captures, contains and redirects vehicles safely
- ◆ High speed installation
- ◆ Eliminates drifting of sand and snow

COMPANY

- ◆ Hill & Smith Barrier

SECTORS

- ◆ Highway

AN OVERVIEW

The leading supplier of temporary vehicle restraint systems; providing low deflection impact protection on the strategic UK road network. The Varioguard, Zoneguard, 'M.A.S.S' safety barrier, easy opening vehicular gates for highways, and crash cushions are industry favourites. The Zoneguard temporary VRS provides rapid deployment with over 300m being installed in just one hour. Our temporary VRS has become a key enabler for the majority of Highways England Motorway schemes, motorway maintenance works and local Transport Authority projects. There is a suitable temporary barrier solution for every application.

Our success is built upon providing cost-effective solutions to suit client requirements, supported by a team of professionally qualified engineers and with over 260 installers our reputation and service is unrivalled. The Zoneguard temporary VRS is tested and approved to international standards and is the product of choice in the USA, parts of Europe and Australia.

“SAFETY IS OUR BUSINESS.”



PRODUCT FEATURES & BENEFITS

- ◆ Tested to EN1317, NCHRP350 and MASH
- ◆ Surface mounted, low deflection impact protection
- ◆ Permanent solutions available
- ◆ Multi-Application Safety System (M.A.S.S) is used across Local Authority Roads and city centres
- ◆ Vehicle access gates for maintenance and emergencies
- ◆ High speed deployment- over 300m per hour
- ◆ 204 linear metres of Zoneguard per lorry load

COMPANY

- ◆ Hill & Smith Pty. (Australia)
- ◆ ATA (Scandinavia)
- ◆ Asset VRS (UK)
- ◆ Hill & Smith Inc. (USA)

SECTORS

- ◆ Highway

AN OVERVIEW

Concrete barriers are now mandated for permanent use in the UK on central reserves across motorways and trunk roads. The Rebloc concrete VRS is a precast system that allows for rapid deployment across the strategic road network.

The off-site manufacture also eliminates wet trades on site, reduces the risk to workforce with shortened installation times and is immediately operational with no curing time required.

Ranging from Normal-Containment to Very High-Containment, our full suite of both permanent and temporary, concrete Vehicle Restraint Systems are tested to EN1317 with full CE Mark approval. Our precast systems are the product of choice for main contractors as the requirement for off-site manufacture increases.



PRODUCT FEATURES & BENEFITS

- ◆ Tested to EN1317
- ◆ Approved CE Mark
- ◆ N2 to H4A containment levels available
- ◆ Permanent barrier system with minimal deflection
- ◆ Rapid deployment in 8m lengths, reducing risk and life on site for workforce
- ◆ Precast off-site and immediately operational
- ◆ Fully tested transitions into Flexbeam VRS

COMPANY

- ◆ Hardstaff Barriers

SECTORS

- ◆ Highway

AN OVERVIEW

To accommodate the use of different vehicle restraint systems on our road network tested and approved transitions need to be implemented to ensure the entire suite of products remain compliant when moving from one containment class to another.

Our complete range of tested transitions allows for a safe and compliant connection between normal containment, high containment VRS and bridge parapets. The transitions are vital in preventing road accidents as they retain the integrity of each independent VRS whilst still allowing clients to use multiple systems on one length of need. Flexbeam VRS 'Tranzflex' transitions have been tested with our range of bridge parapets allowing engineers to specify and procure their entire VRS suite from the HS Roads Group.

To terminate the VRS appropriately our end terminals and crash cushions are all tested to international standards and have obtained CE Mark approvals allowing them to connect seamlessly with our permanent, temporary and wire rope Vehicle Restraint Systems. Suitable on roads above and below 50mph, the global road network can install compliant end terminals without compromise.

“COMPLIANT SYSTEMS FROM BEGINNING TO END.”



PRODUCT FEATURES & BENEFITS

Transitions

- ◆ Transitions for Flexbeam and Brifen VRS
- ◆ All compliant to EN1317 and NCHRP350
- ◆ Fully tested transitions into Flexbeam VRS, Varley & Gulliver Bridge Parapets and Hardstaff Rebloc permanent VRS

End Terminals

- ◆ P1, P2 and P4 End Terminals
- ◆ TL3 and TL4 End Terminals

Crash Cushions

- ◆ Re-directive and bi-directive crash cushions
- ◆ Reduced G-forces for smaller vehicles upon impact
- ◆ Smart Cushion- Side impacts rarely require repair reducing maintenance costs

COMPANY

- ◆ Hill & Smith Barrier (Terminals and Transitions)
- ◆ Asset VRS (Crash Cushions)
- ◆ Hill & Smith Inc. (Crash Cushions USA)

SECTORS

- ◆ Highway

AN OVERVIEW

From barriers that separate pedestrians from the highway, to systems that prevent pedestrians from falling from heights, we have a variety of pedestrian parapets that can be used across footbridge applications; they also help to control pedestrian, cyclist and equestrian traffic in congested locations. As well as 'standard' designs, we are also able to manufacture bespoke designs for statement footbridges.

Anti-climb systems and pedestrian parapets are also popular on access and egress stairways to prevent accidents and injury. Our products comply with the British standard BS7818 or Eurocodes meaning we can continue to meet specifications the world over.

Manufactured in steel or aluminium, our pedestrian parapets are available in a variety of standard heights. Bespoke designs can be developed that incorporate lighting, extended heights and decorative and stainless steel finishes which are often seen around commercial complexes and city centres.

"KEEPING PEOPLE SAFE."



PRODUCT FEATURES & BENEFITS

- ◆ Designed and manufactured in the UK
- ◆ Compliant with British and European standards
- ◆ Protection to guide pedestrians away from highways and hazards
- ◆ Bespoke finishes and designs available
- ◆ Can be integrated across urban and industrial sectors
- ◆ Can incorporate illuminated handrails
- ◆ Heights from 1m to 2.4m as standard

SECTORS

- ◆ Highway
- ◆ Rail
- ◆ Ports
- ◆ Industrial
- ◆ Car Parks
- ◆ Airports

COMPANY

- ◆ Varley & Gulliver

AN OVERVIEW

The Government safety target is to reduce the number of road accident injuries and fatalities by 40% and we can help make this possible. Passive sign supports are designed to minimise the effects on vehicle occupants in the event of an impact.

Designed to sit along the roadside these passive posts are tested and approved to BS-EN 12767 and are essential in retaining the integrity of our highways and surrounding infrastructure.

They allow appropriate hazard warning signs, lighting solutions and directional signs to be safely installed across the globe. Made in either aluminium, steel or GRP, passive support posts can have high-energy, low-energy and non-energy absorbing qualities and we can provide guidance as to which products are the most suitable on any strategic or local authority road.

Non-Energy Absorbing

The Hi-Mast passive post is recognised across the industry due to its frangible design, non-energy absorbing qualities and the wide range of sizes within the portfolio, allowing for installation along any highway. The Optimast achieves high safety accreditations including 100 NE2 and 100 NE3. They are becoming common place across the industry and following more than two years' in development the approval of single and multi-legged designs to BS-EN 12767 has been successfully completed.

Low-Energy and High-Energy Absorbing

With the full range of energy absorbing passive posts, including the Jerol and Lattix solutions, durable safety critical products are available as viable alternatives when the standard passive post isn't suitable. Jerol passive posts are manufactured in Sweden from glass fibre composite which has a service life exceeding 60 years. In an impact scenario the vehicle is brought to a halt gradually due to the design of the product, maintaining occupant safety. The slotting and stretching procedure is directly responsible for the energy absorption properties of Lattix which allows the post to progressively crumple upon impact before shearing at specially designed points on the footplate.



PRODUCT FEATURES & BENEFITS

Non-Energy Absorbing

- ◆ Tested to EN12767 and Approved to EN12899
- ◆ Light weight designs
- ◆ Frangible designs that 'break away' when impacted
- ◆ Quick and easy to replace after impact

Low-Energy and High-Energy Absorbing

- ◆ Tested to EN12767 and Approved to EN12899
- ◆ Designed to bend and contain vehicle when impacted
- ◆ Quick and easy to replace after impact

COMPANY

- ◆ Varley & Gulliver (Non-energy absorbing only)
- ◆ Mallatite

SECTORS

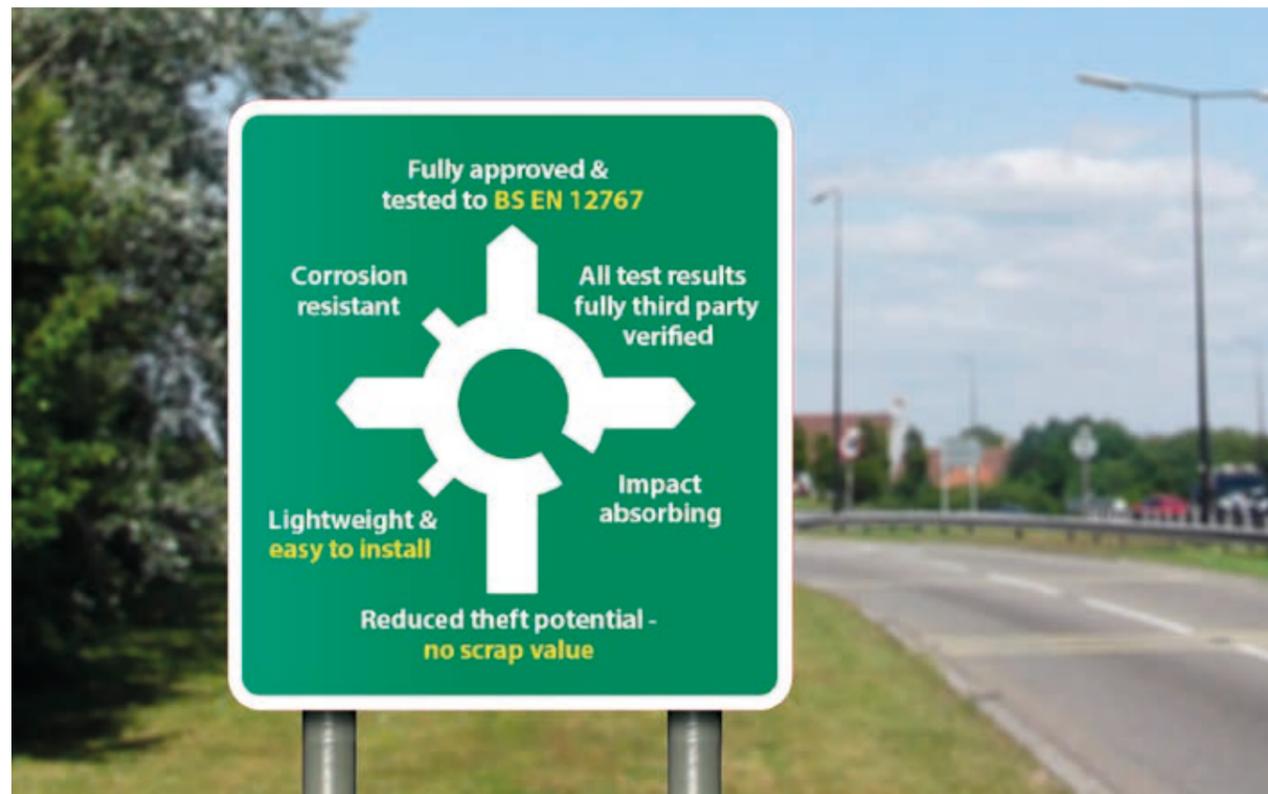
- ◆ Highway
- ◆ Urban

AN OVERVIEW

Manufacturing thousands of traffic signs and lighting columns every year and delivering them nationwide, we have the manufacturing capabilities to meet market requirements across all commercial sectors and highway schemes.

With a refurbished traffic sign production facility on site that includes new printing technologies, production and delivery becomes much more efficient. Achieving shorter lead times and increased design flexibility is essential to fulfil the changing demands of the market.

As market leaders in thermoplastic protective coating, our products offer longevity, adding value to the customer whatever the climatic conditions. Made from steel, aluminium or composite we can supply appropriate products to the changing global markets whilst retaining strong electrical connectivity and durability all year round.



PRODUCT FEATURES & BENEFITS

- ◆ Variety of lighting options
- ◆ Integral component on local and strategic road network
- ◆ Aesthetically pleasing and anti-corrosive finishes with a minimum 25 year life
- ◆ Easy to install and replace
- ◆ Passive or standard columns available

COMPANY

- ◆ Mallatite
- ◆ Conimast

SECTORS

- ◆ Highway
- ◆ Urban

AN OVERVIEW

Time and information is critical when the safety and well-being of commuters is considered. HS Roads have a variety of Variable Message Sign solutions that are applied to the strategic road network, local authority roads and the rail industry. VMS solutions provide road users and operators with valuable information about upcoming hazards giving people sufficient time to prepare, plan and change their journey safely.

Increasing levels of traffic congestion on urban and strategic routes now demands the implementation of more intelligent infrastructure. With a range of industry leading LED light technology solutions we can tackle this global requirement whilst exceeding industry expectations by supplying quality engineered solutions. Permanently installed along the road side, on gantries and on slip roads VMS solutions are now an integral part of the highways Infrastructure; providing commuters with real-time information about traffic flow, upcoming hazards and incidents.

Our permanent LED traffic signs are built to order and can display single aspect, dual aspect or multi aspect messages making them popular for car parks, city centres and within industrial facilities. They provide real-time information about upcoming hazards including: parking availability, accessibility and speed restrictions.



PRODUCT FEATURES & BENEFITS

- ◆ VMS signs all conform to EN12966
- ◆ Permanent signage solutions
- ◆ Variable speed limit signs
- ◆ Lane control indicators
- ◆ Controlled motorway indicators
- ◆ Low energy usage
- ◆ High visibility with a range up to 200m
- ◆ Long lasting LED technology with a whole sign design life of 15 years
- ◆ Fully customisable

COMPANY

- ◆ VMS

SECTORS

- ◆ Highway
- ◆ Urban

AN OVERVIEW

Interactive health and safety signs that can feature any message to suit the intended environment. These interactive units have proven to be popular across manufacturing, warehousing and distribution facilities where vehicles, pedestrians and machinery are within close proximity to each other. A message or warning is triggered once motion is detected in a hazardous area.

Creating safe work zones is also a priority when live highways are under construction. Our range of temporary message signs can be mounted onto vehicles or trailers allowing them to be deployed with ease alongside any highway works.

Important information is delivered to drivers allowing them to prepare for upcoming works and hazards; these may include a reduction in speed limit or traffic diversions. Implementing safe signage solutions helps create safe work zones that will ultimately reduce accident and injury. Supported by other temporary products, these mounted message boards have become a critical piece of health and safety equipment and have proven incredibly popular across the USA, UK and Scandinavia.

Keeping drivers and roadside workers safe is the priority so everyone can return home safely at the end of each day.



PRODUCT FEATURES & BENEFITS

- ◆ Units are individually designed
- ◆ Available in a variety of sizes to suit the application
- ◆ Powder coated finish in a variety of colours
- ◆ Custom face design to suit all Health & Safety aspects
- ◆ Hi-intensity LED text and corner amber flashers available
- ◆ Text can be shown in a variety of colours

SECTORS

- ◆ Highway
- ◆ Urban

COMPANY

- ◆ ATA (Scandinavia)
- ◆ Mallatite (UK)
- ◆ Hill & Smith Inc. (USA)

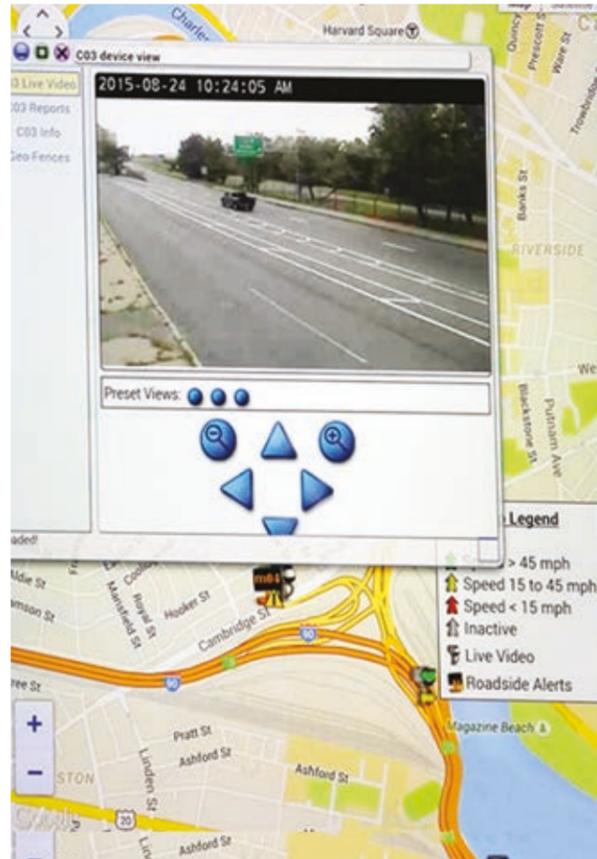
AN OVERVIEW

To support our growing infrastructure and road network, information processing technologies are used to help control the flow and movement of vehicles in areas under construction. We have developed a sophisticated range of information processing systems to support our growing global economies.

These forward thinking technologies provide a central location from which to monitor, track and control traffic products that are deployed across the road network. 'I Gen' and 'CHIPS' were developed with the aim of providing cost effective solutions that give flexibility so we can keep pace with the evolving demands of smart cities around the world.

Our market leading technologies offer real time monitoring and data logging from the deployed assets. The real time data is then utilised to provide an automated message to the message board fleet empowering the traveling public to make informed decisions. Used to control products deployed across the public sector and on the strategic road network, these information processing technologies put you in complete control of your traffic management, all year round.

“SMARTER TECHNOLOGIES TO CREATE A SAFER ENVIRONMENT.”



PRODUCT FEATURES & BENEFITS

- ◆ Ability to monitor status of all assets from central locations
- ◆ Monitor system faults and damage notifications from a central device
- ◆ Monitor traffic flow and send real time messages to boards to inform drivers

COMPANY

- ◆ Mallatite (UK)
- ◆ Hill & Smith Inc. (USA)

SECTORS

- ◆ Highway

AN OVERVIEW

To work alongside the temporary message boards, low level work zone safety products can help save lives by providing an additional visual aid when approaching a hazard. These simple products contribute to the safety and well-being of roadside workers and commuters every day; helping commuters to navigate around congested areas particularly when construction work zones are nearby.

As a permanent safety measure our Duraflex Bollards can be installed to highlight small hazards along the highway. They have become common place across the UK due to their durability and reliable performance.

With solar lighting integration, reflective aesthetics and manually removable options available, the Duraflex Bollards can be installed across the private and public sectors. With the use of advanced sockets, the bollards can also be quickly and easily replaced without the need for excavation.



PRODUCT FEATURES & BENEFITS

- ◆ Simple traffic management solutions
- ◆ Visual aids to help redirect traffic safely
- ◆ Cost-effective temporary solutions
- ◆ Solar panel integration for reduced energy use
- ◆ Advanced socket design enabling replacement without excavation

SECTORS

- ◆ Highway work zones
- ◆ Urban street scene

COMPANY

- ◆ ATA (Scandinavia)
- ◆ Mallatite (UK)
- ◆ Hill & Smith Inc. (USA)

AN OVERVIEW

We recognise that the rapid growth in the use of electric vehicles can be a challenge for both local authorities and private companies with ever growing demand to provide sufficient charging points to make the use of these vehicles viable.

With this in mind, we have developed an integrated post and charging point unit that is not only easy to install but is also simple to operate. The 7Kw/22Kw units are post mounted and can be supplied in single or twin mount configurations; they can also feature your local authority or company logo.

They are self-contained and designed to be low maintenance, having a unit replacement time of less than 10 minutes, reducing down time if any damage should occur. The simple 'plug and charge' format of the units makes them easy to use by all electric vehicle owners actively supporting our national carbon reduction targets.

“DRIVING SUSTAINABILITY FORWARD.”



PRODUCT FEATURES & BENEFITS

- ◆ 7Kw/22Kw charging capacity
- ◆ Compliant to BS7671:2018
- ◆ OLEV approved
- ◆ Attractive and compact design
- ◆ Clear LED indicators for ease of use
- ◆ Robust stainless steel construction to resist accidental damage
- ◆ Simple operation, 'Plug and Charge'
- ◆ Grant available subject to criteria
- ◆ Ability to incorporate your brand name or logo
- ◆ Less than 10 minutes to replace a unit, reducing downtime to users

COMPANY

- ◆ Mallatite

SECTORS

- ◆ Local authority
- ◆ Corporate

AN OVERVIEW

We have been developing corrugated steel structures since 1986, with the leading brand name of MultiPlate®. Designed and manufactured in the UK, Multiplate allows for the safe construction of tunnels and bridges for the highway and rail sectors. The entire product range includes galvanised steel structure solutions that are primarily utilised in long and short span bridges; they are also popular on buried structure projects including tunnels, culverts and underpasses. They reinforce and support the foundations needed for large-scale developments around the world and continue to provide long-term structural integrity.

Our principle design method is the UK Highways CD375 design. Considering both normal and abnormal levels of traffic, the design ensures up to a 120-year design life which is fully compliant with modern-day applications.

“BUILT FOR FUTURE, DESIGNED FOR LIFE.”



PRODUCT FEATURES & BENEFITS

- ◆ Sole manufacturer in the UK
- ◆ Designed to UK Highways CD375 design
- ◆ HAPAS Certificate 18/H282
- ◆ Approved CE Mark
- ◆ Quality British and European steel
- ◆ Small and large spans can be achieved
- ◆ Tunnels, bridges, culverts, extensions and strengthening construction

SECTORS

- ◆ Highway
- ◆ Rail
- ◆ Urban

COMPANY

- ◆ Asset International Structures

AN OVERVIEW

The fully pre-engineered BEBO system features the world's largest precast concrete arch structure offering spans from 3.7m to, in excess of, 35m. Integrated on similar schemes to the Multiplate Steel Structures, the BEBO arch is a standardised precast concrete arch system that has a patented design. It is used widely for the design and construction of earth overfilled bridges, tunnels, culverts and other underground structures.

The BEBO arch consists of a series of predefined highly efficient and optimised arch shapes. The different standard spans and rises allow the designs to be adapted to accommodate different layouts such as shallow and high-grade separation applications. This allows for various clearance profiles for highway overpasses as well as the fulfilment of stringent flow capacity requirements for river crossings.

There is a noticeable increase in the requirement of Green Bridges to improve aesthetic appearance and create a link between biodiverse habitats. Using our BEBO precast arch, our Green Bridges create a connected and safe landscape that will maintain, restore and enhance historical and recreational features. The Green Bridge sits in a cutting allowing the surrounding landscape to wrap around the structure. The structure itself has little visual impact on the surrounding environment which is critical when new road and rail links are being developed.

The slender section thicknesses and the reduced requirement for structural reinforcement helps reduce the overall installation cost; this coupled with the limited maintenance requirements the BEBO Green Bridges are becoming the preferred choice on strategic infrastructure projects.

“LAYING THE FOUNDATIONS FOR FUTURE SUCCESS.”



PRODUCT FEATURES & BENEFITS

- ◆ Aesthetically pleasing with slender arch sections
- ◆ Ideal to carry vertical loads
- ◆ Precast with simple on-site construction
- ◆ Moderate requirements for fill material
- ◆ Extremely durable- no approach slabs, transition joints and moving bearings reducing site infrastructure and installation time
- ◆ Pre-engineered arch design compliant to the latest Eurocode standards
- ◆ Variety of shapes and spans
- ◆ Various end treatments

SECTORS

- ◆ Highway
- ◆ Rail
- ◆ Urban

COMPANY

- ◆ Asset International Structures

AN OVERVIEW

This modular and easy to install concrete system can be used on all backfill soil and foundation conditions. Straight, curved, tiered, superimposed or back-to-back walls can all be accommodated due to the flexibility of the VSOL® polymeric strip reinforcement system.

VSOL® has proven its performance capabilities and has become a cost-effective construction technique used within a variety of retaining wall applications; the aesthetically pleasing design makes it suitable for general landscaping across the highway and rail sectors.



PRODUCT FEATURES & BENEFITS

- ◆ Advanced engineering
- ◆ Reliable performance
- ◆ Ease of installation
- ◆ Aesthetically pleasing
- ◆ Provides an economical wall solution
- ◆ Retained earth walls for Asset BEBO arches

COMPANY

- ◆ Asset International Structures

SECTORS

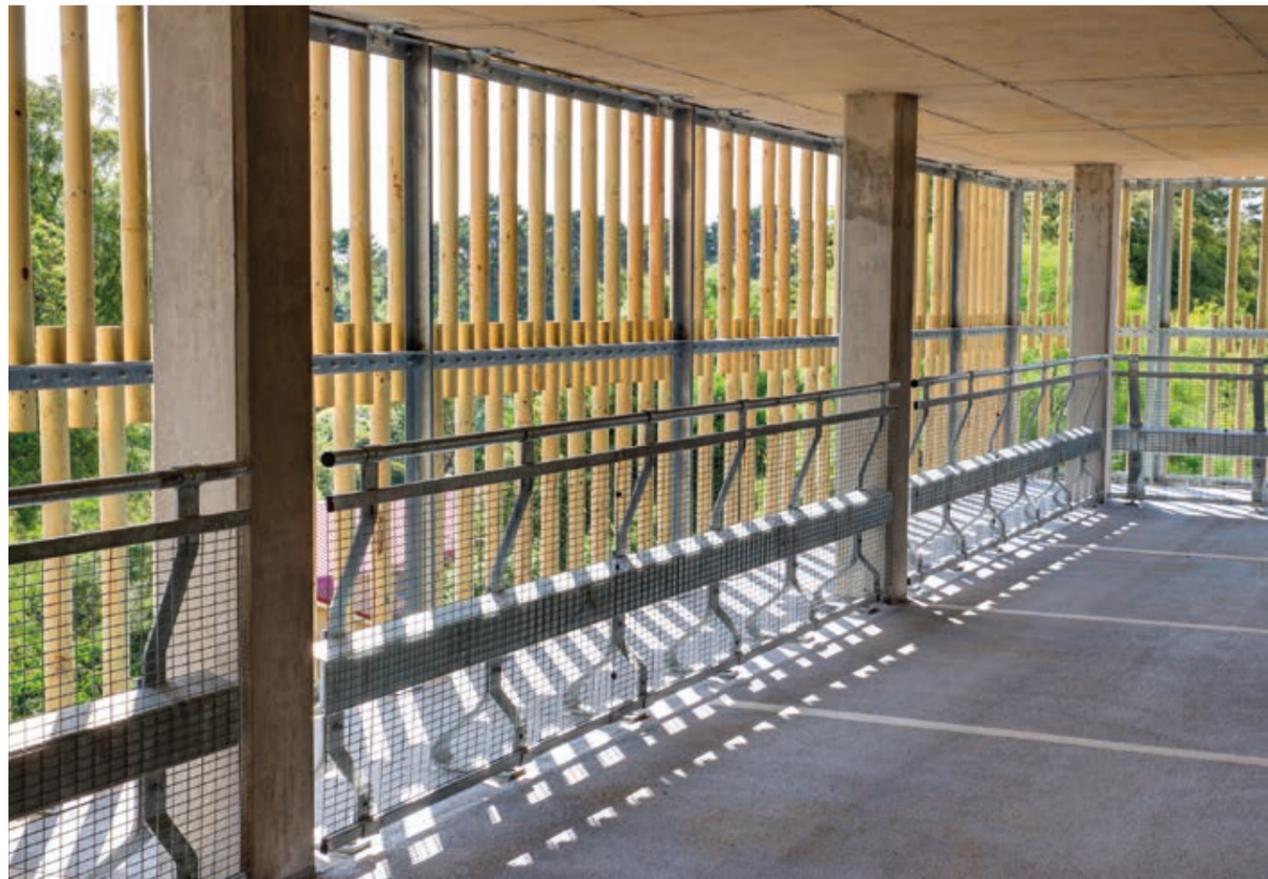
- ◆ Highway
- ◆ Rail
- ◆ Urban

AN OVERVIEW

We provide asset and pedestrian protection to the commercial and public sectors around the world, including: multi-storey car parks (MSCPs), surface level parking and any other off-highway application where there could be a risk to life or injury.

Our systems are designed, tested and manufactured to protect asset, infrastructure and people from vehicular collisions. Predominately used in congested locations, such as car parks, our vehicle restraint systems are complemented by a complete suite of column protection and anti-climb fencing.

Tested to European standards, our primary product is the proprietary spring steel floor mounted barrier system. In addition, we can supply zero footprint column mounted systems to MSCP's to improve integration within superstructures. Offering technical support throughout allows us to design, manufacture, supply and install quality products without compromise. This combined with our extensive off-highway product portfolio, we can offer a turnkey solution to safety critical environments ensuring the protection of workforce, public and assets alike.



PRODUCT FEATURES & BENEFITS

- ◆ Tested to EN1991-1-1 or BS6180
- ◆ BS1722 Part 9, 12 and 14
- ◆ Spring Steel Floor mounted systems
- ◆ Rigid Post floor mount systems
- ◆ Un-tensioned column mounted systems
- ◆ Tensioned column mounted systems
- ◆ StronGuard / ProGuard / FastGuard / VGuard
- ◆ Low load transfer into structural deck
- ◆ Zero footprint column mounted option eliminating physical interface with structural deck

COMPANY

- ◆ Berry Systems

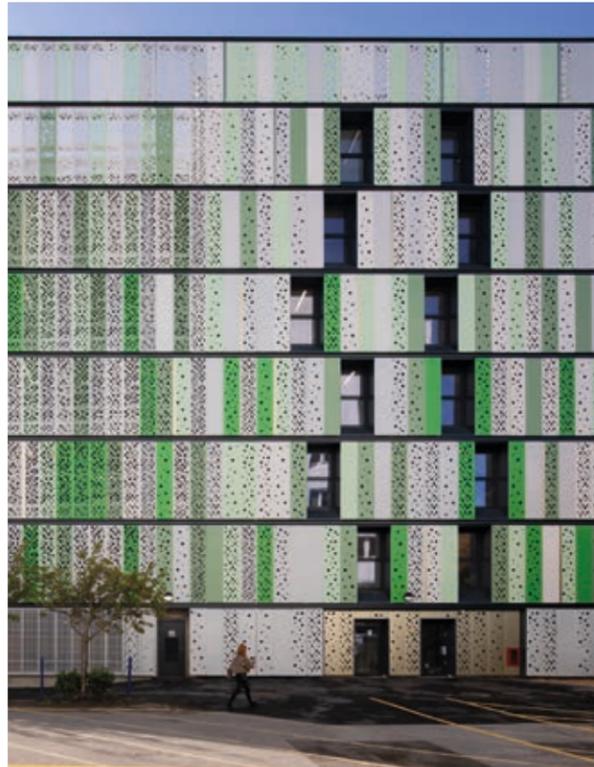
SECTORS

- ◆ Car parks across all sectors

AN OVERVIEW

We are able to offer in-depth service and support to our customers that require inspiring, innovative and engineered architectural solutions to the global MSCP market. With a variety of finishes and configurations available, any MSCP or commercial structure can be clad to suit the specification and/or the surrounding environment. From expanded mesh to timber fins, contemporary or classic finishes can be applied to structures around the world.

Combined with the associated disciplines of vehicle restraint systems and pedestrian protection, supported by our in-house design team and construction capabilities, we pride ourselves on being able to provide a turnkey service for these projects. We work collaboratively with architects, consultants, stakeholders and project teams so a concise and detailed strategy can be implemented; understanding the project in its entirety allows us to provide the most suitable cladding and façade solution that ultimately fulfils your specification.



PRODUCT FEATURES & BENEFITS

- ◆ Variety of finishes to suit the intended environment and often made from recycled materials
- ◆ Terracotta, Timber Fins, Expanded Mesh, Perforated Mesh and Corten Steel
- ◆ Configurations to allow for manageable air flow
- ◆ Used as edge protection to prevent people from falling from heights
- ◆ Increased weather resistance and thermal performance
- ◆ Low maintenance

COMPANY

- ◆ Berry Systems

SECTORS

- ◆ Car Park
- ◆ Health
- ◆ Industrial
- ◆ Retail

AN OVERVIEW

Whether it involves structural refurbishment, new construction or the expansion of an existing facility, our specialists consider all relevant standards, building codes and guidelines to create unique, functional and efficient solutions.

Incorporating safety critical products from within our off-highway product range, or implementing sophisticated cladding and facades, we have the experience and expertise to deliver large-scale developments across the UK.

We can also incorporate security critical products including fencing, bollards and blockers where required; a growing need across the commercial and public realm.

Compliant to international standards and with stringent health and safety guidelines in force, we have the capability to work on all applications including: airports, commercial complexes, multi-story car parks (MSCP), distribution centres and any other off-highway application.



PRODUCT FEATURES & BENEFITS

- ◆ Modular Builds
- ◆ Refurbishment and expansion
- ◆ Traditional Precast deck construction
- ◆ Decks pre-coated and assembled off site, reducing on site periods
- ◆ Demountable and relocatable to adapt to your changing business needs
- ◆ Custom design to meet your exact requirements

COMPANY

- ◆ Berry Systems

SECTORS

- ◆ Commercial
- ◆ Health
- ◆ Retail

ABOUT

HILL & SMITH HOLDINGS PLC

Hill & Smith Holdings PLC is an international group with leading positions in the design, manufacture and supply of infrastructure products and galvanizing services to global markets. It serves its customers from facilities principally in the UK, France, USA, Sweden, India and Australia.

The Group's operations are organised into three main business segments:

- **Infrastructure Products** - Roads & Security, supplying products and services such as permanent and temporary road safety barriers, hostile vehicle mitigation products, street lighting columns, bridge parapets, temporary car parks, variable road messaging solutions, access covers and security fencing.

- **Infrastructure Products** - Utilities, supplying products and services such as pipe supports for the power and liquid natural gas markets, energy grid components, composite products, building products, industrial flooring and handrails.

- **Galvanizing Services** - Which provides zinc and other coatings for a wide range of products including fencing, lighting columns, structural steel work, bridges, agricultural and other products for the infrastructure and construction markets..

Headquartered in the UK and quoted on the London Stock Exchange (LSE: HILSL), Hill & Smith Holdings PLC employs some 4,600 staff, principally in six countries.

A MESSAGE FROM OUR CEO



Hill & Smith Holdings PLC are committed to delivering products that offer class leading protection in our chosen markets. We put our customers first in everything we do and operate to the highest standards in health safety and the environment. We hope that you enjoyed reading about our diverse range of products and look forward to working with you in the true spirit of partnership to develop solutions that meets your expectations in every way. At the heart of everything we do, our values underpin the behaviours of our people and of our businesses across the Group:

- **Protecting people and our communities**
- **Acting with integrity**
- **Innovating and developing**
- **Operational excellence**
- **Accountability**

These mean a lot to us and act as the guiding principal of our brand.



ANDREW BEANEY

**GROUP MANAGING DIRECTOR OF
HS ROADS AND SECURITY**



HS Roads
Intelligent Highway Solutions

Visit our website:

