

SAFETY BARRIER



www.hsd.ie

INTRODUCTION

www.hsd.ie

We stock the safest and most durable barriers available on the market today. Our experienced team can guide you through our range safety barriers to meet your particular requirement. We provide site inspection, survey and installation. We also provide a maintenance and repair service for all permanent safety barriers.

We are Ireland's largest CE Certified manufacturer of signs for the roads market, proudly manufacturing all our signs in our facility in Knocktopher, Co. Kilkenny. Our CE certificate of conformance reference is 1358-CPR-0144/2.

- CE certification since June 2013. We are externally certified to the European Standard I.S. EN 12899-1:2007 – Fixed, Vertical Road Traffic Signs and Structures. The scope of this standard is for fixed signs used for the instruction and guidance of road users on public and private land.
- This certification allows us place the CE mark on all our manufactured signs and structures which is mandatory under the Construction Products Regulation 305/2011/EU since the 1st of July 2013.
- The system is audited by a notified body on an annual basis to ensure continued compliance. All of our signs are barcoded, to give full traceability of each component used in the manufacturing process.

We are certified ISO 9001:2015 which is an international standard in Quality Management Systems.

We are also certified OHSAS 18001:2007 which encompasses ensuring the health, safety and welfare of people in the workplace. We are committed to continually monitor, measure and improve our operational performance and management systems to promote the utmost standard in health, safety and welfare in the workplace.

SIGNAGE:

- Road Signs [CE Certified]
- LED & Solar Powered Signs
- Commercial Signs
- Health & Safety Signs
- Tourism Signs, including Aluminium Raised Letter Signs
- Sign Accessories [CE Sign Poles, brackets]

ROAD SAFETY:

- Road Safety Barriers – Permanent & Temporary
- Traffic and Pedestrian Control
- Traffic Management Vehicles and Trailers
- Bollards

SERVICES

- Bespoke Manufacture
- Design
- Delivery
- Installation
- Maintenance & Repair
- Refurbish
- Hire
- Traffic Management
- CNC Routing

LEISURE PRODUCTS:

- Waymarker Posts, Walkways & Bridges
- Furniture, Litter Bins and Planters
- Water Safety
- Cycling
- Stiles & Kissing Gates

CONTACT US

Contact our dedicated sales team:

Highway Safety Developments Ltd., Knocktopher, Co. Kilkenny, R95 TW83.

Phone: 056-7768702 | Email: sales@hsd.ie | Fax: 056-7768854

Website: www.hsd.ie [including webshop] [t](#) [f](#)



INDEX

Safety Barriers, ESP Steel Protection System.....	3
Super Rail	4
Terminal Ends, Bridge Parapet	5
Nature Rail	6 - 7
Vario Guard	8 - 9
Mini Guard	10 - 11
Gate Guard	12
Safety Barrier Car Parks / Industrial Parks	13
Pedestrian Railing, Door Protectors, Pole Protectors	14
Musoir, Chevrolflex, Other Products	15



Other brochures available upon request or to download from our website

SAFETY BARRIERS

Highway Safety Developments Ltd. - always in the vanguard of design and development.

Professional, reliable and quick service is our aim. We are able to offer you professional consulting with competent planning, meeting all international design and testing criteria and ensuring best possible installations.

Close co-operation between our product development department and production ensures reliable and economical realisation of many special solutions to satisfy customer demands, safety on roads, as well as maintaining good customer relations, are key to all our activities.

Safety on all roads. Sustainability in our actions.

- Our actions are centered on protecting life and our environment on roads.
- The road network is a vital component for maintaining our society and way of life.
- Road safety furniture and equipment play a critical role in reducing road accidents.
- A dynamic approach to the development of traffic safety systems contributes to the reduction of road casualties
- Through many years of practical application and constant testing, our restraint systems are making a positive contribution to this development.
- EN ISO 9001 certification is the basis for the guaranteed quality of all our products.

ROAD SAFETY

Specialist stockists of road safety products in the Irish market for over 40 years.

ROAD SAFETY PRODUCTS:

We stock the widest range of quality road safety equipment, from JSP road cones, HSD Reflex Post, bollards, pedestrian crossing equipment, safety mirrors, trench covers, barriers etc for both pedestrian and road safety.

PERMANENT BARRIERS:

We stock the safest and most durable barriers available on the market today. Our experienced team can guide you through our range safety barriers to meet your particular requirement.

We provide site inspection, survey and installation. We also provide a maintenance and repair service for all permanent safety barriers.

TRAFFIC MANAGEMENT VEHICLES:

We specialise in the custom build of IPV trucks and trailers. Traffic management trailers are built to individual customer requirements.

ESP STEEL PROTECTION SYSTEM

ESP, EDSP, DDSP

HBB N2

Heintzmann Basic Barrier® is a product line of various guardrail systems including transitions and end terminal with containment levels ranging from N2 to H1.

The systems are all tested in accordance with EN1317-2 and CE marked. The use of a few basic elements makes this product line very unique and flexible in handling. Further on it guarantees fast and simple installation, efficient storage and logistics.

HBB N2 / HLK

Single sided steel guardrail. The standard solution with containment level N2:

HBB 4.0/4.0 Plus:	N2 - WS/W4
HBB 2.0/2.0 b/2.0 Plus:	N2 - W4/W3/W3
HBB 1.33 /1.33 Plus:	N2 - W2
HLK-RAIL 4.0/4.0 Plus:	N2 - W5/W4
HLK-RAIL 2.0/2.0 b/2.0 Plus:	N2 - W4/W3/W3
HLK-RAIL 1.33/1.33 Plus:	N2 - W2

HBB H1 / HLK

Single sided steel guardrail. Tested and approved to the higher containment level of H1.

HBB 1.33:	H1 /L1 - W4
HBB 1.33 Plus:	H1 /L1 - W3
HLK-RAIL 2.0 Plus:	H1 /L1 - W4
HLK-RAIL 1.33:	H1 /L1 - W4
HLK-RAIL 1.33 Plus:	H1 /L1 - W3
HBB 2.0 Plus:	H1 /L1 - W4



SUPER-RAIL

A flexible steel restraint barrier system, ideally suited for any hazardous location, whether it be verge, median or bridge.

The SUPER-RAIL system is 1.150mm high and 500mm wide for a single sided system. It consists of two box beams and one guardrail beam. The system can be manufactured using corrugated guardrail beams (A-profile) or double box beam shaped guardrails (B-profile). The two box beams are mounted on C125 posts. Depending on the location, the posts are either driven into the ground or attached by bolts to a special mounting plate. Spacers (deformation tubes) connect the guardrail's front tier to the lower box beam. The system weighs 68kg/m and is supplied in standard 4,000mm long sections.

SUPER-RAIL in central Reserve

SUPER-RAIL offers distinct advantages over standard steel and concrete barriers, due to the high degree of safety, particularly for passenger vehicles. It's relatively narrow width and high containment potential makes it ideal for median use.

Super-Rail in narrow medians

SUPER-RAIL is frequently used where space is limited. It can be designed to be double sided with a width of only 880mm. Height can be adjusted, where traffic lanes on either side are at different levels.

SUPER-RAIL at the verge

SUPER-RAIL is typically used, where roadside hazards exist and where very high containment is desirable. The barrier is two tiered. The lower front tier is designed to soften the impact of smaller vehicles and redirect them safely. The rear rail has the structural strength to redirect larger vehicles. The system is a combination of box beam and steel guardrail.

Super-Rail at hazardous locations

SUPER_RAIL is used, where unstable roadside conditions exist, as well as protecting other traffic hazards. In many places, there is very little room, e.g. in front of gantry sign support posts. The system can be mounted directly onto the post's concrete base. The small lateral movement of the barrier when impacted ensures, that damage to the post, as well as to the passengers is substantially reduced.

SUPER-RAIL on bridges

Safety on bridges, flyovers and elevated roads is becoming a major issue. Due to its low weight, the SUPER-RAIL system is an excellent choice for these situations and offers containment levels from H2 up to H4b. The design offers simple and economical transitions to standard guardrails or bridge constructions.

Sloped Section

For beginning and end terminals the SUPER-RAIL design offers connections to many types of steel or concrete safety barriers. If required, the installation may end with sloped section.

	Design Options	Containment Levels	Working Widths	Profiles
on roads	SUPER-RAIL single	H2	W4	
		H4b	W7	
	SUPER-RAIL twice	H2	W5	
		H4b	W7	
	SUPER-RAIL double	H2	W4	
on bridges	SUPER-RAIL gantry	H2	W3	
	SUPER-RAIL on bridge	H2	W4	
	SUPER-RAIL Plus on bridge	H4b	W6	



TERMINAL ENDS

Permanent Safety Barrier requires a terminal end unit at the start and the end of a section of barrier. We carry stocks of the P2 and P4 Terminal End Units.

The P2 Terminal End and the P4 Terminal End by Obex have passed all the required additional tests of the Draft EN1317 Part 7 standard. They are approved by Transport Infrastructure Ireland for use on Irish Roads.



P2 Terminal End



P4 Terminal End



Central Reserve Terminal



Terminal End

BRIDGE PARAPET



Bridge Parapet

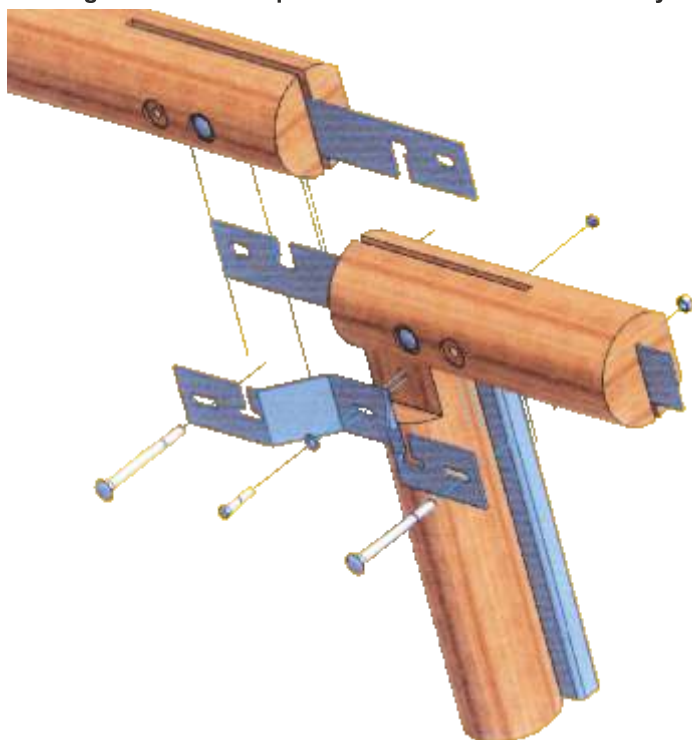


Bridge Parapet Transition

NATURE-RAIL



Combines the strength of steel with the beauty of wood for perfect integration into landscape and scenery. The combination of robust steel elements with a wooden cover satisfies the demands of containment level N2. Galvanisation and weather resistant wood treatment guarantee a long working life. All wooden parts come from sustained forestry.



Nature-Rail

Developed specifically for roads with hazardous bends. This energy absorbing flexible protection system prevents motorcyclists from impacting the posts and from sliding under the barrier. All steel parts available with durable powder coating.

Nature-Rail W4

Designed to give minimal lateral movement where space is limited. It is frequently used to shield trees, waterways or other roadside hazards. Nature Rail W4 provides adequate containment and blends harmoniously with the landscape.

Nature-Rail Special Solutions

Nature-Rail with Motor Cyclist Protection. Excellent for roads used by cyclist and pedestrians. HSD will tailor solutions to your special needs.

Nature-Rail

A 2000mm long "drivable" C100 steel post is the rail's supporting element. Flat steel segments, 100x5mm wide and 650mm long, are installed horizontally in front of the posts. 650mm long overlaps link these parts into a solid steel rail. Special bow type deformation clamps secure the steel band to the posts. All steel parts are galvanised according to DIN EN 1461.

The steel rails are embedded into the specially prepared round wooden outer section (1980mm x 180mm). The steel posts also have an outer wooden cover (700mm x 160mm). All wood used is chrome free impregnated according to DIN 68 800, part 3, threat level 4 (suitable for external use). Sloped beginning and end sections are available. Also we offer solutions for connecting to other types of barriers and dealing with installation problems.



NATURE RAIL SPEC

- Nature-rail timber safety barrier combines the strength of steel with the beauty of wood for perfect integration into the landscape and environment.
- Nature-rail timber safety barrier provides the combination of robust steel elements with a wood cover, which satisfies the demands of containment level 2.
- The galvanised steel and weather resistant wood treatment guarantee a long working life.
- All wooden parts come from sustained forestry

NATURE-RAIL Timber Safety Barrier Tested According To EN 1317-2

The following are the achievable working width levels achievable according to test results:

NATURE-RAIL Distance Between Posts 4M, Containment Level N2

Impact Test: TB32, Working Width Level: W7, ASI: A
Impact Test: TB11, Working Width Level: W4, ASI: A

NATURE-RAIL Distance Between Posts 2M, Containment Level N2

Impact Test: TB32, Working Width Level: W5, ASI: A
Impact Test: TB11, Working Width Level: W4, ASI: A

NATURE-RAIL Distance Between Posts 1M, Containment Level N2

Impact Test: TB32, Working Width Level: W4, ASI: A
Impact Test: TB11, Working Width Level: W2, ASI: A

NATURE-RAIL W4

- Designed to give minimal lateral movement where space is limited.
- It is frequently used to shield trees, waterways or other roadside hazards.
- It provides excellent containment and blends harmoniously with the landscape.
- Sloped beginning and end sections are available.
- The following photos illustrate some installation works completed by our team. The nature rail timber safety barrier is aesthetically pleasing yet providing the safety required for road users.

NATURE-RAIL Services Provided

Installation: Our team are fully equipped for the specialist Installation of Nature-Rail Safety Barrier. We offer solutions for connecting to other types of barriers and dealing with installation problems.

Repairs: We provide a repairs and maintenance service. Our team callout and survey damages, provide a quotation and repair the barrier, all in a relatively short time-frame.



VARIO-GUARD® BARRIER SYSTEM



This flexible steel barrier is ideal for permanent or temporary road applications. It is widely used for protecting road works sites and for contra flow situations.

Vario-Guard® is suitable for use as a median barrier. The 900mm high barrier has excellent redirecting, as well as containment characteristics, when impacted. We also offer Vario-Guard crash worthy gates – Gate-Guard – which can be installed with this system for the use of emergency vehicles and contra flow requirements.

It consists of 4 metre long elements with the main body having a trapezoidal cross section. Channels in the base allow the flow of water under the system. The top section of the 900mm high barrier is a standard box beam. The weight of one 4 metre element is approximately 100kg/m.

Vario-Guard can be transitioned to other barriers such as Mini-Guard

Safeguarding Work Zones:

Vario-Guard® provides a positive barrier between traffic and workforce. The barrier is only 400mm wide excluding the base, which is designed for traffic to drive over, making it especially suitable where road space is limited.

In extensive tests the variants of the Vario-Guard system have demonstrated their ability to fulfil the demands of containment level T3, N2, H1 and H2 according to EN 1317-2. All impacting vehicles, passenger cars, as well as trucks and buses were gently redirected. All the vehicles were slowed down in a controlled manner and without excessive tilting.

Safeguarding Traffic:

Vario-Guard has a very high containment capability, tested and approved to H2. i.e. Vehicles up to 13,000kg impacting at 70km/h at 20 degree angle. It is often used at the edge of dangerous road sections or as a median barrier to provide maximum safety to traffic and to reduce the potential for head-on accidents.

Safeguarding Diversions:

Frequently there are diversions in work/maintenance areas which pose a greater threat to traffic. Vario-Guard is an ideal system for channelling and redirecting traffic in a safe way.

Assembly: The system is designed for quick and simple assembly.

Work Zones tend to be dynamic and there is a frequently a need to move barriers. This is easy with Vario-Guard. The preassembled 12m elements are linked via rapid connections and each is locked by a single bolt. They can be moved and reconnected quickly. It is possible to reconfigure as much as 1000m per day.

Maintenance, Storage and Transport

Maintenance and repair of Vario-Guard usually pose no problem. Following an impact, the only maintenance required, is to realign the barrier. 1000m of Vario-Guard can be stored in 100m² and a single bolt. They can be moved and reconnected quickly. It is possible to reconfigure as much as 1000m per day.

Vario-Guard consists of a standard 4m elements and sloped sections for the beginning and the end of barriers. Highway Safety Developments offer special parts for bridge expansion joints and solutions for other installation problems. A wide variety of transitional parts for connection to other types of barrier can also be supplied.

We have stocks of Vario-Guard® available for sale and hire. We provide an installation and movement service by our highly experienced and skilled crews. Please contact us for further information.



24 HOUR RAPID RESPONSE CALL OUT FOR EMERGENCY



Before



After



Installation works at Dublin Airport



Site security entrance blocking



Night time installations



Event hire

MINI-GUARD



MINI-GUARD BASE ONLY

- 1500mm long x 500mm wide sections 505mm high.
- 50kg weight each
- EN1317 tested and approved by Transport Infrastructure Ireland
- Tested to T2-A-W5
- Short term protection.



SERVICES & HIRE

- We provide a hire and installation service.
- Quick response times.
- 24 hour 7 days a week for emergency call out service.

**24 HOUR RAPID RESPONSE
CALL OUT FOR EMERGENCY**

The mobile steel safety barrier guides traffic and safeguards work locations.

The Mini-Guard temporary steel safety barrier consists of 1500mm long individual elements. The main body is 500mm wide and 420mm high. The base is curved on both sides and has an integrated water channel. 1500mm long tubes connect the element and give the completed structure a height of 505mm. One complete standard element weighs 60kg. All parts are galvanised to EN ISO 1461. The sloping end terminals are anchored to the ground with fixing pins. Transitions to Vario-Guard or any other guardrail system are available, as well as "quick release" elements, angled and other elements.

The Mini-Guard temporary steel safety barrier is relatively light, but provides a very high level of traffic safety. It is simply positioned on the road and only requires anchoring at the beginning and the end. Mini-Guard has proven itself for work zones use in many countries around the world over many years. It is particularly suited for locations, where frequent changes to traffic flow are required.

Mini-Guard's flexibility makes reconfiguration easy.

Combines traffic separation with extraordinary optical guidance capabilities.

Protective Function: The flat, road base of the barrier is designed for vehicles to drive over it. In the event of an impact, the vehicle's own weight creates additional barrier stability. This helps to optimise protection with a very narrow barrier (planned relevant width 200mm) maximising available traffic space.

Guiding Function: Work zones frequently have narrow and winding traffic lanes, which require clear delineation and guidance, especially for night time or periods of poor visibility. Mini-Guard is equipped with barrier reflectors at top and bottom, making further road markings unnecessary.

Tested to EN 1317-2 at T1, T2 & T3

Mini-Guard was originally tested in 1992. It was one of the first temporary barriers tested and approved by Germany's Federal Road Safety Institute (BAST).

Mini-Guard has a proven track record of service at numerous work sites around the world.

Storage: Mini-Guard stacks well and one can store as much as 2,700 linear metres in 100m². This is achieved by Mini-Guard's special packing.

Maintenance; Usually, there is minimal damage to Mini-Guard in typical work site accidents. If repairs are required, they are straightforward and take very little time. Normally, it is necessary only to realign the barrier.

Assembly: A standard flatbed truck can deliver to site 336m of Mini-Guard (224 elements). It can be quickly assembled by hand. The traffic flow disruption is minimal. A team of three or four can install as much as 2000m per day.

Assembly is achieved by sliding the elements together. Connecting tubes are inserted from the top locking them in place.

No anchoring to the road is necessary, except at the beginning and the end.

* Containment Levels T1, T2 and T3 according to EN 1317-2.

MINI-GUARD C/W PEDESTRIAN FENCE



- Pedestrian fence 1500mm long 600mm high
- Used where the contractor needs access over the fence for loading etc.
- Also used for events where public needs a view over the barrier



MINI-GUARD C/W SITE FENCE

- Site Fence 3000mm long x 1200mm high up to 1900mm high fence panels available
- Offers site security to provide site safety preventing general public from access, while the bases provide traffic protection.



GATE-GUARD

The pivotable restraint system at central reserve crossings. Flexible direction of traffic at containment level H2 with integrated emergency gate. GATE-GUARD was designed to create easily accessible maintenance crossing points. These points are often located at the end of bridges and tunnels. GATE-GUARD is the ideal product, when must be kept fully open during peak traffic hours (day time) and then, at low traffic, is switched to contra flow situations (night time).

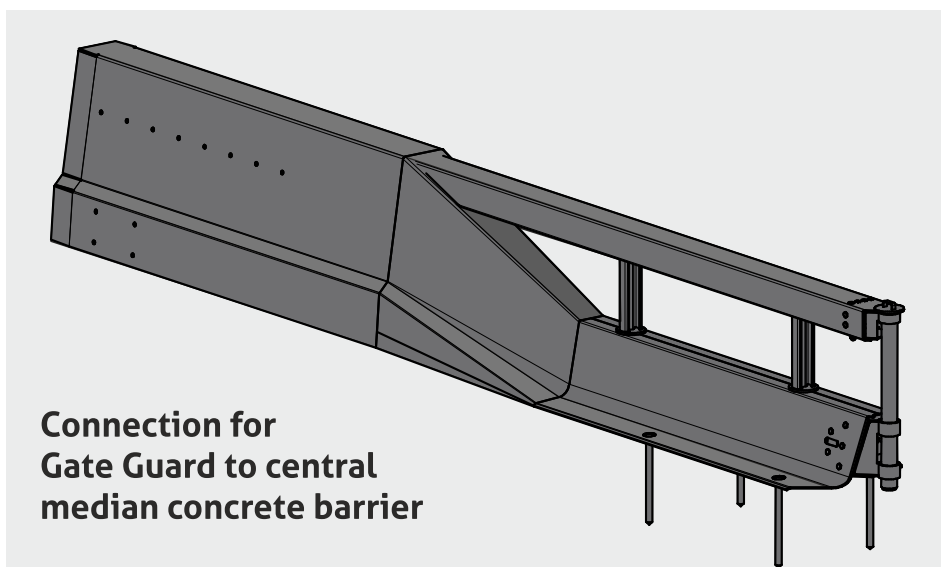
GATE-GUARD is a development based on the well known VARIO-GUARD system.

Connecting GATE-GUARD to any other restraint system is possible.

Just two people can easily open GATE-GUARD in less than 15 minutes. No special tools are necessary. All that needs to be done, is to loosen the connecting box beam elements, remove ground anchors and lower the built-in wheels with a hand crank. The system then moves very easily. It is capable of being opened up to 60° in both directions. Minimum standard length is 32m. GATE-GUARD is modular and can be adapted to the local requirements by simply upgrading with one or more 4m elements.

Emergency Gates

The integrated emergency gates are highlighted for easy opening. They are 4m wide and can be opened by rescue services or the fire brigade in less than 2 minutes. In narrow spaces the emergency gates can be separated completely from the GATE-GUARD construction and rolled parallel to it.



SAFETY BARRIER FOR CAR PARKS / INDUSTRIAL PARKS



Bolt down safety barrier complete with handrail - 4m post centres



Double Height A Profile Ramp



Driven safety barrier complete with handrail - 4mtr post centres



Driven safety barrier



4m posts bolt down and turn back end, single height with handrail



4m posts bolt down and turn back end, single height

PEDESTRIAN RAILING



PEDESTRIAN RAILING - INTERCLAMP

It is a versatile range of quality galvanised malleable iron pipe fittings with a multitude of uses. Designed for easy, simple and fast erection of rigid structures by hand with the minimum of tools. It is a cost effective, efficient system, particularly compared with traditional methods of construction such as welding, where specialist tools and extensive training and experience are required. Interclamps are made from malleable iron manufactured in conformance with BS EN 1562:1997, a dependable and well-proven material for this type of product.



DOOR PROTECTORS

Many areas around a car park, factory yard, etc. may need protection. See below some examples of door protectors manufactured and installed by HSD. If you have an identifiable area that requires protection, we can measure, manufacture and install to your requirements.



POLE PROTECTORS



THE MUSOIR



The musoir has been specially designed to alert motorists of upcoming road intersections and slip roads, per European network requirements

- The Musoir is manufactured from a UV Stabilised Polyethylene which makes it extremely strong and robust
- Available in a Small and Large size
- The Musoir incorporated Class Ref. 1 or Class Ref. 2 Reflective Arrows
- Musoirs come in two standard colours, green & blue for both national and motorways routes
- Musoir can be fixed in place using anchor bolts or it can be partially filled with water
- It can also be used for storing bags of salt or grit if required
- The maximum weight of the Large Musoir is 55kg
- The maximum weight of the Small Musoir is 25kg
- Both Musoirs can also be manufactured from Affinity Grade PE - a flexible plastic.

CHEVROFLEX ULTRA™ SIGN SYSTEM

Passive Safe Sign System

- Available in a wide variety of configurations, customised to meet your individual needs.
- Certified passively safe to Performance Standard NE3/100.
- Chevroflex Ultra exceeds industry standards for motorcycle friendly, passively safe street furniture.
- New Impactaflex™ material has been specially developed to offer superior rigidity and resilience combined with class-leading recovery performance after a drive-through collision.
- Highly visible wall effect – offers a clear indication ahead of a bend or hazard in the road.
- Easy to install socket for quick and easy sign replacement.
- Three standard sizes of chevron: 400mm, 600mm or 800mm.
- Modular socket design allows for unlimited number of Chevrons.
- Available as a left-hand bend, right-hand bend or a roundabout unit with a Turn Left sign face.
- Available with or without a high-visibility border



OTHER PRODUCTS



RAPID INCIDENT RESPONSE SERVICE

- IPV & traffic management vehicles
- Temporary steel varioguard barrier
- Repair to damaged safety barrier
- Hire of warning signs and road cones
- We are a T.I.I. Vehicle Restraint Systems Repair & Replacement Framework Participant Company



Printed: JANUARY 2021