



HIGHWAYS PRODUCT PORTFOLIO

Trusted Partnerships. Proven Performance.

Highways safety barriers, parapets and passive solutions excellence, delivered worldwide.



Engineering Safety for Generations

We provide British-made safety systems trusted worldwide to protect lives and infrastructure.

Built for Safety. Powered by People.

Brackmore Ltd is built on over 200 years of engineering heritage – but it’s the people behind our products who truly set us apart.

Our team brings together deep technical knowledge, hands-on experience and a shared commitment to doing things the right way. We offer early-stage input to help shape compliant, future-ready safety solutions – and support customers throughout every phase of their project.

That’s why customers worldwide see us as more than a supplier – we’re a dependable partner, invested in safer, stronger outcomes that last.

Safeguarding People, Securing the Future.

We take pride in our far-reaching impact on businesses, workforces and communities. Our commitment to sustainability and ethical practices ensures that we’re not just meeting today’s needs, but also working to protect the future by operating in a more environmentally friendly manner whenever possible.

We’re more than just a company – we’re a trusted partner in creating a safer, more secure world.



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Contents

Brackmore Barriers	04	Varley & Gulliver Parapets	28
Our Safety Barrier Solutions	05	Our Parapet Solutions	29
Brackmore Barriers System Reference Guide	06	Varley & Gulliver System Reference Guide	30
FlexBeam	08	Vehicle Parapets	32
FlexBeam PLUS	10	Steel Vehicle Parapets	34
Black Country	12	Aluminium Vehicle Parapets	36
SPR4	14	Legacy Parapet Solutions	38
Hi-Flex	16	Pedestrian Parapets	40
TopRail	18	Steel Pedestrian Parapets	42
StructuGuard®	20	Aluminium Pedestrian Parapets	44
Transitions	22	HiMAST Passive Sign Support	46
FlexGuard	23	Our Passive Safety Solutions	47
End Terminals	23	HiMAST	48
Non-Proprietary Safety Barrier Systems (NPSBS)	24		
Brifen Wire Rope	26	Xtratech Online Technical Portal	50
		Contact	52



INTRODUCING

Our Safety Barrier Solutions

With safety at the forefront of everything we do, we design vehicle restraint systems to assist the world in returning home safely at the end of every day.

Backed by more than 200 years of experience, we design and manufacture both non-proprietary safety barrier systems and market-leading proprietary solutions that safeguard people and infrastructure across the globe. Alongside traditional hot-dip galvanised finishes, we offer a range of sustainable steel solutions, including pre-galvanised and low-carbon steels, helping to extend asset life, minimise maintenance requirements, and reduce whole-life carbon emissions.

Brackmore Barriers System Reference Guide

Vehicle Restraint Systems

EN1317

Steel Guardrail

System	Containment Class	Working Width	Post Centres	ISL	Vehicle Intrusion	Drawing Number
TopRail - Double Sided	L1 (N2/H1)	W3 (N2) / W4 (H1)	2.5m	A	VI6	PD-CEGRSB251
TopRail - Double Sided	L1 (H1)	W4	5.0m	A	VI5	PD-CEGRSB250
StructuGuard - Single Sided	N2	W1	1.2m	C	-	PD-CEGRSB140
Black Country - Dudley - Single Sided	N2	W1	2m	B	-	PD-CEGRSB122
Black Country - Dudley - Single Sided	N2	W2	3.5m	B	-	PD-CEGRSB121
Black Country - Dudley - Single Sided	N2	W3	4.5m	B	-	PD-CEGRSB123
Black Country - Dudley - Single Sided	N2	W4	6.0m	B	-	PD-CEGRSB120
Black Country - Dudley - Double Sided	N2	W2	3.0m	B	-	PD-CEGRSB153
Black Country - Dudley - Double Sided	N2	W4	6.0m	B	-	PD-CEGRSB165
Black Country - Tipton - Single Sided	L1 (N2/H1)	W3 (N2) / W4 (H1)	4.0m	B	VI7	PD-CEGRSB205
Black Country - Bilston - Single Sided	H2	W2	1.0m	B	VI3	PD-CEGRSB301
Black Country - Bilston - Double Sided	H2	W4	2.0m	A	VI4	PD-CEGRSB351
FlexBeam PLUS - Single Sided	N2	W1	1.2m	B	-	PD-CEGRSB100
FlexBeam PLUS - Single Sided	N2	W2	2.0m	B	-	PD-CEGRSB102
FlexBeam PLUS - Single Sided	N2	W3	2.8m	B	-	PD-CEGRSB103
FlexBeam - Single Sided	N2	W5	5.0m	A	-	PD-CEGRSB105
FlexBeam - Double Sided	N2	W2	1.6m	A	-	PD-CEGRSB150
FlexBeam - Double Sided	N2	W3	4.0m	A	-	PD-CEGRSB151
FlexBeam - Double Sided	N2	W4	4.8m	A	-	PD-CEGRSB152
Hi-Flex - Single Sided	H1	W3	1.6m	B	VI6	PD-CEGRSB201
Hi-Flex - Single Sided	H1	W4	2.0m	B	-	PD-CEGRSB202
SVV2 - Single Sided	H2	W1	2.0m	B	VI2	PD-CEGRSB310
Hi-Flex - Single Sided	H2	W5	2.0m	B	-	PD-CEGRSB300
Hi-Flex - Double Sided	H2	W4	1.6m	A	-	PD-CEGRSB350
SPR4 - Single Sided	N2	W1	2.0m	B	-	PD-CEGRSB111
SPR4 - Single Sided	N2	W2	2.5m	B	-	PD-CEGRSB112
SPR4 - Single Sided	N2	W3	4.0m	A	-	PD-CEGRSB113
SPR4 - Single Sided	N2	W4	5.0m	A	-	PD-CEGRSB114
SPR4 - Double Sided	N2	W4	4.0m	A	-	PD-CEGRSB160

Non-Proprietary Safety Barrier Systems

System	Post Centres	Drawing Number
Tension Corrugated Beam - Single Sided	1.6m or 3.2m	Rev 1 NPSBS Drawing Pack
Tension Corrugated Beam - Double Sided	1.6m or 3.2m	Rev 1 NPSBS Drawing Pack
Open Box Beam - Single Sided	1.2m or 2.4m	Rev 1 NPSBS Drawing Pack
Open Box Beam - Double Sided	1.2m or 2.4m	Rev 1 NPSBS Drawing Pack
Double Rail Open Box Beam - Single Sided	2.4m	Rev 1 NPSBS Drawing Pack
Rectangular Hollow Section (RHS 47) - Double Sided	3.2m	Rev 1 NPSBS Drawing Pack
Rectangular Hollow Section (RHS 48) - Double Sided	3.2m	Rev 1 NPSBS Drawing Pack

Wire Rope

System	Containment Class	Working Width	Post Centres	ISL	Vehicle Intrusion	Drawing Number
Brifen 3 Rope	N2	W5	6.0m	A	-	PD-CEWRSB155
Brifen 3 Rope	N2	W6	8.0m	A	-	PD-CEWRSB156
Brifen 4 Rope	H1	W5	3.2m	A	VI8	PD-CEWRSB250
Brifen 4 Rope	H2	W8	3.2m	A	VI8	PD-CEWRSB350



Transitions

EN1317

System	Description	Containment Class	Working Width	ISL	Drawing Number
Tranzflex 110-170 - Single Sided	N2 S/S FlexBeam to Varley & Gulliver Parapet VRS Transition	N2	W2	B	PD-ENGRTR101
Tranzflex 100 - Single Sided	N2 S/S FlexBeam to H1/H2 S/S FlexBeam PLUS VRS Transition	N2	W2	B	PD-ENGRTR100
Double Sided FlexBeam to Single Sided FlexBeam PLUS Transition	1. D/S FlexBeam N2W4 to S/S FlexBeam PLUS N2W2 Transition	N2	W4	B	PD-ENGRTR151
Double Sided FlexBeam to Single Sided FlexBeam PLUS Transition	2. D/S FlexBeam N2W2 to S/S FlexBeam N2W4 Transition	N2	W4	B	PD-ENGRTR152
FlexBeam to SVV2 - Single Sided	N2 S/S FlexBeam to H2 S/S SVV2 VRS Transition	N2	W2	B	PD-ENGRTR102
N2-H2 Bilston - Single Sided	N2 S/S VRS to Bilston H2 W2 S/S VRS Transition	N2	W2	B	PD-ENGRTR104
N2 Guardrail to StructuGuard VRS	N2 Single Sided Guardrail to StructuGuard VRS Transition	N2	W1	C	PD-ENGRTR106
Tranzflex 200	N2 D/S FlexBeam to H2 D/S BriFlex VRS Transition	N2	W3	B	PD-ENGRTR150
Bri-Trans	N2 Brifen 4 Rope VRS to N2 S/S OBB Bri-Trans Transition	N2	W6	A	PD-ENWRTR151
REBLOC to Guardrail	REBLOC to N2 S/S Steel Guardrail Transition	N2	W2	C	PD-ENGRTR105
H2 VRS to Concrete Structure	H2 Single Sided Bilston VRS to Concrete Transition	H2	W1	C	PD-ENGRTR107
Non-Connecting Transition	N2 S/S FlexBeam VRS to Non-Connecting Transition	N2	W1	C	PD-ENGRTR103
HS2 Transition	H2 Bilston VRS to HS2 Concrete Transition	H2	W2	C	PD-ENGRTR153
TopRail Transition	L1W4 TopRail to N2 W2 D/S Dudley	N2	W4	B	PD-ENGRTR154
TopRail Transition	L1W4 TopRail to H2 W4 D/S Bilston	H1	W5	B	PD-ENGRTR155

End Terminals

EN1317

Steel Guardrail

System	Performance Class	Rating	Length	ISL	Drawing Number
Single Sided - FlexBeam	P1	D1.1 / Z1	12.8m	A	PD-ENWRNEAT001
Double Sided - FlexBeam	P1	D1.1 / Z1	12.8m	A	PD-ENWRNEAT050
ABC - Single Sided	P4	D1.1 / Z1	12.4m	B	617992
Trend - Single Sided	P4	D1.1 / Z2	12.4m	A	615794/95
Trend - Single Sided	P2	D1.1 / Z2	4.4m	A	615792/93
Trend - Double Sided	P2	D1.1 / Z2	4.4m	B	618442/43
Trend - Double Sided	P4	D1.1 / Z2	8.4m	B	618440/41
ERMES T2/80	P2	D1 / Z1	3.5m	B	VRS-TER-00002
ERMES T4/110	P4	D1 / Z1	5.8m	B	VRS-TER-00001

Wire Rope

System	Performance Class	No. of Ropes	Length	ISL	Drawing Number
Brifen Single Stage Terminal	P1/P4	3	27m	A	PD-ENWRNEAT052
Brifen Two Stage Terminal	P1/P4	4	26.8m	A	PD-ENWRNEAT053



FlexBeam

Double-sided or single-sided, FlexBeam's full suite of products will leave you with no gaps in safety. The system has a range of post configurations, including driven, socketed, surface-mounted and cast-in to suit a variety of ground conditions.



FlexBeam



Driving optimal performance through design simplicity.

At the heart of our FlexBeam family of products lies an untensioned corrugated beam that continually outperforms its humble design origins.

Developed to assist contractors by having minimal variation in components, FlexBeam creates a system that is simple by design to account for containment levels/working widths.

FlexBeam has become the industry's first choice due to its speed of installation and ease of stocking when considering legacy maintenance contracts.

FlexBeam VRS

FlexBeam utilises the 'W' beam profile mounted on 125x44x5mm 'Z/S' posts.

The systems can be installed on driven posts, surface-mounted posts, in socketed posts or posts cast directly into concrete.



Product Features

- ✓ Heart of our FlexBeam family tested to EN 1317
- ✓ Minimal variations in components for ease of stocking
- ✓ Quick and easy installation
- ✓ Posts can be installed on driven, socketed, surface-mounted or concrete-in posts and are all included within the system CE mark.

Single sided

Containment Class	Working Width	Drawing No.	Post Spacing	ISL
N2	W5	PD-CEGRSB105	5.0m	A

Double sided

Containment Class	Working Width	Drawing No.	Post Spacing	ISL
N2	W2	PD-CEGRSB150	1.6m	A
N2	W3	PD-CEGRSB151	4.0m	A
N2	W4	PD-CEGRSB152	4.8m	A

FlexBeam PLUS

We provide cost-effective systems even at low working widths. By strengthening our posts, we can increase the support centres and still achieve low working widths.



FlexBeam PLUS



The FlexBeam ethos of simplicity continues throughout our FlexBeam PLUS range of systems, using the same ‘W’ beam for continuity and a stronger 170x47.5x6mm ‘Z/S’ post.

It is a system that can connect directly into FlexBeam without the need for costly transitions, and can be driven, surface-mounted, socketed or cast directly into concrete, meaning it really is the ‘go-to’ product for ease of installation.

With the inclusion of the Tranzflex transition, the FlexBeam PLUS system becomes compliant and connectable to a wide range of Varley & Gulliver parapet products, providing an end-to-end design solution.



Product Features

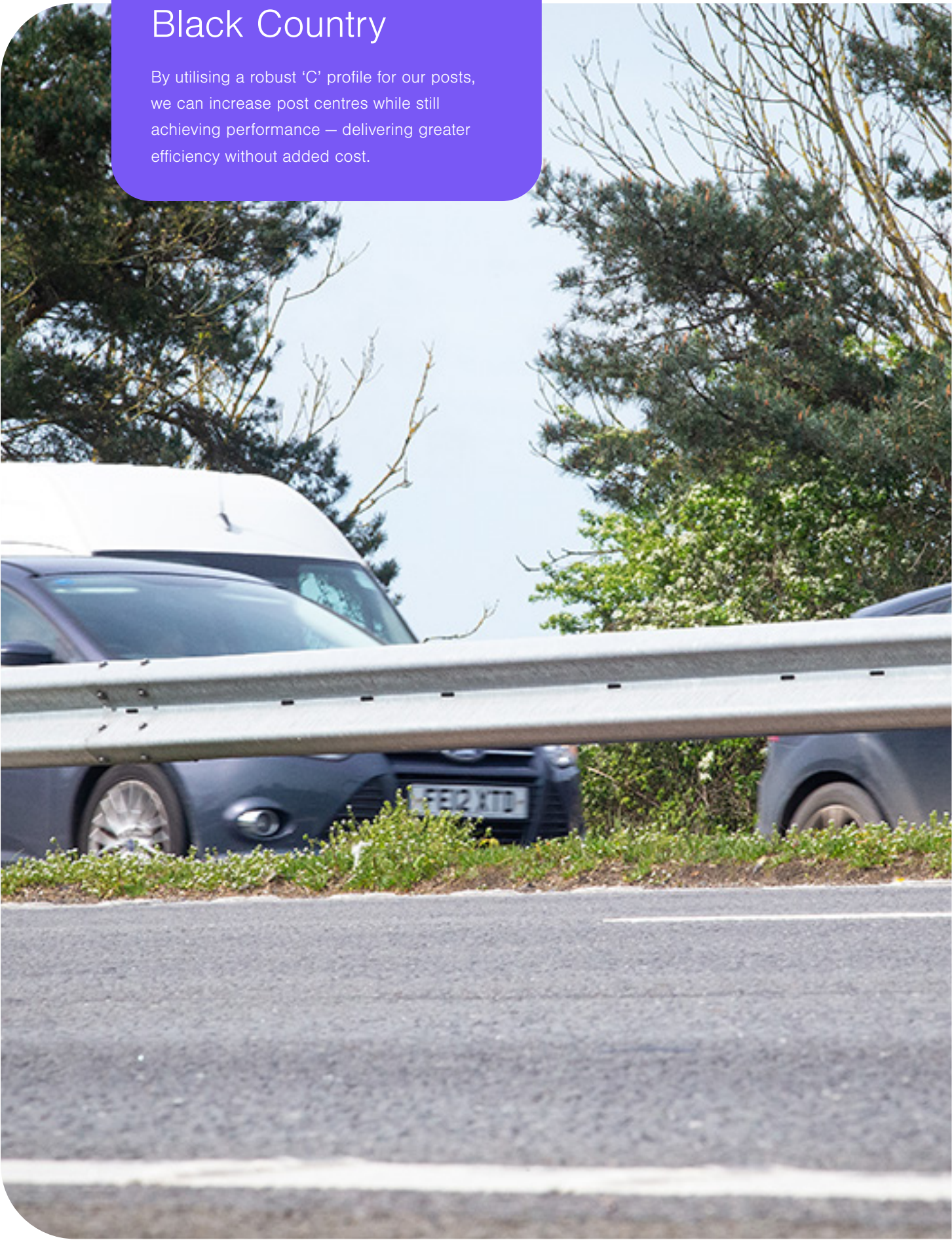
- ✓ Utilises the same ‘W’ beam throughout the range and stronger 170x47.5x6mm ‘Z/S’ post
- ✓ Can connect into other Brackmore Guardrail systems
- ✓ Posts can be installed on driven, socketed, surface-mounted or concrete-in posts and are all included within the system CE mark
- ✓ Maintains the efficient and timely installation of FlexBeam

Single sided

Containment Class	Working Width	Drawing No.	Post Spacing	ISL
N2	W1	PD-CEGRSB100	1.2m	B
N2	W2	PD-CEGRSB102	2.0m	B
N2	W3	PD-CEGRSB103	2.8m	B

Black Country

By utilising a robust 'C' profile for our posts, we can increase post centres while still achieving performance — delivering greater efficiency without added cost.



Black Country

Our widest post centre offerings for N2.

Extending the FlexBeam principle, this system pairs the traditional 'W' beam with enhanced 'C' posts to unlock our widest N2 post-centre spacing — delivering greater efficiency without compromising performance.

Designed to work in harmony with the existing Brackmore N2 Guardrail range, it connects directly without the need for specific transitions, maintaining full continuity across projects and helping to reduce materials on site.

With the flexibility to be driven, surface-mounted, socketed or cast into concrete, the system supports a wide variety of site conditions and programme

demands, helping schemes stay firmly on track.

With compliant transitions available where required, it forms part of a complete, end-to-end design solution.



Product Features

- ✓ 'W' beam for continuity and stronger 'C' posts to allow for wider post spacings
- ✓ Can connect into other Brackmore Guardrail systems
- ✓ Posts can be installed on driven, socketed, surface-mounted or concrete-in posts

Length of Need system – Dudley – Single Sided

Containment Class	Working Width	Drawing No.	Post Spacing	Vehicle Intrusion	ISL
N2	W1	PD-CEGRSB122	2.0m	-	B
N2	W2	PD-CEGRSB121	3.5m	-	B
N2	W3	PD-CEGRSB123	4.5m	-	B
N2	W4	PD-CEGRSB120	6.0m	-	B

Length of Need system – Dudley – Double Sided

Containment Class	Working Width	Drawing No.	Post Spacing	Vehicle Intrusion	ISL
N2	W2	PD-CEGRSB153	3.0m	-	B
N2	W4	PD-CEGRSB165	6.0m	-	B

Length of Need system – Tipton – Single Sided

Containment Class	Working Width	Drawing No.	Post Spacing	Vehicle Intrusion	ISL
L1 (H1 & N2)	W3 (N2) / W4 (H1)	PD-CEGRSB205	4.0m	VI7	B

Length of Need system – Bilston – Single Sided

Containment Class	Working Width	Drawing No.	Post Spacing	Vehicle Intrusion	ISL
H2	W2	PD-CEGRSB301	1.0m	VI3	B

Length of Need system – Bilston – Double Sided

Containment Class	Working Width	Drawing No.	Post Spacing	Vehicle Intrusion	ISL
H2	W4	PD-CEGRSB351	2.0m	VI4	A

SPR4

The SPR4 system extends the effective distance between barrier support posts on all our normal containment levels from W1 to W4.



SPR4

Resistance to snow removal from snow ploughs.

An evolution of the FlexBeam system, the SPR4 extends the effective spacing between barrier support posts across standard containment levels from W1 to W4 through the use of a reduced beam mounting height and a thicker W-beam profile.

Originally developed for the Norwegian market to accommodate snow plough clearance requirements, the system has since demonstrated significant cost and installation benefits on large-scale projects throughout the UK. Containment levels and working widths can be adapted with ease by simply altering the post centres, all of which are fully tested and approved. In addition, connectivity with other Brackmore barrier systems can be readily accommodated, providing greater flexibility for scheme designers and contractors.

With EN 1317-5 certification and CE accreditation, the Brackmore SPR4 system provides contractors with an additional solution for delivering commercial savings on larger schemes, without compromising safety or performance.

Future stock management is simplified through the system's minimal component philosophy of 'one beam, one post', reducing inventory complexity and helping to streamline deployment. Installation and maintenance



training is covered under Brackmore's existing Guardrail Training Courses, ensuring consistency and familiarity across the full Brackmore barrier range.



Product Features

- ✓ Extends the effective distance between barrier support posts
- ✓ Wider post centres offer savings on large-scale schemes
- ✓ Quick and easy installation
- ✓ Tested to EN 1317
- ✓ CE accreditation achieved
- ✓ Minimal component parts – 'one beam, one post'

Single sided

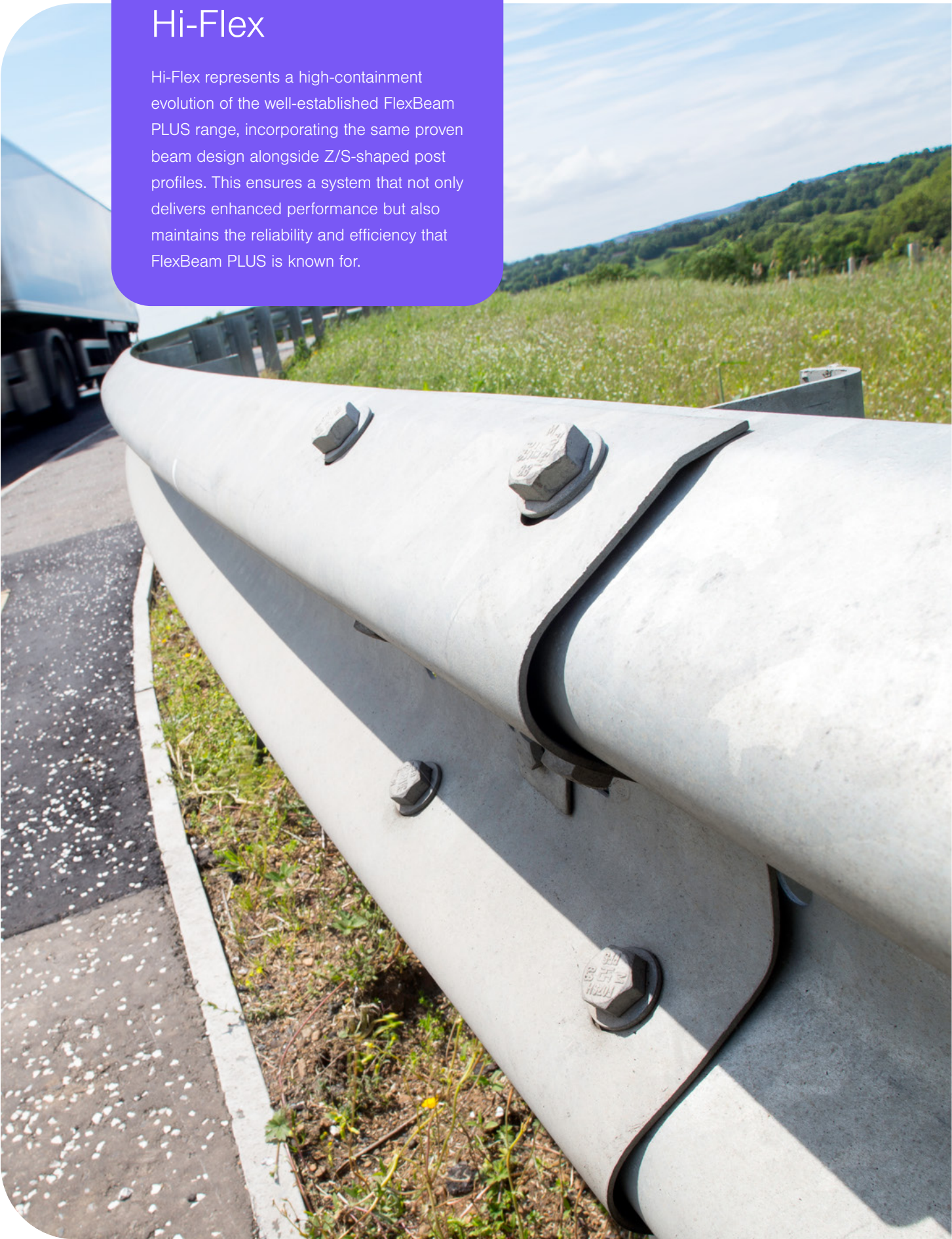
Containment Class	Working Width	Drawing No.	Post Spacing	ISL
N2	W1	PD-CEGRSB111	2.0m	B
N2	W2	PD-CEGRSB112	2.5m	B
N2	W3	PD-CEGRSB113	4.0m	A
N2	W4	PD-CEGRSB114	5.0m	A

Double sided

Containment Class	Working Width	Drawing No.	Post Spacing	ISL
N2	W4	PD-CEGRSB160	4.0m	A

Hi-Flex

Hi-Flex represents a high-containment evolution of the well-established FlexBeam PLUS range, incorporating the same proven beam design alongside Z/S-shaped post profiles. This ensures a system that not only delivers enhanced performance but also maintains the reliability and efficiency that FlexBeam PLUS is known for.



Hi-Flex

The original high-containment solution from Brackmore Barriers.

Designed with both safety and cost-effectiveness in mind, Hi-Flex offers a single-sided, single-height L1 W3 (H1 W3/ N2 W2) system, providing high containment performance at a cost comparable to a normal containment barrier. This makes it an ideal solution for projects requiring upgraded safety performance without significantly increasing installation costs.

Due to its dual L1 classification, the single-height system allows seamless connection to Brackmore's N2 Guardrail range without the need for a separate tested transition.

In addition, we offer a single-sided, double-height configuration, independently tested to achieve both H1 W4 and H2 W5 performance levels. This provides increased flexibility for engineers and designers, allowing them to specify a system that meets higher containment requirements where needed.



Product Features

- ✓ Suitable for high-containment applications
- ✓ Tested to EN 1317-2
- ✓ CE marked
- ✓ Dual classified L1 W3 (H1 W3 / N2 W2) allows direct connection to Terminals and N2 safety barrier

Containment Class	Working Width	Vehicle Intrusion	Drawing No.	Post Spacing	ISL
L1 (H1 / N2)	W3 / W3 / W2	VI6	PD-CEGRSB201	1.6	B
H1	W4	VI6	PD-CEGRSB202	2.0	B
H2	W5	VI5	PD-CEGRSB300	2.0	B

TopRail

TopRail offers a high-performance, dual-tested alternative to W-beam that cuts installation time, reduces whole-life costs, and connects effortlessly into existing N2 or H2 systems.



TopRail



A new profile with proven performance.

The TopRail suite of vehicle restraint systems offers a unique barrier profile that differs from the traditional ‘W’ beam which is used widely across the UK. Tested and approved to the necessary industry standards, the TopRail systems provide a cost-effective alternative without compromising on safety.

Replacing the traditional ‘W’ beam, the TopRail features a ‘U’-shaped section that comfortably sits on top of steel ‘C’ section posts. With brackets in place to provide stability, the TopRail suite of solutions can be installed in both central reservation and verge applications, dramatically improving the versatility of the product.

The wider post centres help cut whole-life costs by reducing materials and installation time. Depending on the scheme, this can result in substantial savings and can also reduce the associated carbon footprint by around half compared to traditional double-sided systems.

The TopRail family is tested to EN 1317 with a containment class of L1. This dual-tested approach means both N2 and H1 containment classes are met. The TopRail also has two tested and approved transitions, enabling customers to freely connect into N2 and H2 double-sided ‘W’ beam arrangements.



Product Features

- ✓ ‘U’-shaped section, opposed to the traditional ‘W’ beam
- ✓ Transitions available to connect into N2 and H2 double-sided Guardrail
- ✓ Slim profile helps maximise space for double-sided central reservation application
- ✓ Can be manufactured from low-carbon materials

Length of Need system – TopRail

Containment Class	Working Width	Drawing No.	Post Spacing	ISL
L1 (H1 & N2)	W4	PD-CEGRSB250	5.0m	A

Containment Class	Working Width	Drawing No.	Post Spacing	ISL
L1 (H1 & N2)	W4 (H1), W3 (N2)	PD-CEGRSB251	2.5m	A

StructuGuard®

This is a tested alternative to the legacy NPSBS OBB Hex Bracket solution, with the potential to replace and upgrade site locations across the network. It is ideally suited to locations where traditional W1 post VRS are impractical, such as where there is limited working width or where post installation isn't feasible.



StructuGuard®



Tested alternative to the existing legacy system.

StructuGuard® is a wall-mounted CE-marked EN 1317-tested and approved VRS, featuring Hex Brackets at 1200mm centres and W-beam profiles.

StructuGuard provides an approved alternative to the legacy Open Box Beam (OBB) Hex Bracket system.

It is designed specifically for situations where space is constrained, in which the available working width is less than 'W1', and connection into the structure along its length is necessary. It is also an ideal solution for applications where the ground adjacent to structures cannot facilitate a post due to ground obstructions or services.

Additionally, there is an EN 1317-4 tested and approved transition available, known as the N2 Single Sided Guardrail to StructuGuard VRS Transition. This transition can be used on both the approach and departure ends of the structure to connect to Brackmore's N2 Guardrail systems.



Product Features

- ✓ Single-sided, wall-mounted VRS, utilising Hex Brackets and W-beam profiles
- ✓ Length of Need System tested in accordance with EN 1317-2
- ✓ Transition is tested in accordance with DD ENV EN 1317-4
- ✓ Compatible tested transition allows connectivity into Brackmore's range of VRS

Length of Need system – StructuGuard

Containment Class	Working Width	Drawing No.	Bracket Spacing	ISL
N2	W1	PD-CEGRSB140	1.2m	C

Transition – N2 Single Sided Guardrail to StructuGuard VRS Transition

Containment Class	Working Width	Drawing No.	Post Spacing	ISL
N2	W1	PD-ENGRTR106	Varies	C

Transitions



Transitions that deliver confidence and safety.

The connection point between barriers is often the most critical element of any vehicle restraint system. That's why our transitions undergo rigorous testing and full approval in accordance with EN 1317 standards. This ensures reliable product performance and guarantees that vehicles are safely contained and redirected, even when containment levels and working widths change.

Our comprehensive range of transitions is designed to meet diverse installation scenarios. Whether you need to connect two different VRS types, integrate with concrete structures, or overcome situations where a physical connection isn't possible, we have a solution that works.



Product Features

- ✓ Tested compliance with DD ENV 1317-4
- ✓ Versatile connectivity
- ✓ Robust structural integration
- ✓ Compatibility with HS2 structures

N2 Single Sided Transition

Name	Performance Class	Description	Drawing No.
Tranzflex 101-170	N2W2	N2 S/S FlexBeam to V&G Parapet	PD-ENGRTR100
Tranzflex 100	N2W2	N2 S/S FlexBeam to H1 / H2 S/S FlexBeam	PD-ENGRTR101
FlexBeam Transition	N2W4	N2 S/S FlexBeam to N2 D/S FlexBeam	PD-ENGRTR151 & 152
FlexBeam to SVV2	N2W2	N2 S/S FlexBeam to H2 S/S SVV2	PD-ENGRTR102
N2-H2 Bilston	N2W2	N2 S/S Guardrail to H2 Bilston	PD-ENGRTR104
N2-StructuGuard	N2W1	N2 Single Sided Guardrail to StructuGuard VRS Transition	PD-ENGRTR106

N2 Single/Double Sided Brifen Transition

Name	Performance Class	Description	Drawing No.
Bri-Flex	N2W3	N2 Brifen 4 Rope to H1W7 Brifen 4 Rope Transition	PD-ENGRTR100
Bri-Trans	N2W6	N2 Brifen 4 Rope to N2 S/S OBB	PD-ENGRTR101

Guardrail to Concrete Transitions

Name	Performance Class	Description	Drawing No.
REBLOC to Guardrail	N2W2	N2 S/S Guardrail to REBLOC	PD-ENGRTR105
H2 to Concrete	H2W1	H2 Single Sided Bilston VRS to Concrete	PD-ENGRTR107
H2 VRS to HS2	H2W2	H2 Bilston VRS to HS2 Concrete Transition	PD-ENGRTR153

FlexGuard



Single-sided retro-fitted barrier system.

FlexGuard is a motorcycle protection system that can be installed on TCB, OBB, FlexBeam, FlexBeam PLUS and Hi-Flex vehicle restraint systems. It is designed to help protect motorcyclists from impacting barrier support posts in the event of a collision.

Fully approved for use by National Highways, FlexGuard maintains the tested performance characteristics of the barrier system to which it is attached.



Whilst not currently approved, bespoke solutions can be manufactured to enable installation on alternative VRS systems beyond those listed above.

When the barrier is impacted by a vehicle, it is designed to fall to the floor. This does not affect the performance of the barrier and allows it to perform as designed.

Product Features

- ✓ Can be fitted to existing proprietary and non-proprietary systems
- ✓ Cost-effective solution
- ✓ Quick and easy installation

End Terminals

Compliant means from start to finish.

Complementing our range of VRS systems, we offer P1, P2 and P4 end Terminal solutions tested in accordance with DD ENV 1317.

In addition, we are a supplier of the NPSBS TCB and OBB Terminals, which are deemed acceptable for use on the Highways England Trunk Road Network on roads with a speed limit less than 50mph.



Non-Energy-Absorbing Terminals

Designed for use on roads with speed limits below 50mph, or as departure-end Terminals on higher-speed roads, Brackmore's ramped and sloped Terminals provide a practical and compliant solution for a range of applications. The FlexBeam range incorporates two P1 Terminal options, one single-sided and one double-sided, both achieving a D1.1 classification.

Brackmore can also manufacture and supply legacy TCB and OBB ramped terminals, ensuring continued support for existing barrier installations.



Energy-Absorbing Terminals

Full-Height Terminals are designed to absorb impact energy and slow the vehicle to a gradual stop. P2 Terminals can be used on roads with a speed limit of less than 50mph, or departure-only ends on roads above 50mph. P4 Terminals can be used on roads with a speed limit of 50mph or greater.

We Offer:

- ✓ ABC single-sided P4 Terminal D1.1 / Z1
- ✓ Trend P4 both single- and double-sided both D1.1 / Z2
- ✓ Trend P2 both single- and double-sided both D1.1 / Z2
- ✓ ERMES T2/80 and T4/110 both D1 / Z1

Non-Proprietary Safety Barrier Systems (NPSBS)

Brackmore is a recognised manufacturer of the legacy Vehicle Restraint Systems (VRS) that were originally developed as the intellectual property of National Highways (formerly the Highways Agency).



Non-Proprietary Safety Barrier Systems (NPSBS)

Our legacy VRS offering includes:

- ✓ Tension Corrugated Beam (TCB)
- ✓ Open Box Beam (OBB)
- ✓ Double Rail Open Box Beam (DROBB)
- ✓ Rectangular Hollow Section (RHS 47 & 48)

These systems are primarily intended for repair, maintenance and connection works within existing infrastructure networks. They should not be specified for new installations where compliance with DMRB CD 377 is required.

While these systems were originally tested in accordance with earlier versions of EN 1317, they have not been assessed against the latest version of the standard, introduced in 2010. Consequently, they do not carry CE or UKCA marking.

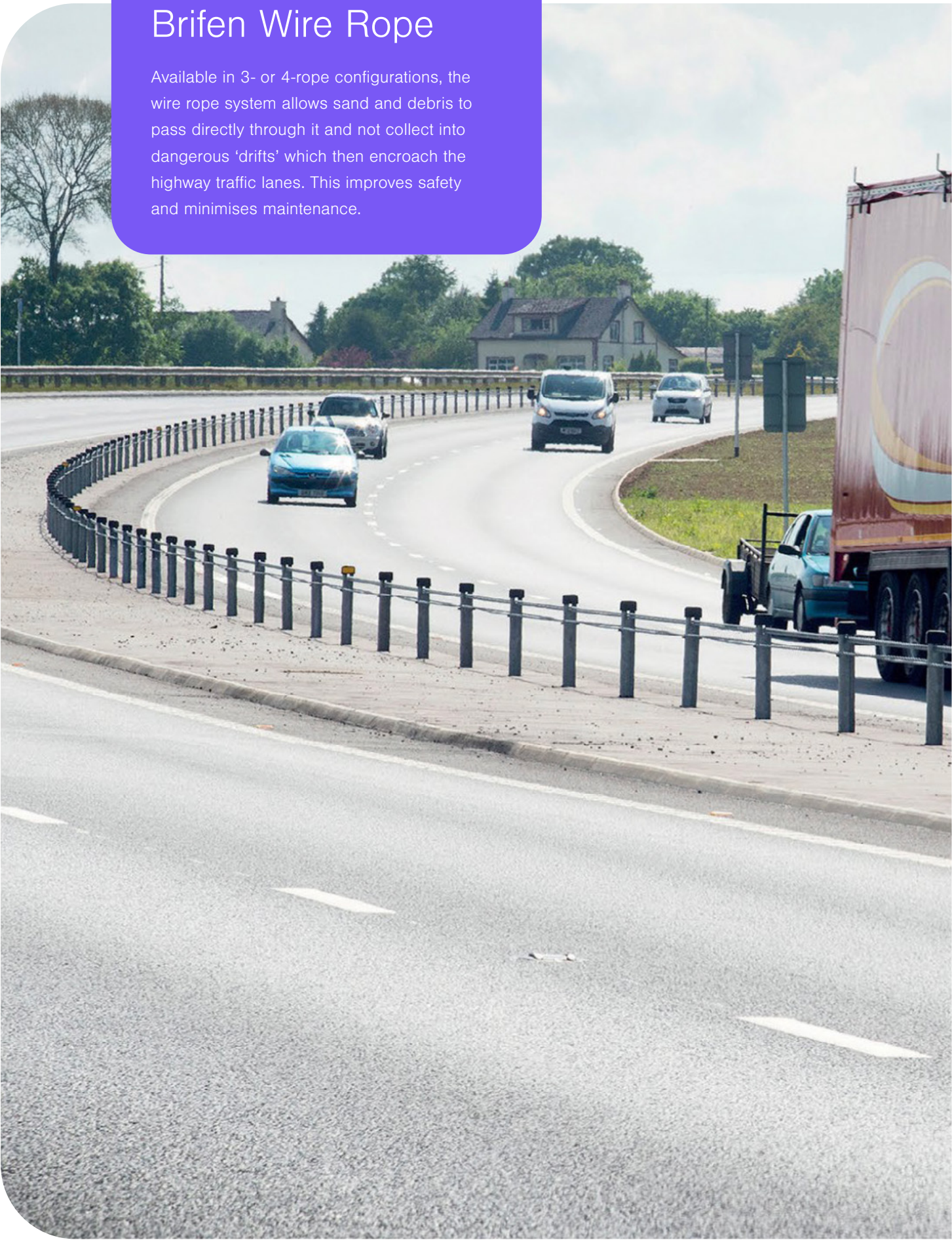
To support the ongoing maintenance and integration of existing assets, connection details are available between legacy systems and our proprietary VRS solutions.

Brackmore can also supply legacy systems with advanced specialist coatings, helping to achieve significant carbon reductions. Get in touch to find out more.



Brifen Wire Rope

Available in 3- or 4-rope configurations, the wire rope system allows sand and debris to pass directly through it and not collect into dangerous 'drifts' which then encroach the highway traffic lanes. This improves safety and minimises maintenance.



Brifen Wire Rope



The wire rope safety system weaving itself around the globe.

With Brifen's visually striking 'weave' configuration, it is easy to see why an increasing number of countries around the world are taking advantage of its performance, speed of installation, lower maintenance lifecycle costs, and in certain environments, its ecologically adaptive design.

Developed to EN 1317 (including CE certification) Brifen has found itself installed in over 30 countries worldwide, such as the UK, the USA, Australia, Scandinavia, South America and the Middle East.

To allow connection to other barrier systems, we have developed a transition (Bri-Trans) that is fully tested to EN 1317 and ensures it contains and safely redirects impacting vehicles.

To complete our range, we have a variety of Brifen Terminals fully tested to P1 and P4 requirements.



Product Features

- ✓ Quick and easy installation
- ✓ After impact, fence line stays in an upright position
- ✓ Brifen remains 'in tension' even with the huge local temperature variance between day and night due to the interwoven design

Length of Need system

Containment Class	Working Width	Drawing No.	Post Spacing	No. of Ropes
N2	W5	PD-CEWRSB155	6.0m	3
N2	W6	PD-CEWRSB156	8.0m	3
H1	W5	PD-CEWRSB250	3.2m	4
H2	W8	PD-CEWRSB350	3.2m	4



INTRODUCING

Our Parapet Solutions

We have been at the forefront of road safety solutions for the last 60 years, with our bridge parapets, pedestrian barriers and passive sign supports all designed to keep road users safe across the globe.

In the UK alone, five people are killed and more than 60 people are seriously injured in road crashes, on average, every single day. Brackmore is committed to helping to reduce these staggering statistics.

Varley & Gulliver System Reference Guide



Vehicle Parapet Steel

System	Containment Class	Working Width	Vehicle Intrusion	Drawing No.	Nom. Post Spacing	ISL
VGSN 500	N1	W1	N/A	VGSN 500 Series	3.75m	B
VGSN 800	N1	W2	N/A	VGSN 800 Series	3.75m	A
VGSN 1000	N2	W2	N/A	VGSN 1000 Series	3.66m	B
VGSH 2000	H2	W3	VI3	VGSH 2000 Series	2.00m	B
VGSH 4000	H4a	W4	VI5	VGSH 4000 Series	4.50m	B

Vehicle Parapet Aluminium

System	Containment Class	Working Width	Vehicle Intrusion	Drawing No.	Nom. Post Spacing	ISL
VGAN 500	N1	W2	N/A	VGAN 500 Series	4.00m	A
VGAN 1000	N2	W3	N/A	VGAN 1000 Series	3.00m	B
VGAH 2000	H2	W3	VI3	VGAH 2000 Series	2.50m	C
VGAN 300	NCHRP 350 TL3/TL4			VGAN 300 Series	3.00m	-
VGAN 400	MASH TL3/TL4			PD-VGAN 400	1.829m	-

Vehicle Parapet Transitions

System	Containment Class	Working Width	Vehicle Intrusion	Drawing No.	Nom. Post Spacing	ISL
Tranzflex 110-170 Single Sided	N2	W2	N/A	PD-ENGRTR101	Varies	B
VGSH 4000 to HS2	H4a	W3	VI4	PD-ENPRTR001	Varies	C



Pedestrian Parapet Steel

System	Height	Post & Rail Class	Infill Class	Drawing No.	Post Spacing
VGSP-01	1150mm	3	C	VGSP-01	2.00m
VGSP-02	1400mm	3	C	VGSP-02	2.00m
VGSP-03	1800mm	3	C	VGSP-03	2.00m
VGSP-04	1800mm	3	C	VGSP-04	1.60m
VGSP-05	1500mm	3	C	VGSP-05	2.00m
VGSP-12	2400mm	3	C	VGSP-12	2.00m

Pedestrian Parapet Aluminium

System	Height	Post & Rail Class	Infill Class	Drawing No.	Post Spacing
VGAP-01	1150mm	3	C	VGAP-01	2.00m
VGAP-02	1400mm	3	C	VGAP-02	2.00m
VGAP-03	1800mm	3	C	VGAP-03	1.605m
VGAP-04	1800mm	3	C	VGAP-04	0.85m

COMING UP...

Vehicle Parapets



Explore our bridge parapets – essential safety barriers protecting vehicles and pedestrians from vertical drops.

Steel Vehicle Parapets

Designed for bridges, retaining structures and other elevated applications, our steel vehicle parapet systems offer essential protection where edge containment is critical.

VEHICLE PARAPETS

Steel Parapets

Our steel vehicle parapet systems are engineered to provide essential edge protection in locations where there is a risk of vertical drop.

Fully tested in accordance with EN 1317 and CE marked, these systems deliver proven, compliant performance across a wide range of applications.

Available in height options from 1.0m to 1.8m, with a choice of mesh infill or solid sheeting, our parapets can be tailored to suit diverse requirements, including general highway use, cyclist safety, equestrian routes, and anti-suicide mitigation measures.

All components are hot-dip galvanised to EN ISO 1461, ensuring long-term durability and reliable performance. For more demanding environments, enhanced galvanising options are available to provide additional protection against moisture, road salts, and other corrosive conditions.

Product Features

- ✓ 1.0m–1.8m height variants to suit a range of scenarios
- ✓ N1, N2, H2 and H4a containment level offerings
- ✓ Mesh or solid sheeting options available
- ✓ Various anchor options including cast-in or drilled and fixed



VGSN 500

A steel post and horizontal rail system with posts installed at 3.75m nominal centres. Rated to N1 W1, this suits applications for road speeds less than 50mph in accordance with DMRB requirements.



VGSN 800

A steel post and vertical rail system with posts installed at 3.75m nominal centres. Rated to N1 W2, this suits applications for road speeds less than 50mph in accordance with DMRB requirements. This solution provides a more decorative approach where aesthetics are a primary factor.



VGSN 1000

A steel post and horizontal rail system with posts installed at 3.66m nominal centres. Rated to N2 W2, this suits applications for road speeds up to 70mph in accordance with DMRB requirements where normal containment VRS is required.



VGSH 2000

A steel post and horizontal rail system with posts installed at 2.00m nominal centres. Rated to H2 W3 VI3, this suits applications for road speeds up to 70mph in accordance with DMRB requirements where a high-containment VRS is required.



VGSH 4000

A steel post and horizontal rail system with posts installed at 4.50m nominal centres. Rated to H4a W4 VI5, this suits applications for road speeds up to 70mph in accordance with DMRB requirements where a very-high-containment VRS is required. This solution is perfect for applications over or adjacent to a railway.

Aluminium Vehicle Parapets

Our aluminium vehicle parapet systems are engineered to provide essential edge protection in locations where there is a risk of vertical drop.

VEHICLE PARAPETS

Aluminium Parapets

With solutions tested and approved in accordance with EN 1317, MASH and NCHRP standards, these solutions ensure proven, compliant performance across a wide variety of applications and in accordance with international standards.

Available in height options from 1.0m to 1.8m, with a choice of mesh infill or solid sheeting, our parapets can be tailored to suit diverse requirements – including general highway use, cyclist safety, equestrian routes, and anti-suicide mitigation measures.

Manufactured from extruded aluminium alloy, all major components offer excellent durability and consistent performance. With a typical design life expectancy of up to 60 years (subject to environmental conditions), these systems provide a long-term, low-maintenance solution for modern infrastructure.

Product Features

- ✓ 1.0m–1.8m height variants to suit a range of scenarios
- ✓ N1, N2 and H2 containment level offerings
- ✓ Mesh or solid sheeting options available
- ✓ Various anchor options including cast-in or drilled and fixed



VGAN 500

An aluminium post and horizontal rail system with posts installed at 4.00m nominal centres. Rated to N1 W2, this suits applications for road speeds less than 50mph in accordance with DMRB requirements.



VGAN 1000

An aluminium post and horizontal rail system with posts installed at 3.00m nominal centres. Rated to N2 W3, this suits applications for road speeds up to 70mph in accordance with DMRB requirements where a normal-containment VRS is required.



VGAH 2000

An aluminium post and horizontal rail system with posts installed at 2.50m nominal centres. Rated to H2 W3, this suits applications for road speeds up to 70mph in accordance with DMRB requirements where a high-containment VRS is required.



VGAN 300

Tested to the international NCHRP 350 standard, this system is rated TL3/TL4 with posts installed at 3.00m nominal centres.



VGAN 400

Tested to the international MASH standard, this system is rated TL3/TL4 with posts installed at 1.829m nominal centres.



Legacy Parapet Solutions

Brackmore is an experienced manufacturer and supplier of legacy Parapet Systems. As the owner of the BACO, BAL and HDA aluminium parapet systems, Brackmore supports their ongoing maintenance and replacement, while also supplying the British Steel HBP and Department for Transport systems).



Legacy Parapet Solutions



Our legacy VRS offering includes:

- ✓ BACO
- ✓ BAL
- ✓ HDA
- ✓ British Steel HBP

These systems are primarily intended for repair and maintenance works within existing infrastructure networks and should not be specified for new installations where compliance with **DMRB CD 377** is required.

These systems were originally tested against standards in place prior to the introduction of EN 1317 and have not subsequently been assessed to EN 1317 requirements. As a result, they do not carry CE or UKCA marking.

To support the ongoing maintenance and integration of existing assets, Brackmore can provide replacement components on a like-for-like basis where full system replacement is not feasible. We can also supply approved **end upgrades** for these legacy systems, which have been accepted by **National Highways** for use on the strategic road network.

These upgrades enable a connection between the legacy barrier system and our fully tested and approved **N2 W2 Tranzflex transition**, providing a compliant and practical solution for extending the service life of existing installations while offering continued confidence in system performance.



COMING UP...

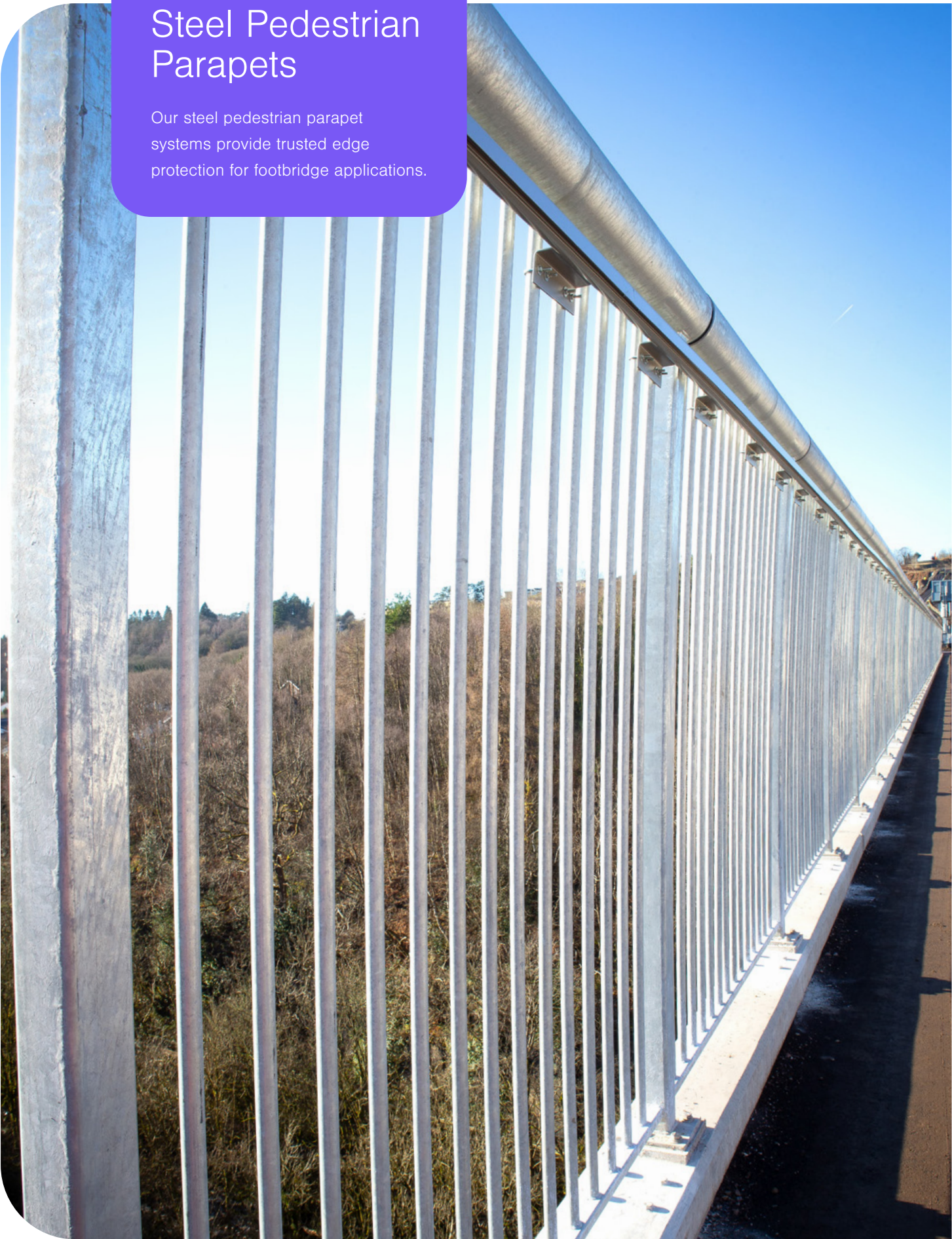
Pedestrian Parapets



Discover our pedestrian parapets – designed for footbridges and stairways to prevent falls from height.

Steel Pedestrian Parapets

Our steel pedestrian parapet systems provide trusted edge protection for footbridge applications.



PEDESTRIAN PARAPETS

Steel Parapets

Our steel pedestrian parapet systems are engineered to provide essential pedestrian edge protection in locations where there is a risk of vertical drop.

Designed and calculated in accordance with BS 7818, these systems deliver proven, compliant performance.

All components are hot-dip galvanised to EN ISO 1461, ensuring long-term durability and reliable performance. For more demanding environments, enhanced galvanising options are available to provide additional protection against moisture, road salts, and other corrosive conditions.

Product Features

- ✓ BS 7818 compliant
- ✓ Long lifespan
- ✓ Panel design for ease of installation
- ✓ Various anchor options including cast-in or drilled and fixed



VGSP-01
A 1150mm-high steel post and vertical infill solution with posts installed at 2.0m centres.



VGSP-02
A 1400mm-high steel post and vertical infill solution with posts installed at 2.0m centres.



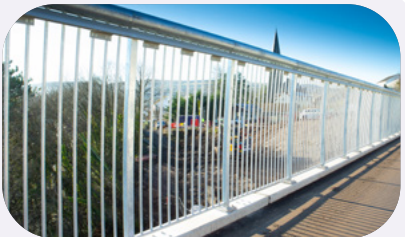
VGSP-03
A 1800mm-high steel post and vertical infill solution with posts installed at 2.0m centres. The lower 600mm is sheeted, making this ideal for bridleway and equestrian applications.



VGSP-04
A 1800mm-high steel post and vertical infill solution with posts installed at 2.0m centres. Solid sheeting is affixed to the pedestrian side of the system.



VGSP-05
A 1500mm-high steel post and vertical infill solution with posts installed at 2.0m centres.



VGSP-12
A 2400mm-high steel post and vertical infill solution with posts installed at 2.0m centres. The system has an inclined face, with a large top rail ideal for applications where suicide mitigation measures are required.

Aluminium Pedestrian Parapets

Our aluminium pedestrian parapet systems provide essential pedestrian edge protection for footbridge applications.



PEDESTRIAN PARAPETS

Aluminium Parapets



Our aluminium pedestrian parapet systems are engineered to provide essential pedestrian edge protection in locations where there is a risk of vertical drop.

Designed and calculated in accordance with BS 7818, these systems deliver proven, compliant performance.

Manufactured from extruded aluminium alloy, all major components offer excellent durability and consistent performance. With a typical design life expectancy of up to 60 years (subject to environmental conditions), these systems provide a long-term, low-maintenance solution for modern infrastructure.

Product Features

- ✓ BS 7818 compliant
- ✓ Long lifespan
- ✓ Panel design for ease of installation
- ✓ Various anchor options including cast-in or drilled and fixed



VGAPP-01

A 1150mm-high aluminium post and vertical infill solution with posts installed at 2.0m centres.



VGAPP-02

A 1400mm-high aluminium post and vertical infill solution with posts installed at 2.0m centres. Ideal for situations where a vision gap is required in the system.



VGAPP-03

A 1800mm-high aluminium post and vertical infill solution with posts installed at 1.605m centres. With solid sheeting on the lower portion, this solution is ideal for farm accommodation bridges.



VGAPP-04

A 1800mm-high aluminium post and vertical infill solution with posts installed at 0.85m centres. Solid sheeting is affixed to the pedestrian side of the system.



INTRODUCING

Our Passive Safety Solutions

Many road deaths and injuries are caused when a vehicle collides with a fixed roadside object, such as a tree, lighting column, pole or road sign. According to the World Health Organization (WHO), the issue is causing a major road safety problem worldwide.

In response, our HiMAST passive traffic sign posts were developed to minimise the damage caused to a vehicle and its occupants in the event of a crash.

HiMAST™

HiMAST™ Passive Sign Supports are engineered to reduce the severity of roadside collisions, providing a safer, non-energy-absorbing alternative to traditional steel sign supports.

HiMAST™ Passive Sign Supports

Enhancing road safety with HiMAST™.

HiMAST™ Passive Sign Supports are engineered to reduce the severity of roadside collisions, providing a safer, non-energy-absorbing alternative to traditional steel sign supports. Designed in accordance with EN 12899-1 and physically crash tested to EN 12767, HiMAST™ delivers proven performance you can trust.

Manufactured in the UK, HiMAST™ is the first system of its kind to achieve full TOPAS approval. These supports are designed to break away on impact, helping protect both vehicles and their occupants by minimising the severity of forces experienced during a collision.

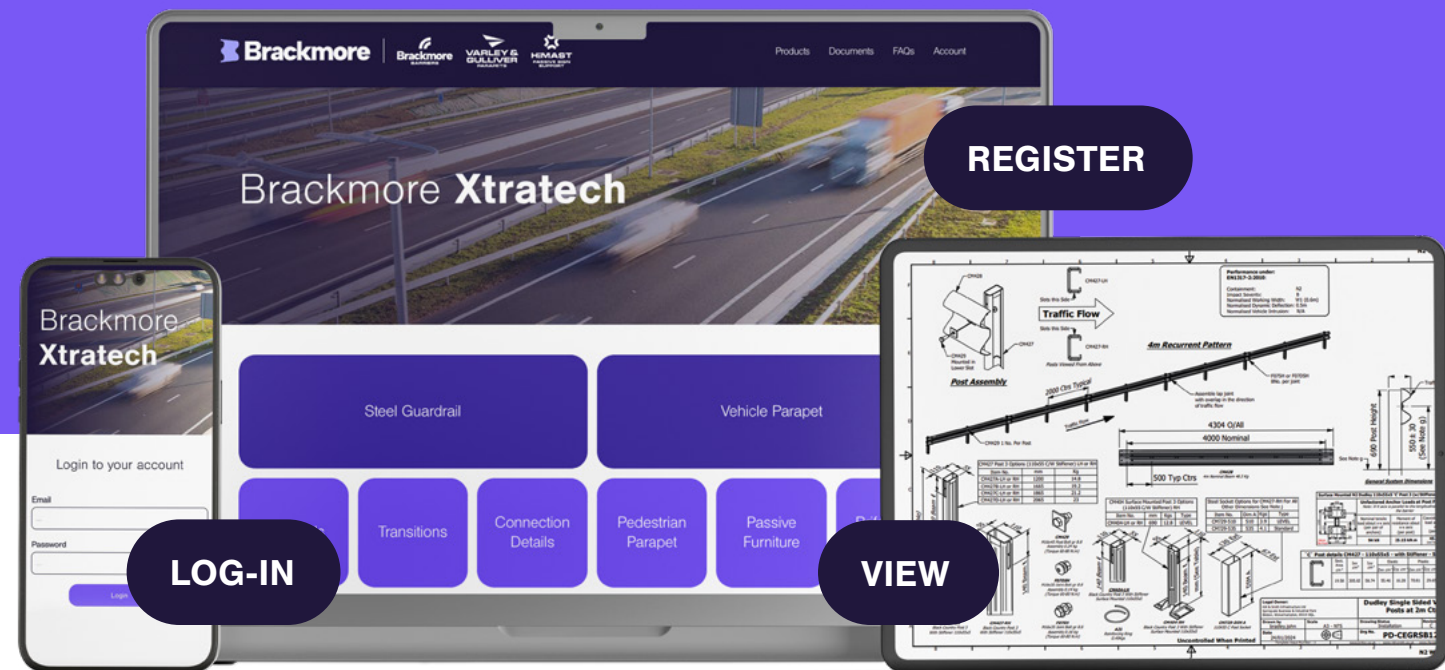


Product Features

- ✓ Manufactured in the UK from high-quality aluminium, offering longer service life
- ✓ Up to 95% recyclable with a low carbon footprint
- ✓ EN 12767 tested, EN 12899-1 compliant and CE marked
- ✓ Full in-house design and engineering support available
- ✓ The first passively safe sign support product to be TOPAS approved
- ✓ Multidirectional – can be impacted from all angles

Product	Section Size	Unfactored Bending Capacity	Unfactored Torsional Capacity	Anchorage Centres
H500	125mm x 125mm	12.7 kNm	13.3 kNm	4 bolt 140mm x 140mm
H1000	159mm x 159mm	17 kNm	10.7 kNm	4 bolt 180mm x 180mm
H2000	212mm x 212mm	35.3 kNm	17.2 kNm	4 bolt 235mm x 235mm
H3000	252mm x 252mm	58.1 kNm	26.4 kNm	4 bolt 290mm x 290mm
H4000	290mm x 290mm	102.3 kNm	46.2 kNm	4 bolt 330mm x 330mm

Have you explored our **Xtratech** online technical portal yet?



If not, you're missing out on one of the most comprehensive VRS knowledge resources available.

Our Xtratech website brings together all system GA drawings, manuals, approvals, FAQs, and bespoke template

files for the full Brackmore Ltd product portfolio.

It's the go-to hub for anyone involved in VRS design, specification and installation.

Create your free account and unlock a wealth of technical guidance to support your VRS project needs.

If you or your team are looking to deepen your expertise in VRS design, testing, standards or best practice, or would like to discuss product solutions, feel free to reach out to Brackmore Ltd to arrange a 'Lunch & Learn' session for you and the team. We're always happy to support industry knowledge sharing.

Xtratech

Simple access to our system drawings and installation guidance:

xtratech.brackmore.com

EPD

INTERNATIONAL EPD SYSTEM

What is an Environmental Product Declaration (EPD)?

EPDs are independently verified documents that communicate the environmental impacts of a product across defined lifecycle stages, in accordance with EN 15804.

EPDs are typically valid for five years, unless significant changes to the product or manufacturing process occur.

While not currently a legal requirement in the UK, EPDs are increasingly specified in major highways tenders and play an important role in product selection where carbon impact is a key consideration.

What are the latest requirements?

Product Category Rules (PCRs) define how Life Cycle Assessments (LCAs) and EPDs must be developed for specific product types.

The PCR for Vehicle Restraint Systems (VRS) was updated in mid-2025. All Brackmore EPDs have been developed in line with these latest requirements, ensuring compliance with the updated EN 15804 framework.

Where can I find Brackmore EPD information?

To view the full EPD for our range of products, including Standard Barrier, EAF Barrier (low-carbon steels), Steel Parapet, Aluminium Parapet and Hi-MAST, please follow the link below.

www.environdec.com/library





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