

Highway Products



A CRH COMPANY



Retention Socket Systems

The NAL Retention Socket system is a patented range of fittings developed to secure all types of illuminated and non-illuminated street furniture enabling a quick installation and removal with a key and a spanner. All Retention Sockets are manufactured with a cast steel or ductile iron top section and a range of base types to suit all applications. All furniture is secured into the socket by a stainless steel locking mechanism, located in a recessed side chamber in the top section of the socket. Available in sizes from 48mm to 410mm with a range of bases to suit all applications.



Non-illuminated

A flat base with no provision for cable entry but has the ability to be shortened on site. These are suitable for any type of non-illuminated street furniture.



Shallow Foundation

Manufactured with a strengthening plate and an overall planting depth of 200-300mm with an option of four bottom cable entry points. This product is suitable for both illuminated and non-illuminated street furniture installations with severe depth issues.



Surface Mounted

Manufactured with threaded insert or spigoted plate to suit the fixing points of surface mounted furniture. Inserts and plates can be manufactured and secured in all base types and for all types of flange mounted and bolt down street furniture.



Retention Socket Post Installer

This patented lifting system is designed to lift, lower or raise various types of highway furniture installed in the NAL Retention Socket. It eliminates working at height and manual handling risks involved in the installation and maintenance of signage, traffic signal and street lighting columns.



Product Benefits

Installation Benefits

- ♦ Ability to be installed in shallow depth
- ♦ EN40 or BD9407 foundation design service
- ♦ Enables civils works to be completed without street furniture
- ♦ Enables furniture orientation change after installation



Maintenance Benefits

- ♦ Withstands unlimited impacts of any force
- ♦ Eliminates civils works on replacement of knockdowns
- ♦ Minimises disruption and traffic management cost during replacement
- ♦ Maintenance work can be carried out in a controlled environment
- ♦ Simplifies the erection and removal of seasonal street furniture



Future Benefits

- ♦ Allows public areas to be cleared for events
- ♦ New and upcoming technology can be installed quickly and cost effectively in existing Retention Sockets
- ♦ Simplifies the works involved with wide loads
- ♦ Increased life expectancy of street furniture installed in Retention Sockets
- ♦ Retention Sockets have a life expectancy of 100 years. This allows for four street furniture life cycles



Free Foundation Design Service

NAL provide a free foundation service for Retention Socket installations.

Foundations for either EN40 and BD9407 can be calculated for any non-standard installation.

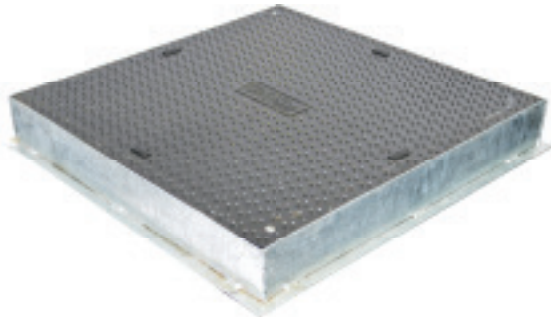
Project Information	Foundation Information	Summary
Loadings Horizontal Load = 1.00 kN Moment to Ground = 12.01 kNm	Foundation 1 Foundation Width = 1.00 m Foundation Breadth = 1.00 m Foundation Depth = 0.20 m Socket Depth = 0.2 m Reinforcement = 2 Layers of K50	
	Foundation 2 Foundation Width = 1.40 m Foundation Breadth = 1.40 m Foundation Depth = 0.27 m Socket Depth = 0.45 m Reinforcement = 2 Layers of K50	
	Foundation 3 Foundation Width = 1.2 m Foundation Breadth = 1.2 m Foundation Depth = 0.20 m Socket Depth = 0.4 m Reinforcement = 2 Layers of K50	
	Foundation 4 Foundation Width = 0.80 m Foundation Breadth = 0.80 m Foundation Depth = 0.20 m Socket Depth = 0.20 m Reinforcement = 2 Layers	
	Foundation 5 Foundation Width = 0.80 m Foundation Breadth = 0.80 m Foundation Depth = 0.20 m Socket Depth = 0.20 m Reinforcement = 2 Layers	
	Foundation 6 Foundation Width = 0.80 m Foundation Breadth = 0.80 m Foundation Depth = 0.20 m Socket Depth = 0.20 m Reinforcement = 2 Layers	



Manhole Covers and Frames

Composite

A range of lightweight anti slip composite manhole covers available in both 12.5T (B125) and 25T (C250) loading. All covers weigh less than 25kgs and are supplied with a standard or extra deep galvanised steel raising frame.



Product Benefits

- ♦ Lightweight for solo lift
- ♦ High slip resistance value
- ♦ Min. 80mm frame depth = no mortar surround required
- ♦ Frames can be secured to chamber
- ♦ No inherent scrap value



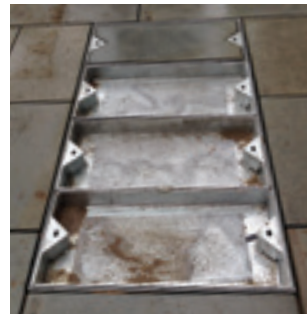
Recessed

A range of covers with a single person slide out recessed tray manufactured to EN124 B125 and Kitemarked. Recessed trays are manufactured in galvanised steel with a variety of depths to suit the infill material and available in standard and bespoke sizes.



Product Benefits

- ♦ Central keyhole allow solo lift
- ♦ Tapered sides ensures easy slide out
- ♦ Expanded metal base ensures bonding of infill material
- ♦ Minimal exposed metal
- ♦ Manufactured from 6mm steel minimum



Ductile Iron Cover

A range of ductile iron covers manufactured to EN124 in A15, B125, C250 and D400 loading. Depending on loading, covers are available in lift out, slide out and hinged options.



Product Benefits

- ♦ Wide range of sizes
- ♦ Wide range of vertical load options
- ♦ Bespoke badging available
- ♦ Produced from high quality 500/7 grade ductile iron



X-Last Bollards



X-Last is a range of polymer bollards with unique properties making them highly resistant yet very flexible. Having undergone and passed extensive safety and impact tests, this range is classed as the safest, most durable and maintenance free bollard available. It is the ideal product for all highway, car park or cycle route applications.



X-Last Standard

Available in a wide range of modern and heritage designs and colours with optional reflective banding to suit customer specific requirements. The bollards are manufactured with the standard impact strength and can be supplied with all fixing options.



X-Last Protect

The X-Last Protect range is designed with superior strength to enable maximum protection. Bollards withstand repeated impact forces of 800kgs before bending making them the ideal choice for protection of machinery and buildings.





Product Benefits

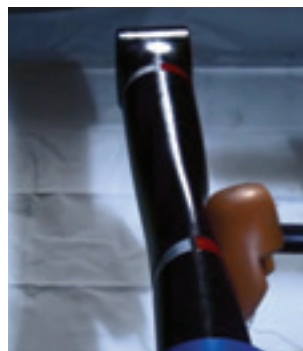
Installation Benefits

- ♦ All bollards weigh under 6kg
- ♦ Easily core drilled
- ♦ 200mm root depth
- ♦ Minimal risk of hitting existing services
- ♦ Minimal concrete surround required



Safety Benefits

- ♦ Head Injury Criterion (HIC) test @ 40kph - results show X-Last Bollard is 50% under irreversible injury figure
- ♦ Chest simulation impact test @ 35 Kph - results demonstrate X-Last Bollard causes no serious injury
- ♦ EN12767 passively safe test - result safety rating of NE4



Maintenance Benefits

- ♦ Withstands repeated impact with loads of 200-490kgs (depending on type) without loss of rigidity
- ♦ Withstands between 100-1500 repeated 90 degree impacts in the same direction
- ♦ Polymer material is coloured throughout
- ♦ Performance temperature -20C to 60C
- ♦ Stable footprint



Environmental Benefits

- ♦ X-Last Bollard material is 100% recyclable
- ♦ Tested to Lifecycle Analysis (LCA) by European foundation Inasmet-Technalia
- ♦ Tests found X-Last Bollard to have 50% less impact on the environment than conventional metal bollards



Fixing Options



Retention Socket



Composite Socket



Cast In



Bolt Down

Weebol Bollard

The Weebol Bollard is a robust reflective flexible bollard which fits directly into the Retention Socket without the need for an adapter plate. It utilises a unique flexible base which is designed to withstand multiple impacts without damage. Reflective panels are recessed to limit the damage to the panel during severe impacts.



Product Benefits

- ♦ Tough one piece moulded construction
- ♦ Simple installation of socket prior to bollard
- ♦ Anti twist design
- ♦ Retention Socket ensures fast and easy replacement
- ♦ Rebated panels provide protection to reflective material
- ♦ Withstands multiple impacts
- ♦ No power requirement



Quick-Flex Bollard

Produced using highly flexible polyurethane injection technology. Returns to initial form immediately after knockdown.

Highly durable material resistant to multiple impacts. Protection against UV and thermal degradation.

Produced according to EN 13422. Level III certified reflective screen according to EN 12899-2:2007. Optional key for easy removal and re-installation.



Product Benefits

- ♦ Highly flexible polyurethane construction material
- ♦ Fast installation
- ♦ 100% ability to return to its original shape
- ♦ UV and Thermal Degradation protection
- ♦ Selection of colours and reflective tape options



Seg-Rite Bollard

Designed for fast installation and replacement, the Seg-Rite bollard is ideal for temporary re-purposing of streetscapes and lane segregation. Manufactured from a durable yet flexible polyurethane material, the bollard will return to its original form after impact. Installation methods include screw-in and resin fixed.



Product Benefits

- ♦ Flexible polyurethane material
- ♦ Rebounds after impact
- ♦ Light weight - 1.2 kgs
- ♦ Installation options:
 - Screw in
 - Resin fixed (with screw on base plate)
- ♦ Heights available (650mm 800mm)
- ♦ Available in black and orange





Temporary Highway Products

Temporary Foundation

The Temporary Foundation system are a range of highly stable, and portable bases which secure all types and sizes of illuminated and non-illuminated street furniture during temporary construction works. All posts are locked in position with the Retention Socket system which is precast within the foundation. This eliminates the risk of unauthorised removal or rotation of furniture.



Product Benefits

- ♦ Highly stable bases designed to EN40
- ♦ Furniture secured in place with Retention Socket system
- ♦ Certified lifting points / mechanism ensures safe movement
- ♦ Simple installation and removal of post
- ♦ Easily stored and re-usable



Temporary Cable Shroud

The Temporary Cable Shroud creates a void around the Temporary Foundation enabling the storage and protection of excess electric cables or associated equipment such as batteries. The system drastically reduces the requirement for traffic management around Temporary Foundations allowing improved public access during construction works.



Product Benefits

- ♦ Eliminates the need for traffic management around Temporary Foundations
- ♦ Reduces risk of personal injury claims
- ♦ Removes area traditionally used to discard litter
- ♦ Enables works programs to continue during public events



Guardian Access Ramp

The Guardian Access Ramp has been developed to overcome the common issues found with traditional ramps used for temporary access. Traditional tarmac ramps are both time consuming and disruptive to install and remove. Alternative ramps often use a raised edge design or have no sides at all, creating a hazard.

The Guardian Access Ramp has been designed with side access on either end, dramatically reducing the risk of slipping. The ramps modular design enables the overall width to be increased with additional sections to suit the site requirements, while the height is fully adjustable to fit different kerbs.



Product Benefits

- ♦ Main ramp complete with side ramps
- ♦ No raised edges
- ♦ Adjustable height
- ♦ PTV (skid resistance) rating of 64.1
- ♦ Modular design
- ♦ Easily stored
- ♦ Re-usable



Guardian Road Barrier

The NAL Guardian Barrier system is an innovative temporary traffic management barrier developed to provide a reusable, lightweight, flexible barrier.

The system is telescopic and designed to be fitted to standard traffic cones enabling a single barrier the flexibility of closing an area from 2 to 6 metres. Constructed from high strength lightweight fibreglass, the Guardian Barrier enables a single operative the ability to deploy the system in under 2 minutes.



Product Benefits

- ♦ Flexible telescopic system (2 to 6 metres)
- ♦ High strength and stability
- ♦ Lightweight - one person lift
- ♦ Simple attachment to standard traffic cones
- ♦ Fast and easy installation by one person
- ♦ Highly reflective and visible at night and in poor weather conditions
- ♦ Completely reusable
- ♦ Small storage footprint



Case Studies

Product: RS80 Retention Socket
Project: SPS 468 Chevron, Bath
Client: Bath and Somerset Council

Bath and North East Somerset Council chose to install new chevrons using NAL Retention Sockets alongside the 468 chevron by Sign Post Solutions.

The chevrons utilise SPS SignStr8 aluminium posts in 80mm and 93mm diameter Retention Sockets. All the installations took place on high speed roads where vehicular collisions to signs are a common occurrence.

The requirement of the client was to provide a passively safe system whereby impacted signs could be easily and quickly replaced, without the need for any expensive and disruptive civils reinstatement works.

The NAL Retention Socket allows damaged posts to be removed and replaced within minutes ensuring maintenance teams and traffic management are on the highway for a minimum amount of time.





Case Studies

Product: Weebol Bollard
Project: Bollard Installation, Kilmarnock
Client: East Ayrshire Council

East Ayrshire Council have adopted the NAL Retention Socket system for the installation of keep left Weebol Bollards on refuge islands in Kilmarnock. The local authority required a system whereby damaged bollards could be easily replaced without the need for excavating foundations and re-installing. By using the NAL system the bollards are fully demountable. Should a bollard become damaged it is easily released and replaced from the socket using a key and spanner in under two minutes.

The Weebol Bollard was chosen to replace traditional internally illuminated keep left bollards. Requiring no power source this reflective, one piece design is one of the most durable and reliable bollards. The reflective sign face is rebated ensuring it isn't damaged during impact and the bollard withstands multiple knockdowns. By utilising this system the local authority saves on maintenance expenditure which would otherwise be used for excavations and civils work for bollard replacements.



Product: X-Last Baliza D150 Bollard
Project: Highway Segregation
Client: The City of Edinburgh Council

To section off the end of the line of a tram route, the City of Edinburgh Council needed a high resistance, durable and maintenance free bollard. They turned to the X-Last range and chose the Baliza as the right product for the job. The X-Last Standard range has been designed to withstand multiple impacts of up to 490kgs of force, making the Baliza an ideal choice for the busy junction at York Place, where the end tram stop meets a set of traffic signals.

The bollards prevent any risk of collisions by separating the tram line from the parallel road lane. Due to its durability the Baliza can withstand over 1000 impacts and in the event of a severe collision, it will return to its original form within 30 minutes. Unlike traditional cast-iron or flexible bollards, the X-Last requires no maintenance once installed, incurring no future expenses.

This particular set of bollards were installed in the NAL Retention Socket system, enabling a quick installation and a simple removal when necessary.



Training Opportunities



Systems and Solutions – Training Day *

Held at our National Infrastructure Centre in Worcester, attendees will hear from leading highways infrastructure experts to gain an in-depth understanding of systems and solutions, designed by NAL and other leading innovators, to support product installations. In addition, delegates will observe systems in action via a live demonstration conducted within our fully operational street scene, to prove product performance in real life situations, to see how they work and the benefits they afford. All sessions are IHE accredited with CPD points awarded to all in attendance and a full buffet lunch, along with refreshments, will be provided with our compliments.

Lunch and Learn *

The perfect option for those with time constraints and travel restrictions. A member of our technical team will visit your premises to deliver a concise presentation surrounding the latest innovations; tailored specifically to your requirements. Upon completion and if external space allows, our mobile demonstration unit ensures delegates are able to witness solutions presented in action, to further enhance understanding. Provided with a complimentary buffet and refreshments, CPD accredited sessions are held during your lunch hour.

Toolbox Talk *

Experience a best practice installation alongside one of our technical experts, who will join your team on site to provide full product and installation training. Offered at a time to suit, site operatives can expect to gain an increased understanding of how products should be installed and utilised for optimum effect, coupled with the opportunity to discuss and witness demonstrations surrounding product maintenance and removal.

Webinars

Delivered remotely and designed in direct response to the implications caused by Covid-19, CPD accredited sessions presented by our technical team, ensure delegates remain informed of the latest solutions to support existing and future projects. Convenient and providing the opportunity to network and connect with members of our industry, a variety of sessions are available weekly, with downloadable supporting documents including product data sheets and technical drawings.

Bespoke Training *

NAL can accommodate and provide bespoke training packages upon request. Please contact us to discuss your needs in order for us to create a presentation specific to your requirements.

Reserve Your Place

All training sessions are provided free of charge. Secure your place via one of the following:

Website – www.nal.ltd.uk

Email – info@nal.ltd.uk

Phone – 01905 427100

* With restrictions in place to control the infection rates of Covid-19, certain training packages may not be fully available at present. Throughout the pandemic we have delivered sessions remotely and will continue to do so. In the event of restrictions easing, our paramount concern is the safety of our delegates and employees, therefore please rest assured all training packages will be delivered in strict adherence to national perimeters.



A CRH COMPANY

NAL Ltd
Weir Lane
Worcester
WR2 4AY

T: +44 (0)1905 427100
F: +44 (0)1905 427030
E: sales@nal.ltd.uk

www.nal.ltd.uk

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