

EV Charging Infrastructure Solutions



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 electric vehicle (EV) 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 EV 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.



Duckfoot Bend

A one way duct bend offering bottom cable entry and 360 degree swivel with the ability to be shortened on site. This product is suitable for all EV charging units.



Tee Bend

A two way duct bend offering bottom cable entry and 360 degree swivel with the ability to be shortened on site. This product is suitable for EV charging units where cables are coming in from multiple directions.



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 all EV charging installations with severe depth issues.



Adapter Plate for Bolt Down EV Chargers

The Retention Socket and Adapter Plate has been designed to fit all types of rapid charge units. This unique socket simplifies maintenance and enables the charging points to be removed and upgraded in the future without any further civils excavations.



Product Benefits

Installation Benefits

- ◆ Universal foundation for all EV charging units
- ◆ No delay in civils works while waiting on planning permission
- ◆ Simplifies cabling of units
- ◆ Ability to be installed in shallow depth
- ◆ EN40 or BD9407 foundation design service
- ◆ Enables civils works to be completed without EV present on site



Maintenance Benefits

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



Future Benefits

- ◆ New and upgraded EV units can be installed quickly and cost effectively
- ◆ Increases the life expectancy of EV charge units in Retention Sockets
- ◆ Allows public areas to be cleared for events
- ◆ Retention Sockets have a life expectancy of 100 years

Free Foundation Design Service

NAL provide a free foundation design service for Retention Socket installations.

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

Project Information	Pile Information	Foundation Information	Summary
Loadings Horizontal Load = 1.99 kN Moment @ Ground = 12.21 kNm			
Foundation 1 Foundation Width = 1.85 m Foundation Breadth = 1.85 m Foundation Depth = 0.22 m Socket Depth = 0.3 m Reinforcement = 2 Layers of A305		Foundation 2 Foundation Width = 1.45 m Foundation Breadth = 1.45 m Foundation Depth = 0.37 m Socket Depth = 0.45 m Reinforcement = 2 Layers of A305	
Foundation 3 Foundation Width = 1.3 m Foundation Breadth = 1.3 m Foundation Depth = 0.32 m		Foundation 4 Foundation Width = 0.90 m Foundation Breadth = 0.90 m Foundation Depth = 0.30 m	





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.



Flexible Satellite EV Charging Bollard

The X-Last bollard system is ideal for housing roadside EV charging units. Manufactured from a unique polymer the bollard is both rigid and flexible allowing it to withstand vehicle impacts, without damage.

Product Benefits

- ◆ No requirement for earthing
- ◆ Flexible X-Last bollard withstands all impacts without loss of strength
- ◆ Utilises excess power from existing street lights
- ◆ Smart cable eliminates the need for metre or comms connection



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.

Product Benefits

- ◆ 200mm shallow root depth
- ◆ EN12767 Passively Safe tested with a safety rating of NE4
- ◆ Withstands between 100 and 1500 repeated 90 degree impacts in the same direction
- ◆ Resistance up to 900kg of force
- ◆ Virtually indestructible bollard



NAL Composite Socket

The NAL Composite Socket has been introduced to compliment the X-Last range of impact resistant bollards. This chamber is protected by a locking pedestrian cover preventing unauthorised access. The system allows the rapid removal of the bollards by authorised personnel when required.



Product Benefits

- ◆ 200mm Installation depth
- ◆ Small foundation required
- ◆ Suitable for both illuminated and non-illuminated applications



Chamber and Duct Systems

STAKKAbox™ Modula

The STAKKAbox™ Modula system is a range of preformed twin wall access chambers capable of withstanding vertical loads in excess of 40 tonnes without the requirement for any structural support. The system consists of 155mm deep stacking sections which form complete chambers of any depth. Chamber sizes range from 300² mm to 1200² mm clear opening and can be provided with or without pre-drilled duct entry points of any size. STAKKAbox™ Modular can be installed without concrete, up to 900mm square.



Product Benefits

- ◆ 40 tonne vertical loading
- ◆ Simple and quick installation
- ◆ No requirement for concrete surround
- ◆ Life expectancy in excess of 40 years
- ◆ Easily adapted to overcome services



STAKKAbox™ ULTIMA Connect

ULTIMA Connect is manufactured in 150mm deep sections that stack one on top of another to reach desired depth. Each ring section is castellated to positively interlock with the unit above and below. ULTIMA Connect is composed of straight side wall and curved corner pieces. The corner pieces are manufactured in left and right handed designs, offering the ability to offset joints between sections in order to provide a brickworked design. This significantly improves the sidewall performance of the installed chamber.

STAKKAbox™ ULTIMA Connect can be installed where chambers exceed 900mm square.



Product Benefits

- ◆ 90 tonne vertical loading
- ◆ Modular solution to suit all chamber sizes
- ◆ Simple and quick installation
- ◆ No requirement for concrete surround
- ◆ Lightweight sections for manual handling
- ◆ Easily adaptable on site without loss of strength
- ◆ Life expectancy in excess of 40 years
- ◆ Fully recyclable



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 extra deep galvanised steel raising frame.

Product Benefits

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



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 min



Chamber and Duct Systems



MULTIduct™

MULTIduct™ is a range of preformed duct banks designed for the installation of ducts in shallow depths such as road crossings, bridges and tunnels. The system is manufactured from nitrogen foamed high density polyethylene resulting in a high crush resistance and loading strength. This enables the system to be installed in areas where traditional duct is not suitable. A wide range of fittings allow smooth connection from traditional duct into MULTIduct.

Product Benefits

- ◆ Tested to 100mm carriageway installation depth
- ◆ 50% more duct capacity
- ◆ Lightweight sections
- ◆ Rapid install, more cost effective than traditional ducting
- ◆ Available in a range of colours
- ◆ Fully recyclable



Steel Ducting

The Steel Ducting is a structural support system designed to house traditional twin wall duct. Tested to D400 it can withstand carriageway loading at depths as shallow as 100mm making it ideal for use in areas which have minimal cover.

Product Benefits

- ◆ High crush strength - tested to D400
- ◆ 100mm carriageway installation depth
- ◆ Eliminates risks of future cable strikes
- ◆ No requirement for earthing
- ◆ Smooth internal wall eliminates cable snagging
- ◆ Complete system with full range of components



Ductile Iron Loop Box

The Ductile Iron Loop Box has been specifically designed to give roadside access to carriageway loop cables. It is manufactured from Ductile Iron to BSEN 1563:2011 and has been designed to be installed in the carriageway to connect inductive tails into a sealed duct, which is jointed to a footway access chamber.

Product Benefits

- ◆ No need to slot cut through kerb
- ◆ D400 one piece non-rockable cover
- ◆ Octagonal shape allows easy core drilling
- ◆ Multi directional access (4 way)
- ◆ Prevents debris entering duct system



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