



PAS68 RETRACTABLE BOLLARD - CR830A

The CR830A is a highly versatile and slim automatically rising PAS68 bollard that has been fully tested with the N2 7,500kg vehicle travelling at 48kph. This was tested as a single unit with a single foundation and is supplied complete with integral re-bar pre-attached to the bollard making installation very easy. The CR830A will protect any key facility from a vehicular based attack (refer to Technical Specifications).

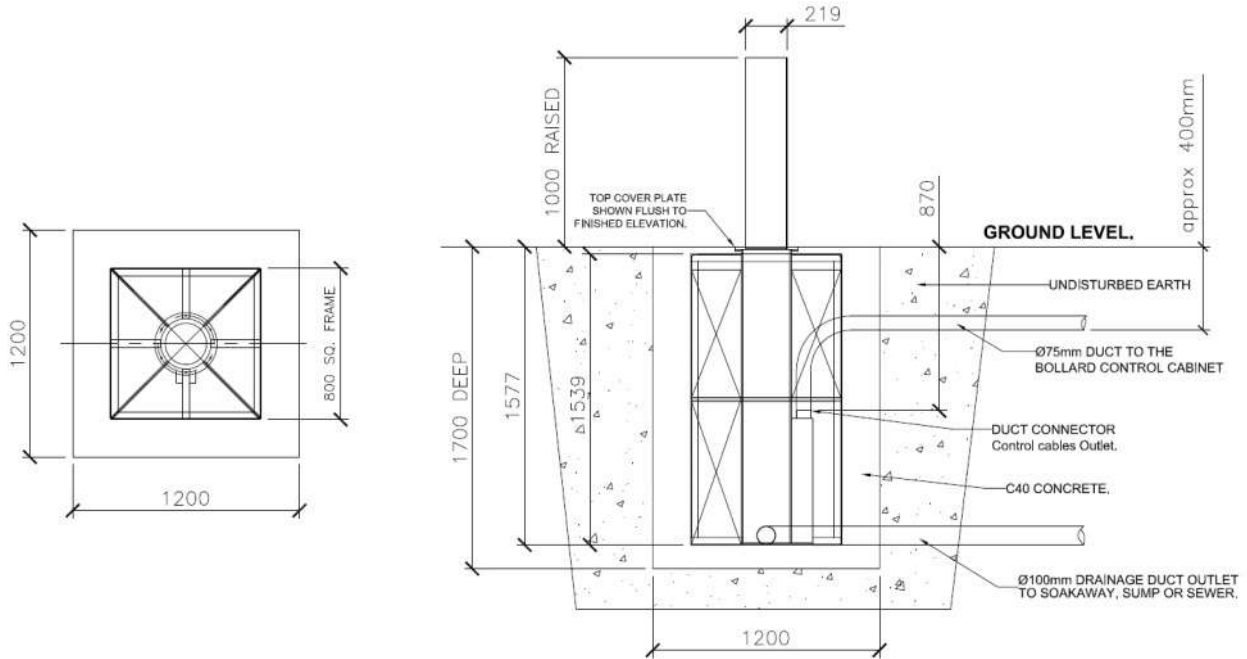


Technical Specifications

- PAS68: V7500[N2]/48/90:0/0
- Bollard tested as a single unit with N2 7,500kg vehicle at 48kph
- Diameter: 219mm
- Height: 1000mm above FFL
- Foundation: 1700mm
- Optional Finishes: hot dip galvanised (HDG); powder coated; wet painted; stainless steel
- Operation: automated, can be used as a manual system or hand-pump
- Raise Speed: 6 seconds standard, optional EFO (Emergency Fast Operation)



PAS68 RETRACTABLE BOLLARD - CR830A



Features

- Impact tested as single unit in a single foundation
- Slim 219mm diameter bollard when finished with paint or stainless steel
- Optional stainless steel sleeve can be designed to your specific requirements
- Can be supplied with LPS SR2 or LPS SR4 security cabinets if required
- 1000mm raise height above ground
- Raises and lowers in circa 6-8 seconds
- Supplied with integral re-bar making installation simple and quick
- Supplied with high performance control board
- Works standalone or in unison with other products
- Zero penetration after impact
- Uses 3 phase power at 10amp
- 100% duty cycle



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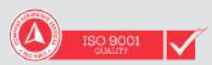
Master Builders Member:
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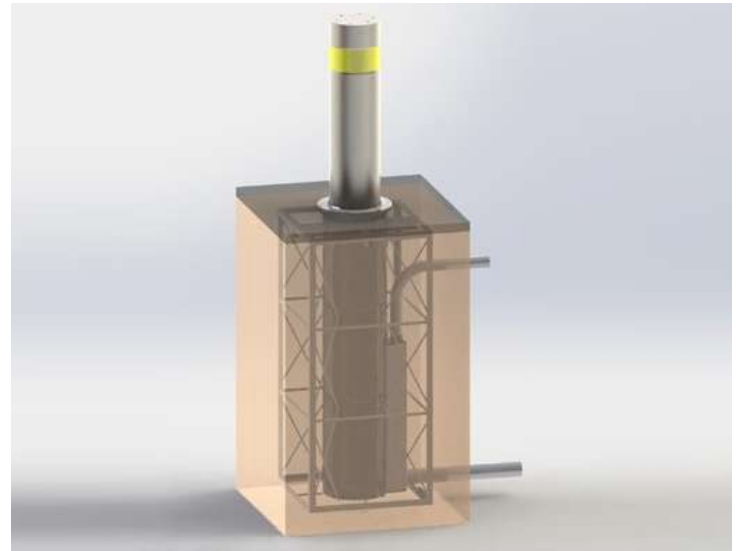
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PAS68 RETRACTABLE BOLLARD - CR850A

The CR850A provides formidable protection against vehicular attacks. This provides superior protection than all bollards tested with the smaller N2 vehicle. It was fully tested with the N3 7,500kg vehicle travelling at 80kph. As with all our rising bollards this was tested as a single unit with a single foundation and is supplied complete with integral re-bar pre-attached to the bollard making installation very easy. The CR850A offers the ultimate in facility protection from a vehicular based attack (refer to Technical Specifications).

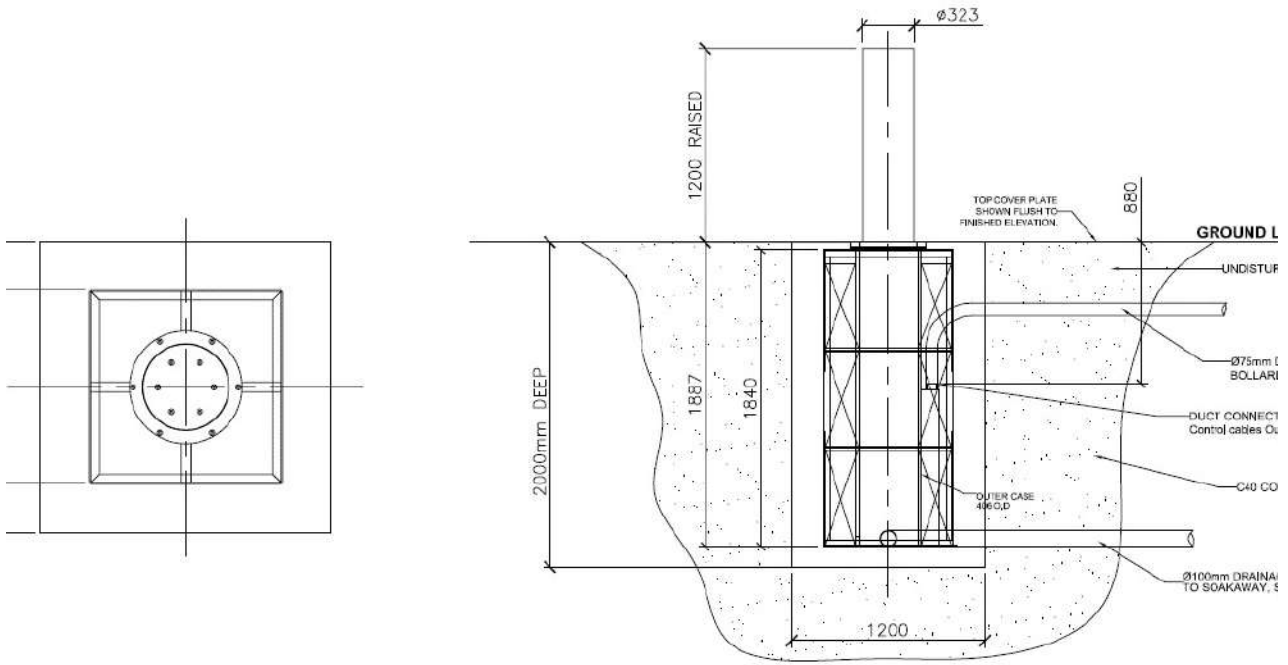


Technical Specifications

- PAS68: V7500[N3]/80/90:5.9/7.0
- Bollard tested as a single unit with N3 7,500kg vehicle at 80kph
- Diameter: 323mm
- Height: 1200mm above FFL
- Foundation: 2000mm
- Optional Finishes: hot dip galvanised (HDG); powder coated; wet painted; stainless steel
- Operation: automated, can be used as a manual system or hand-pump
- Raise Speed: 8 seconds standard, optional EFO (Emergency Fast Operation)



PAS68 RETRACTABLE BOLLARD - CR850A



Features

- Impact tested as single unit in a single foundation
- Impressive and imposing 1200mm raise height above ground
- Optional stainless steel sleeve can be designed to your specific requirements
- Can be supplied with LPS SR2 or LPS SR4 security cabinets if required
- Raises and lowers in circa 8-10 seconds
- 100% duty cycle
- Supplied with integral re-bar making installation simple and quick
- Supplied with high performance control board
- Works standalone or in unison with other products
- Uses 3 phase power at 10amp
- Continues to work after impact
- Can withstand multiple attacks



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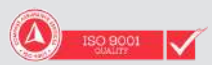
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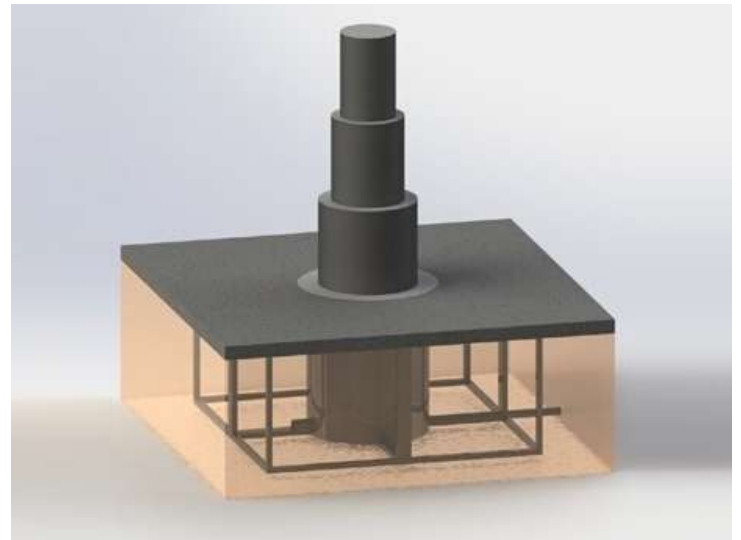
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PAS68 RETRACTABLE BOLLARD - CR830AT

The CR830AT is the world's shallowest foundation automatically rising PAS68 telescopic bollard that has been fully tested with the N2 7,500kg vehicle travelling at 48kph. With a foundation depth of just 500mm (almost half the depth of its nearest competitor) it has an impressive raise height of 900mm to prevent most vehicles from gaining access to your facility. This was tested as a single unit with a single foundation is supplied complete with integral re-bar pre-attached to the bollard making installation very easy.

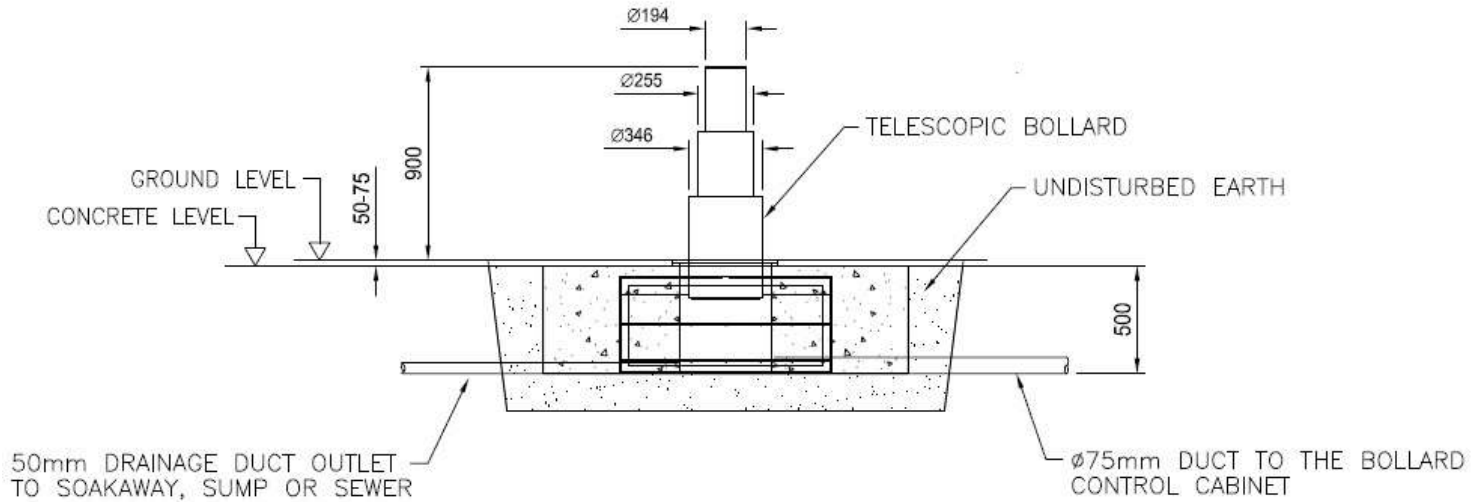


Technical Specifications

- PAS68: V7500[N2]/48/90:0/0
- Bollard tested as a single unit with N2 7,500kg vehicle at 48kph
- Zero penetration
- Diameter: 346/255/194mm - arrays at 1455mm centres
- Height: 900mm above FFL
- Foundation: 1700mm sq x 500mm deep
- Optional Finishes: hot dip galvanised (HDG); powder coated; wet painted; stainless steel
- Operation: automated - 3 phase supply, manual system or hand-pump
- Raise Speed: 8-10 seconds standard, 3-4 seconds with optional EFO (Emergency Fast Operation)



PAS68 RETRACTABLE BOLLARD - CR830AT



Features

- Impact tested as single unit in a single foundation
- Very shallow foundation of just 500mm
- 900mm raise height above ground
- Can be supplied with LPS SR2 or LPS SR4 security cabinets if required
- 100% duty cycle
- Supplied with integral re-bar making installation simple and quick
- Supplied with high performance control board
- Uses 3 phase power at 10amp
- Works standalone or in unison with other products



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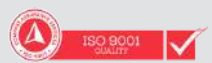
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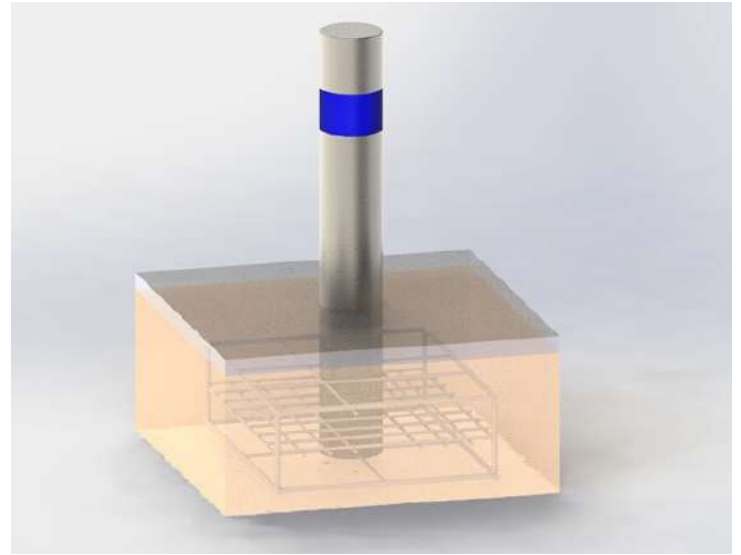
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PAS68 STATIC BOLLARD - CR830SH

This shallow foundation bollard has been nicknamed "bollard in a box" and is one of the first bollards on the market supplied complete with integral re-bar. It was also the first shallow static bollard to be tested as a single unit with single foundation. This bollard was tested with the N2 7,500kg vehicle at 48kph. The CR830SH is a shallow 400mm foundation helping to simplify installation programmes. The CR830SH will protect any key facility from a vehicular based attack (refer to Technical Specifications).

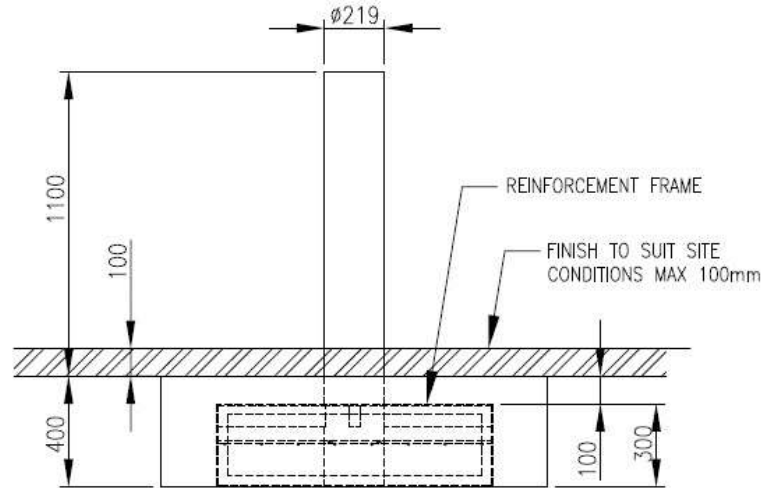
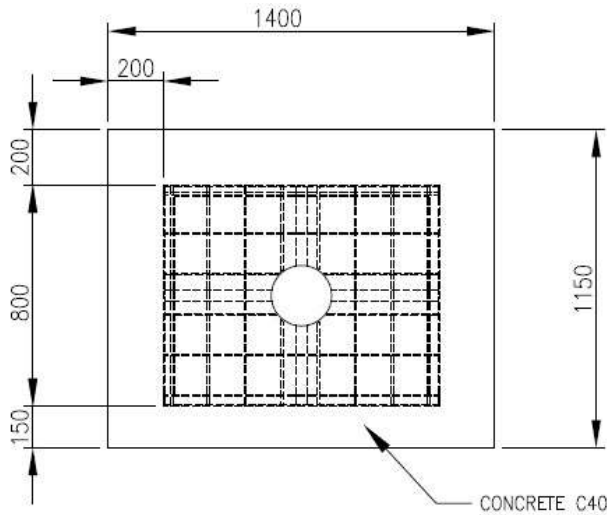


Technical Specifications

- PAS68: V7500[N2]/48/90:1.1/0.0
- Bollard tested as a single unit with N2 7,500kg vehicle at 48kph
- Diameter: 219mm
- Height: 1000mm above FFL
- Foundation: 400mm, plus allowance for 100mm topping
- Optional Finishes: hot dip galvanised (HDG); powder coated; wet painted; stainless steel
- Supplied pre-fabricated with foundation cage, no additional re-bar required



PAS68 STATIC BOLLARD - CR830SH



Features

- Very shallow foundation at just 400mm
- 1000mm raise height above ground
- Slim 219mm diameter when finished with paint or stainless steel
- Optional stainless steel sleeve can be designed to your specific requirements
- Static fixed and removeable options
- Supplied with integral re-bar making installation simple and quick
- Very easy to install, no additional re-bar, no connections, no complicated foundations, simply dig, position and concrete
- Can be installed as a single unit



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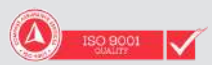
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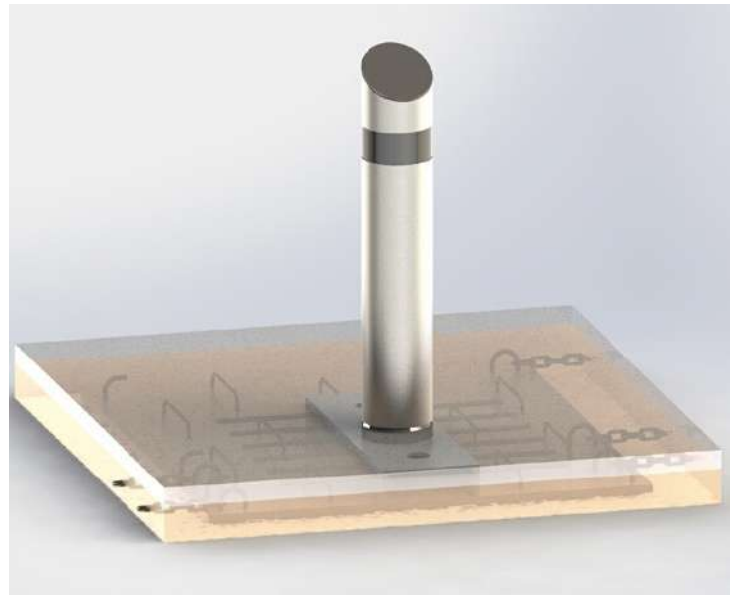
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PAS68 STATIC BOLLARD - CR840SH

The CR840SH is an ultra shallow foundation static bollard tested with the N2 7,500kg vehicle at 64kph. This bollard requires a foundation depth of just 125mm meaning you can easily avoid all ground based services. The unique and simple nature used to connect the bollards means that it can be installed in cambers and gradients. The CR840SH will protect any key facility from a vehicular based attack (refer to Technical Specifications).

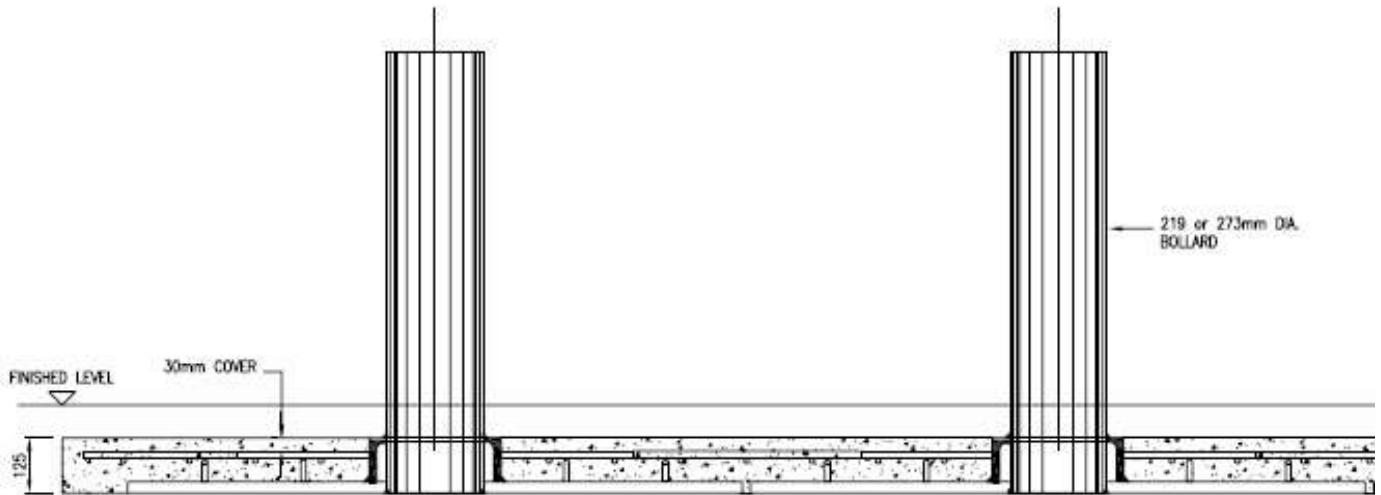


Technical Specifications

- PAS68: V7500[N2]/64/90:4.7/9.2
- Bollard tested with N2 7,500kg vehicle at 64kmh
- Diameter: 273mm
- Height: 1000mm above FFL
- Foundation: 125mm, plus allowance for 75mm topping
- Optional Finishes: hot dip galvanised (HDG); powder coated; wet painted; stainless steel
- Supplied pre-fabricated with foundation cage, no additional re-bar required



PAS68 STATIC BOLLARD - CR840SH



Features

- Ultra shallow foundation of just 125mm
- 219mm or 273mm diameter bollard options
- 1000mm finish height (bespoke heights available on request)
- Static fixed and removable options
- Unique and simple chain based connection system
- Corner and other angular sections available
- Optional: stainless steel, decorative or site specific bespoke sleeves



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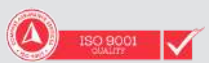
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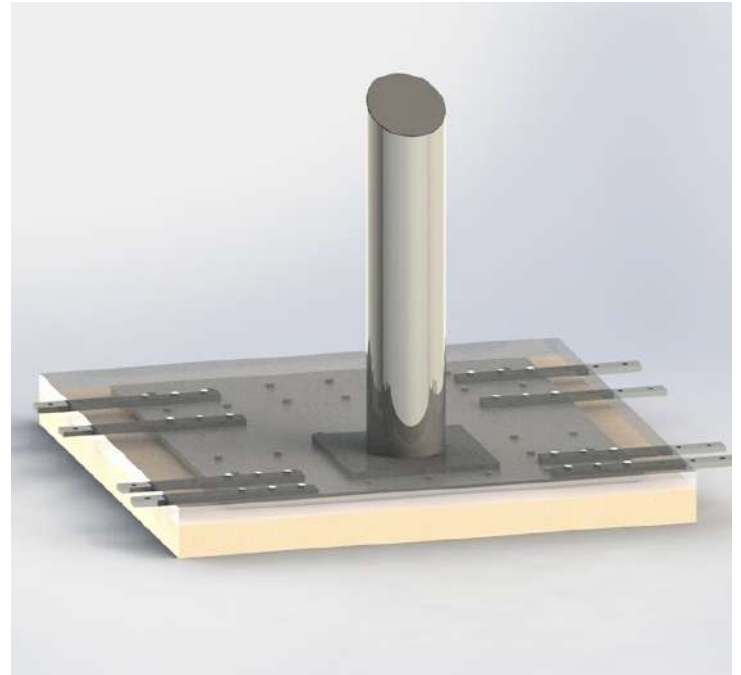
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PAS68 STATIC BOLLARD - CR830SM

The CR830SM is the world's first impact tested bollard that can be bolted to any existing concrete foundation making it perfect for suspended slabs or other areas where you have existing concrete. The CR830SM will protect any key facility from a vehicular attack (refer to Technical Specifications).

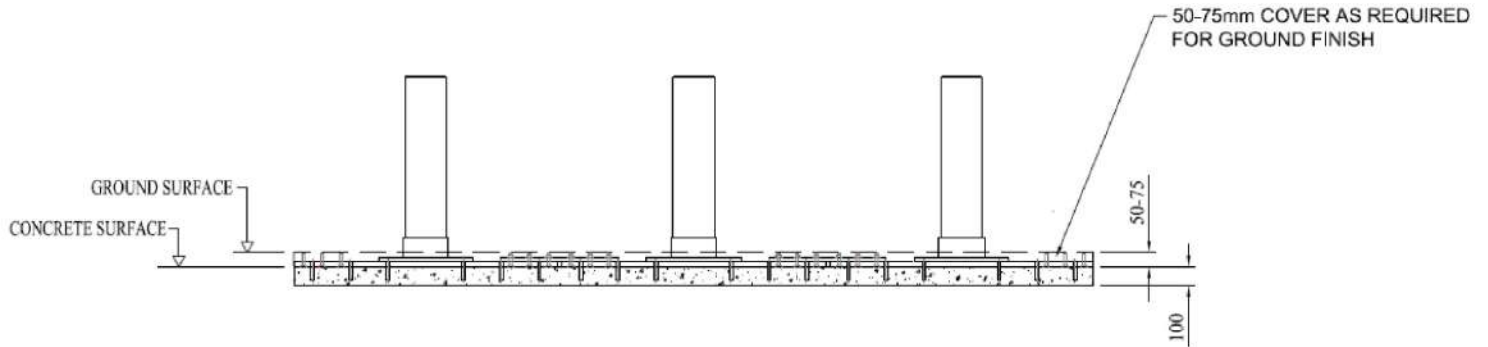


Technical Specifications

- PAS68:V7500[N2]/48/90:5.5/0.0
- Bollard tested with N2 7,500kg vehicle at 48kph
- Diameter: 219mm
- Height: min 800mm above FFL
- Foundation: surface fixed to existing slab (>100mm), 70mm anchor depth
- Optional Finishes: hot dip galvanised (HDG); powder coated; wet painted; stainless steel
- Static fixed bollard
- Removable option requires additional depth for socket



PAS68 STATIC BOLLARD - CR830SM



Features

- 219mm diameter bollard core
- 1000mm finish height (bespoke heights available)
- Optional: stainless steel, decorative or bespoke sleeves available
- Requires as little as 50mm cover of any material
- Corner secitons available



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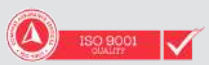
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PAS68 STATIC BOLLARD - CR830ST

PAS68 rated static fixed and removable bollard options. The locking system for the removable bollards are hidden within the core and under the sleeve for added security. This bollard has a diameter of 219mm and has been tested with the N2 7,500kg vehicle at 48kph.

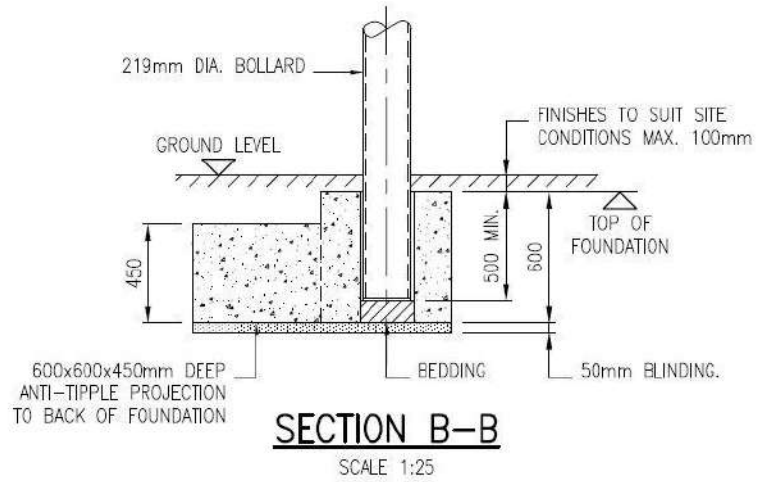
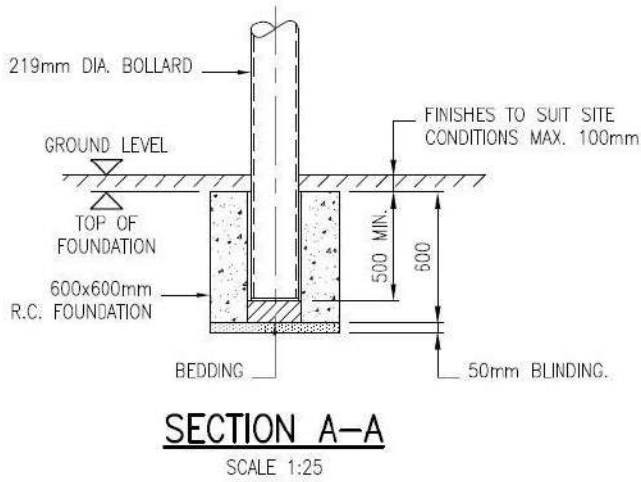


Technical Specifications

- PAS68: V7500[N2]/48/90:0/0
- Bollard tested with N2 7,500kg vehicle at 48kph
- Diameter: 219mm
- Height: 1000mm above FFL
- Foundation: 600mm, plus 75mm blinding and allowance for 100mm topping
- Optional Finishes: hot dip galvanised (HDC); powder coated; wet painted; stainless steel



PAS68 STATIC BOLLARD - CR830ST



Features

- Internal locking mechanism with hidden locks
- Optional: stainless steel, decorative or site specific bespoke sleeves available
- 1000mm finish height (bespoke heights available on request)
- Static fixed and removeable options



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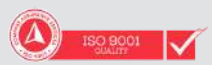
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PAS68 STATIC BOLLARD - CR840ST

PAS68 rated static fixed and removable bollard options. The locking system for the removable bollards are hidden within the core and under the sleeve for added security. (With options for a 219mm and 273mm bollard, these have been tested with the N2 7,500kg vehicle at 64kph).

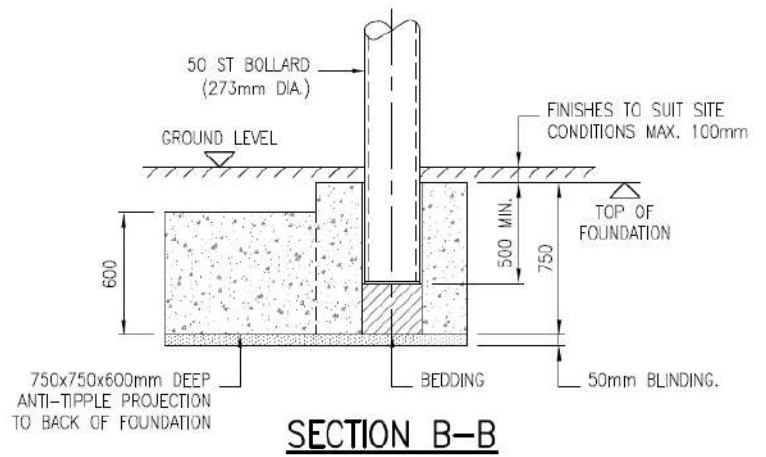
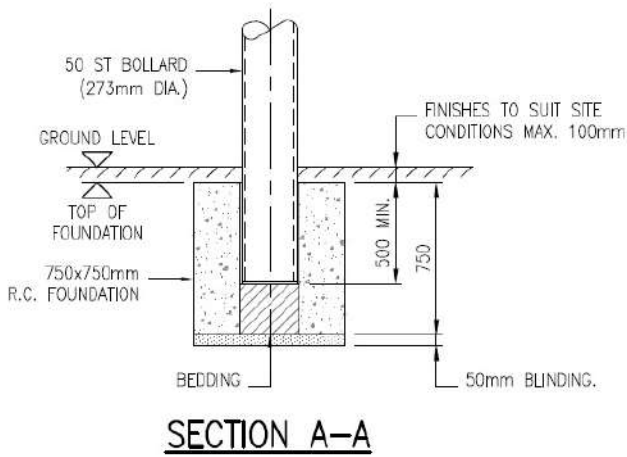


Technical Specifications

- PAS68: V7500[N2]/64/90:4.0/0 & V7500[N3]/64/90:6.5/0 (219mm)
- PAS68: V7500[N2]/64/90:3.3/0 (273mm)
- PAS68: V7500[N2]/64/90:0.0/0 (323mm)
- Bollard tested with N2 & N3 7,500kg vehicle at 64kmh
- Diameter: 219/273/323mm
- Height: 1000mm above FFL
- Foundation: 750mm, plus 75mm blinding and allowance for 100mm topping
- Optional Finishes: hot dip galvanised (HDG); powder coated; wet painted; stainless steel



PAS68 STATIC BOLLARD - CR840ST



Features

- Internal locking mechanism with hidden locks
- A range of bollard diameters available
- Optional: stainless steel, decorative or site specific bespoke sleeves available
- 1000mm finish height (bespoke heights available on request)
- Static fixed and removeable options



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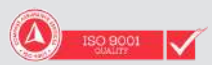
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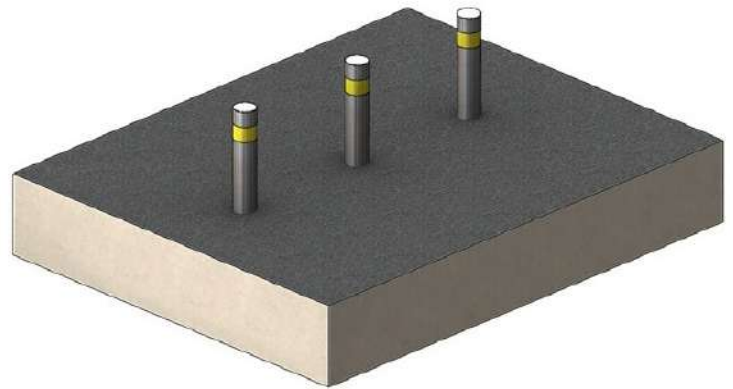
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PAS68 STATIC BOLLARD - CR850ST

PAS68 rated static fixed and removable bollard options. The locking system for the removable bollards are hidden within the core and under the sleeve for added security. This bollard has a diameter of 273mm and has been tested with both the N2 and N3 7,500kg at 80kph.

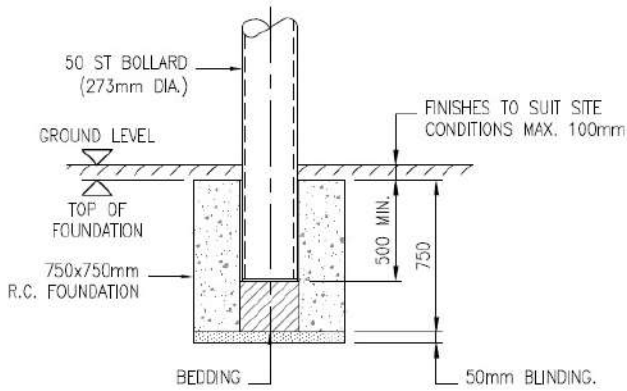


Technical Specifications

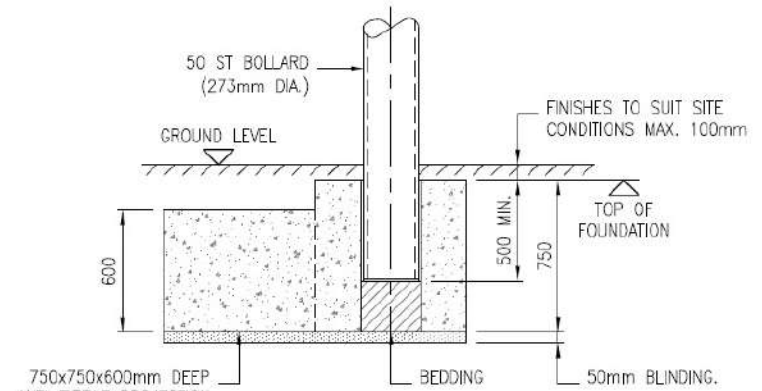
- PAS68:V7500[N2]/80/90:1.0/21.2
- Bollard tested with N2 & N3 7,500kg vehicle at 80kmh
- Diameter: 273mm
- Height: 1000mm above FFL
- Foundation: 750mm, plus 75mm blinding and allowance for 100mm topping
- Optional Finishes: hot dip galvanised (HDC); powder coated; wet painted; stainless steel



PAS68 STATIC BOLLARD - CR850ST



SECTION A-A



SECTION B-B

Features

- Internal locking mechanism with hidden locks
- Optional: stainless steel, decorative or site specific bespoke sleeves available
- 1000mm finish height (bespoke heights available on request)
- Static fixed and removeable options



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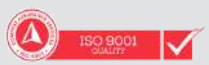
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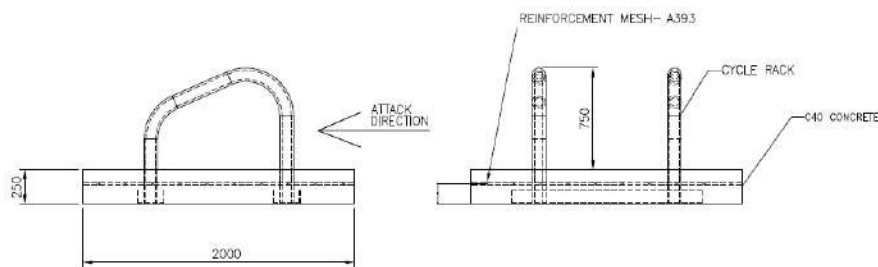
PAS68 CYCLE RAIL - CR820CR

A zero penetration short height cycle hoop tested with the M1 3,500kg vehicle at 48kph. This product was extensively tested at 2 angles. Designed to complement existing street furniture. Shallow depth foundation of just 250mm. Available in a variety of heights (minimum 750mm above ground). Available with gap between 800mm and 1200mm. Suitable for securing bikes, scooters and motorcycles.



Features

- Height above ground of 750mm
- Shallow foundation of just 250mm
- Supplied as a pair with all integral connections
- No re-bar required



Technical Specifications

- PAS68: V3500[N1]48/15:0.0/0.0
- PAS68: V3500[N1]48/90:1.5/0.0
- Bollard tested with N1 3,500kg vehicle at 48kmh
- Height: 750mm above FFL
- Foundation: 2000mm x 2000mm x 250mm
- Optional Finishes: hot dip galvanised (HDG); powder coated; wet painted; stainless steel



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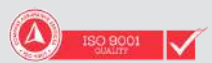
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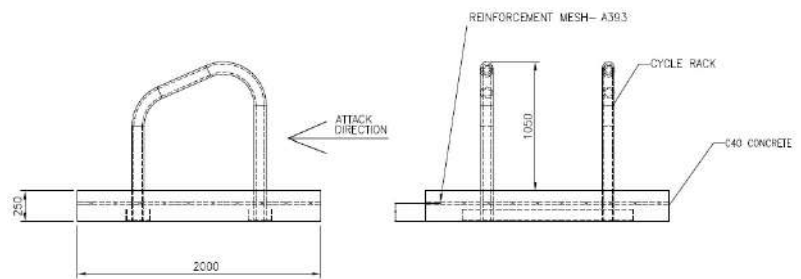
PAS68 CYCLE RAIL - CR840CR

A zero penetration cycle hoop tested with the N2 7,500kg vehicle at 64kph. This product was extensively tested at 2 angles. Designed to complement existing street furniture. Shallow depth foundation of just 250mm. Height above ground around 1000mm. Available with gaps between 800mm and 1200mm. Suitable for securing bikes, scooters and motorcycles.



Features

- Height above ground of 1050mm
- Shallow foundation of just 250mm
- Supplied as a pair with all integral connections
- No re-bar required



Technical Specifications

- PAS68:7500[N2]/64/15:0.0/10.8
- PAS68:7500[N2]/64/90:26/12.8
- Bollard tested with N2 7,500kg vehicle at 64kmh
- Height: 1050mm above FFL
- Foundation: 2000mm x 2000mm x 250mm
- Optional Finishes: hot dip galvanised (HDG); powder coated; wet painted; stainless steel



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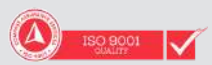
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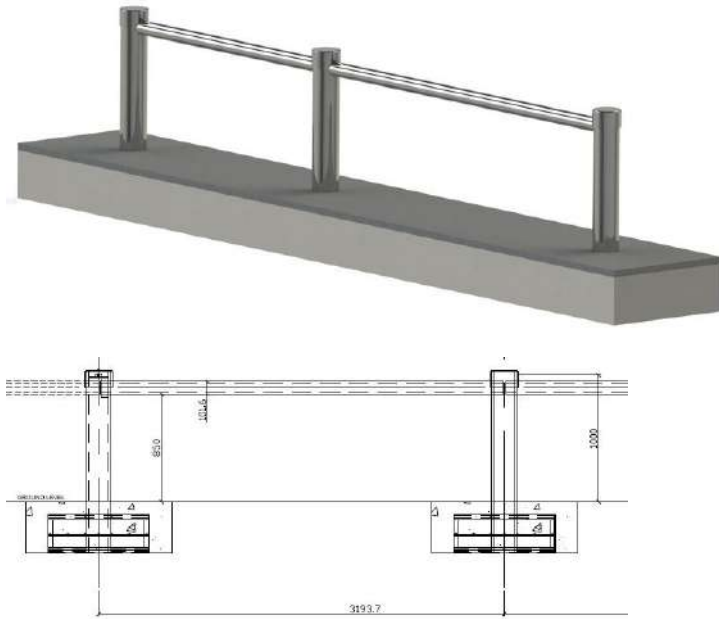
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PAS68 CYCLE RAIL - CR830PR

The CR830PR is a shallow 400mm foundation pedestrian railing system. This bollard is manufactured and delivered complete with integral re-bar cage, making this the easiest product to install - no continuous trenching required. It was tested with the N2 7,500kg vehicle at 48kph. The CR830PR will protect any key facility from a vehicular based attack and provide an additional barrier against pedestrians.



Features

- Individual shallow depth foundation of just 400mm
- No continuous trenching required
- Uprights are set 3 metres apart by 100mm crossbars
- Cross bars are fully independent and can be completely removed within minutes to allow vehicle access
- Each upright is supplied as per the world famous 'bollard in a box' meaning that no additional rebar of any sort is required

Technical Specifications

- PAS68: V/7500[N2]/48/90:1.5/0.0
- Railing tested at 3000mm span (7,500kg vehicle at 48kph)
- Bollard Diameter: 193mm
- Height: 950mm to top of rail
- Foundation: 1400mm W x 1150mm x 400mm shallow depth
- Optional Finishes: hot dip galvanised (HDG); powder coated; wet painted; stainless steel



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