smart bollards

PROTECT FOUNDATIONS

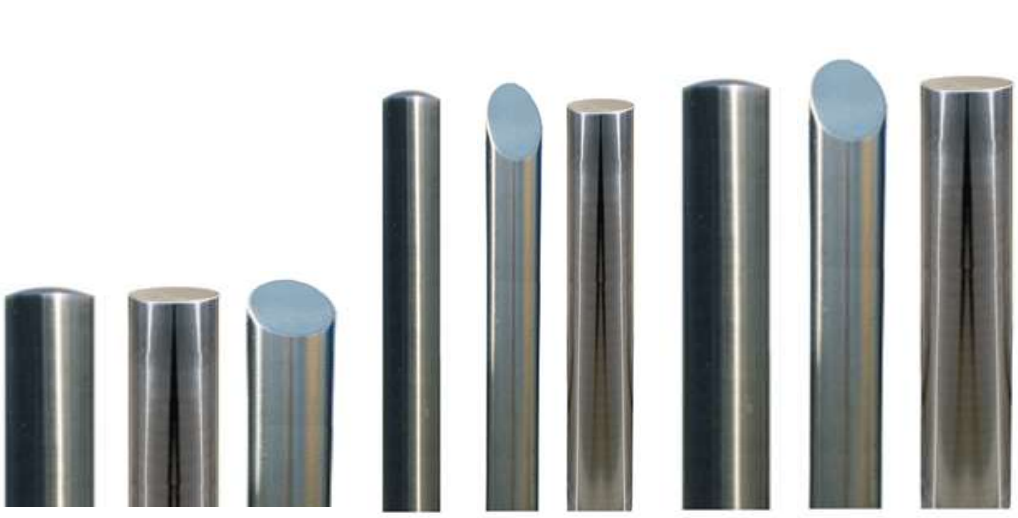
Impact Recovery System protects foundations from damage when bollards are impacted or need replacing. Lifetime warranty!

RE-USE BOLLARD

If badly impacted bollard is removed and reinstated in seconds (re-using the bollards, the foundations and the Smart components time and time again!

PROTECT BOLLARD

Built in shock absorbers enable bollards to absorb impact, (Large bollards deflect & self-recover) substantially improving safety and reducing risk of damage to your bollards.



Stop on-going damage

Bollards can now be secured using sustainable foundations

When impacted by a vehicle the bollard absorbs impact improving safety, reducing risk of damage to your bollard and protecting surrounding foundations from damage. Large diameter bollards deflect up to 10 degrees and self-recover. No springs involved- Bollards cannot be deflected by hand and will not become unstable over time.

Tools required. Surface mount and In-ground designs available (Lifetime Warranty on in-ground version). If badly impacted the internal post bends at ground level. Bollard is removed (the cheap internal CHS steel securing post is replaced) and the bollard is reinstated using same components over and over again.

A $200 bollard replaced just once year costs around $25,000.00 over the life of a development to maintain. The major cost is not buying the item, as a $100 bollard if replaced annually will still cost around $20,000 to maintain. By saving the foundations and making the bollard removable and re-usable, there are no on-going costs. Brochures available or visit smarturban.com.au to view videos.

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If badly impacted bollard is removed and reinstated in seconds (re-using the bollards, the foundations and the Smart components again and again!

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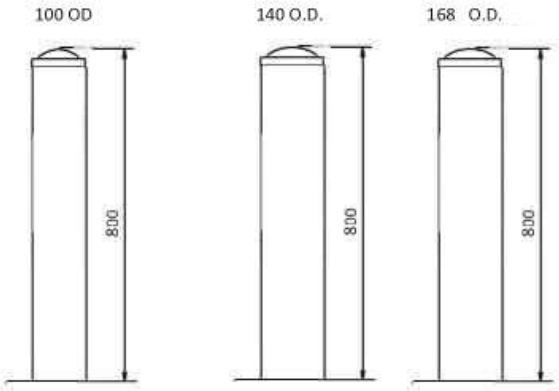
Stainless steel Bollards

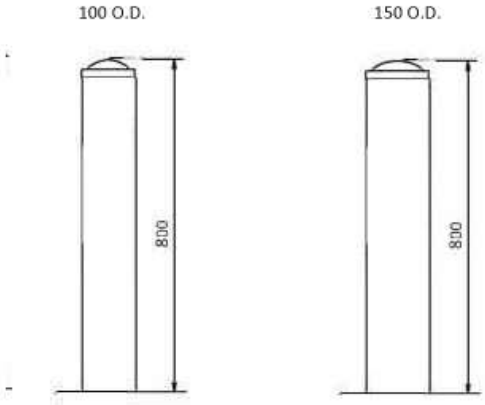
PIPE BOLLARDS

- 100 mm - 3 mm wall (7.5kg)
- 140 mm - 3.4 mm wall (12 kg)
- 168 mm – 3.4 mm wall (14 kg)
- Heavy Duty Pipe Bollard
- Grade 304
- Satin finish



TUBE BOLLARDS

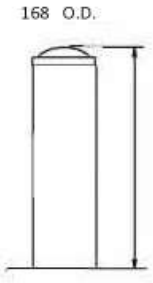
- 100 mm – 1.6 mm wall (4kg)
- 150 mm – 1.6 mm wall (6 kg)
- Grade 304
- Milled finish
- (slight grain - most durable)



SQUAT PIPE BOLLARDS

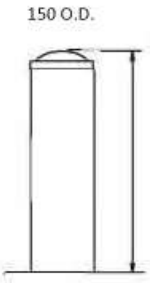
- 168 mm – 3.4 mm wall (7 kg)
- Heavy Duty Pipe Bollard
- Grade 304
- Satin finish

We recommend using 304 Tube bollards unless on the coast (316) or in an industrial environment where trucks may impact the bollard/ ram raid bollard (where Pipe is recommended).



SQUAT TUBE BOLLARDS

- 150 mm – 1.6 mm wall (3.5 kg)
- Grade 304
- Milled finish
- (slight grain - most durable)

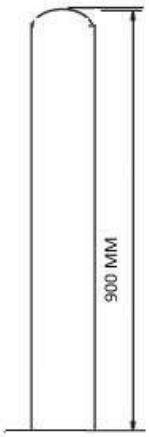


In-ground

Mitred

Dome

Flat



BOLLARD

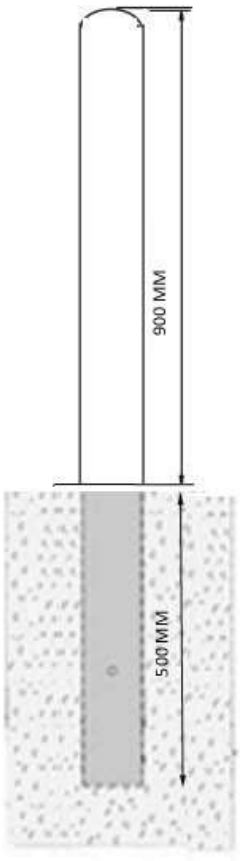
Any Pipe or Tube bollard can be installed directly in-ground

SPECIFICATIONS

- 1400 mm total length
- 900 mm high
- 500 mm In-ground

OPTIONS

- Flat, Dome or Mitred cap
- Can be electroplated or polished
- Marine Grade 316



DEPTH FOUNDATIONS

500 mm below ground, installed in min 600 x 400 square solid concrete foundation.

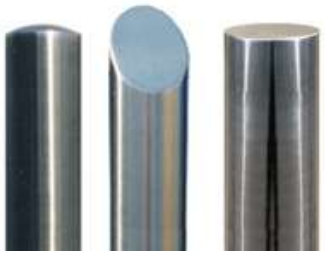
WEIGHT:

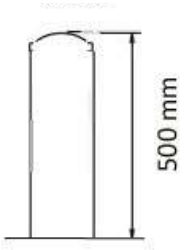
Bollard weight: 10 kg

If badly impacted both the bollard and the foundations will need replacing

Squat In-ground

Mitred Dome Flat





BOLLARD

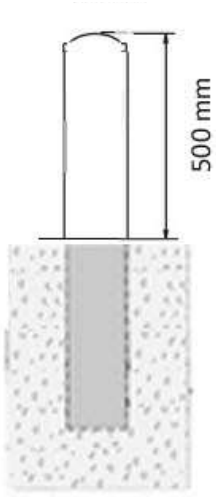
Only large diameter bollards are provided as squat boards (168 mm Pipe or 150 mm Tube) installed directly in-ground

SPECIFICATIONS

- 1000 mm Total length
- 500 mm high
- 500 mm In-ground

OPTIONS

- Flat, Dome or Mitred cap
- Can be electroplated or polished
- Marine Grade 316



DEPTH

500 mm below ground, installed in min 600 x 400 square solid concrete foundation.

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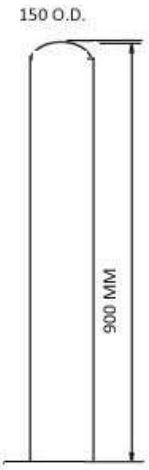
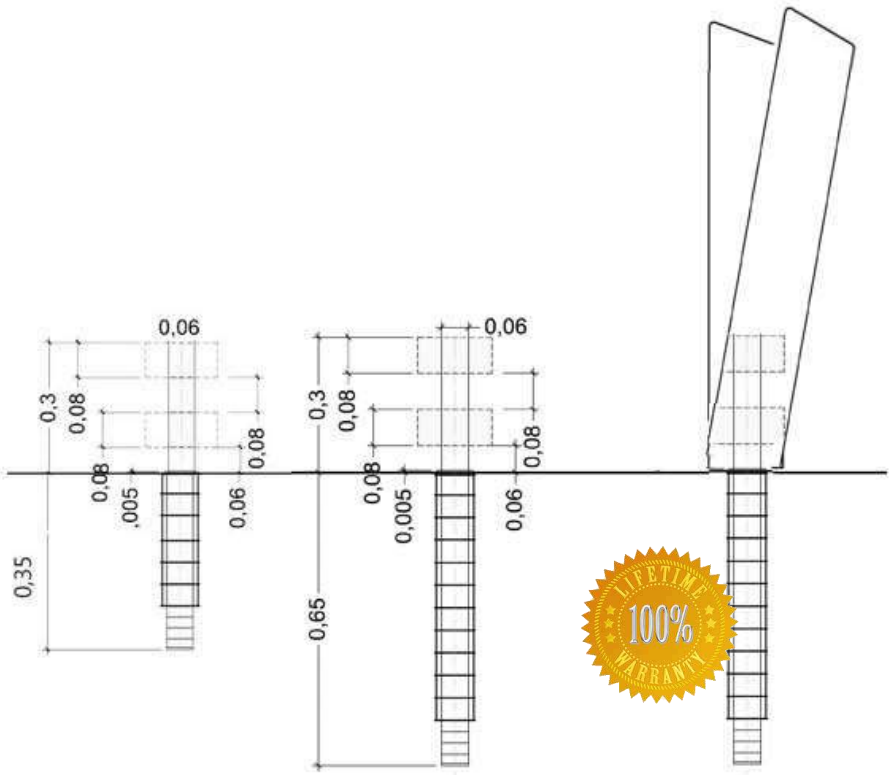
Sustainable In-ground



Mitred Dome Flat





BOLLARD

Any Pipe or Tube bollard can be secured using the Impact Recovery System absorbing impact, making foundations and bollard re-usable.

- 100 mm do not deflect
- 140 -168 deflect 8-10 degrees

UNIT INCLUDES

- 900 mm high
- 1 Ground socket (350/650 mm)
- 1 x Impact Recovery System

OPTIONS

- Flat, Dome or Mitred cap
- Can be electroplated or polished
- Marine Grade 316

TOOLS

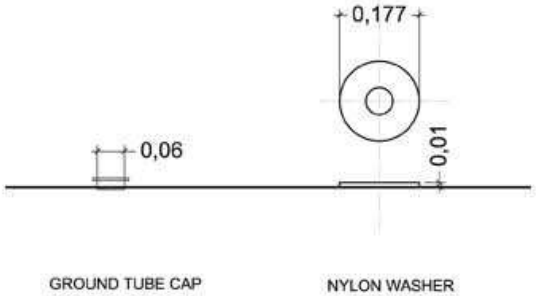
- Security Allen key to remove bollard
- Installation tool to install sockets
- Removal tool required

DEPTH

If base can be secured to solid concrete or asphalt foundations a 350 socket will suffice, otherwise use 650 mm depth.

WEIGHT IMPACT RECOVERY SYSTEM:

350 IRS: weight 5 kg
650 IRS: weight 7 kg



If badly impacted both the bollard and the foundations are re-usable

Squat In-ground Impact Recovery

Mitred Dome Flat

BOLLARD

Only large diameter bollards are provided as squat boards (168 mm Pipe or 150 mm Tube) installed directly in-ground

SPECIFICATIONS

- 500 mm high
- 1 x Ground socket 350/650 mm
- 1 x Impact Recovery System

OPTIONS

- Flat, Dome or Mitred cap
- Can be electroplated (shiny finish)
- Marine Grade 316 Stainless Steel

TOOLS

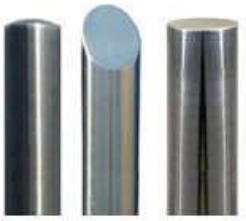
- Security Allen key to remove bollard
- Installation tool to install sockets
- Removal tool required

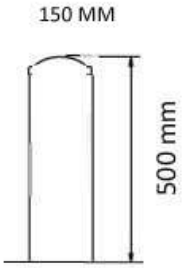
DEPTH

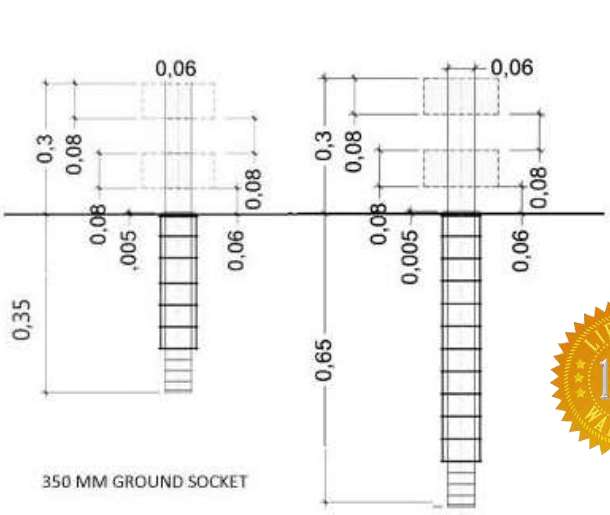
If base can be secured to solid concrete or asphalt foundations a 350 socket will suffice. For all other applications we suggest 650 mm socket.

WEIGHT:

350 IRS: weight 5 kg
650 IRS: weight 7 kg

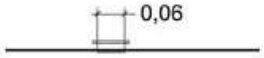






350 MM GROUND SOCKET

650 MM GROUND SOCKET

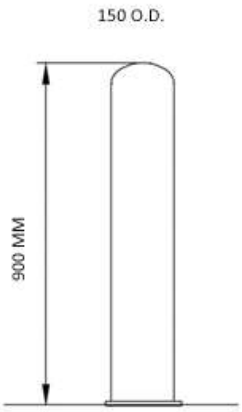


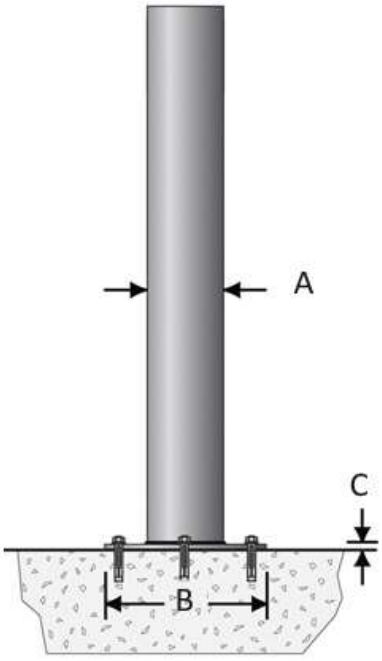
GROUND TUBE CAP

If badly impacted both the bollard and the foundations are re-usable

Surface mount

Mitred Dome Flat





BOLLARD

Any Pipe or Tube bollard can be surface mounted although for most applications Tube is suitable and cheaper

SPECIFICATIONS

- 900 mm high
- 5 mm Base plate
- 4 dynabolts

OPTIONS

- Flat, Dome or Mitred cap
- Can be electroplated or polished
- Marine Grade 316

INSTALLATION

Secured on heavy duty 5 mm base Plate using 4 Impact resistant concrete anchors

BASE DIMENSIONS

A: 5mm Wall Thickness
B: 250 mm Diameter
C: 5 mm Thick

If badly impacted the bollard, base plate and the foundations will need replacing

Sustainable surface mount

Mitred Dome Flat

BOLLARD

Any Pipe or Tube bollard can be secured using the Impact Recovery System absorbing impact, making foundations and bollard re-usable.

- 100 mm do not deflect
- 140 -168 deflect 8-10 degrees

Tube is suitable and cheaper

SPECIFICATIONS

- 900 mm high
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- Impact Recovery System

OPTIONS

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TOOLS

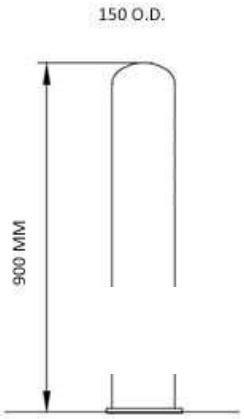
- Security Allen key to remove bollard
- Allen key to remove Rings

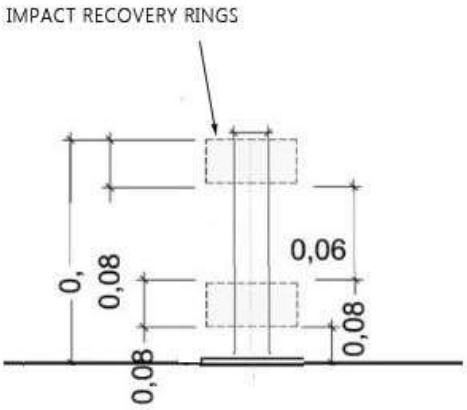
INSTALLATION

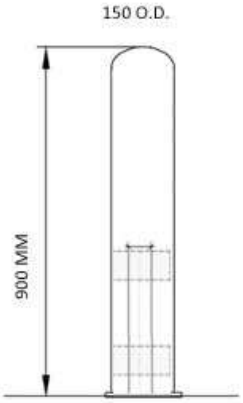
Secured on heavy duty 5 mm base Plate using 4 Impact resistant concrete anchors

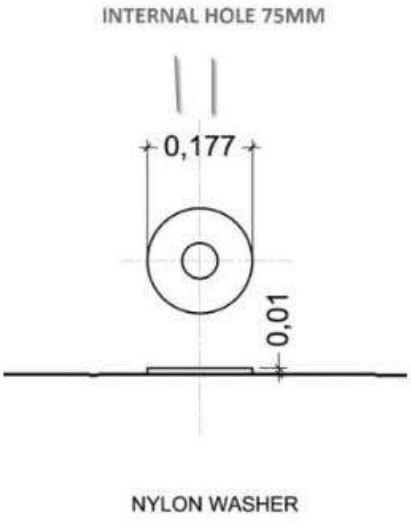
WEIGHT:

Base Plate & securing Post: 7kg









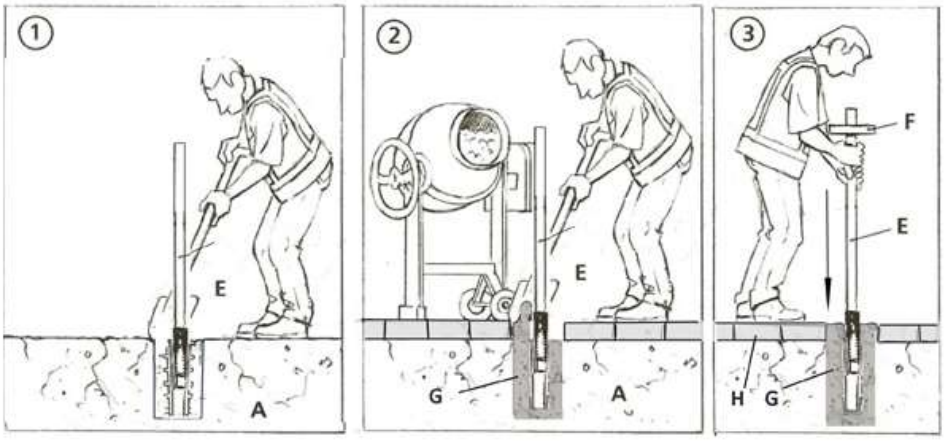
If badly impacted both the bollard and the foundations are protected from damage. Upon bad impact Internal post is replaced and bollard reused.

Smart Tools

Installation Tool

The installation tool ensures Smart sockets are not distorted or pushed out of alignment during installation (thus ensuring the socket will provide over 200 kg of resistance to unauthorized removal of a bollard)

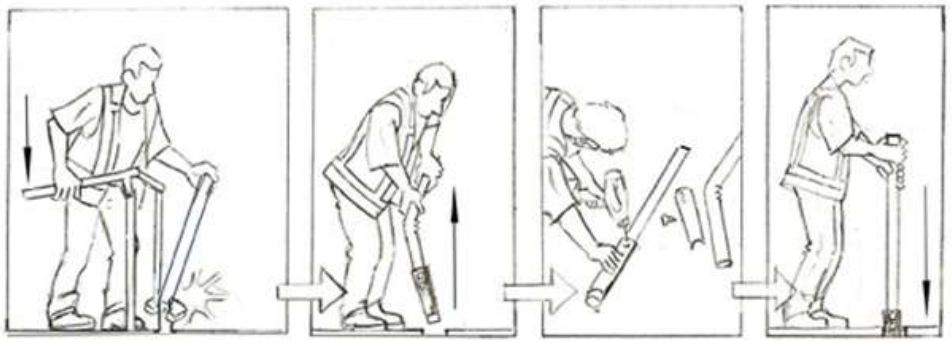
The tool is inserted into the socket, and the socket is lowered into the hole. Alignment is checked and concrete poured around the socket to secure.



Removal Tool - industrial

The industrial Removal tool is used to remove the internal post from the ground socket (they cannot be removed with a post puller- this will pull the entire base from the ground).

You simply hook the tool around the internal securing post. The handle will rise as you do this - Simply move handle down with jerking action, to remove post.



Simple foot tool

To enable removal of the internal post using a simple foot tool a pin is inserted into the internal securing post and the foot tool is used to lever the post from the ground socket.

HOW TO SPECIFY YOUR BOLLARD

CAP	
Flat	SSP-IG
Dome	SSP-IGIR
Mitred	SSP-SM

PIPE BOLLARDS	
In-ground	SSP-IG
Sustainable In-ground	SSP-IGIR
Surface Mount	SSP-SM
Sustainable surface mount	SSP-SMIR

TUBE BOLLARDS	
In-ground	SST-IG
Sustainable In-ground	SST-IGIR
Surface Mount	SST-SM
Sustainable surface mount	SST-SMIR

CHOSEN TOOLS	
Foot Tool	FOOT
Industrial Tools	IND TOOL

EXTRAS	
Polished	POL
Marine Grade 316	316

Example Shown: Mitred Cap Stainless steel pipe bollard 168 mm diameter, secured In-Ground using a 650 mm deep Impact Recovery System, removed using simple Foot tool. 316 Marine Grade

CAP	MATERIAL	DIAMETER	HEIGHT	INSTALL METHOD	TOOLS	EXTRAS
M	SSP	168	800	IGIR-650	FOOT	316

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