NSTALLATION INSTRUCTIONS

Impact Recovery

Surface Mount Bollards

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SURFACE MOUNT

Unlike normal Surface Mount Bollards, a Surface Mount Impact Recovery Bollard is sufficient for a much wider range of applications as the brunt of the impact force is absorbed by the Resistance Core

UNIT INCLUDES

- 2 x Impact Recovery Rings
- 2 x Metal Clamps
- 1 x Resistance Core
- 1 x Securing Stud
- Re-usable Base Plate
- 5 x Concrete Anchors

TOOLS REQUIRED

- Hammer Drill
- Screwdriver
- Allen key
- Vacuum Cleaner or blower

STEP 1: INSTALL BASE PLATE

Install base plate using concrete anchors provided. If installing in new concrete- we suggest using 30 MPa concrete and waiting until concrete cures, before installing bollards.

INSTALL CORE

Securing stud is installed using Allen key to secure resistance core to base plate

INSTALL RINGS

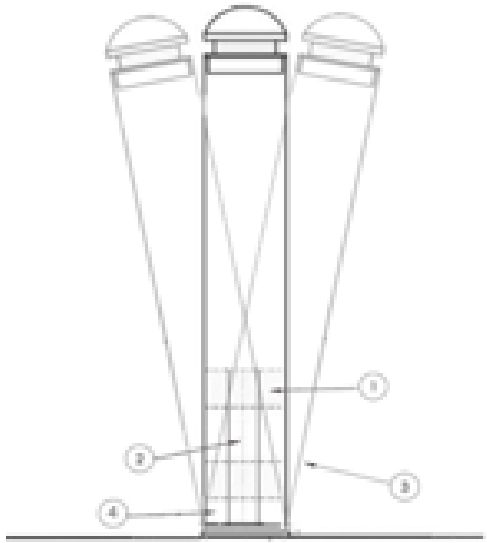
Rings are attached to the Internal Resistance Core using clamps provided. Clamps face centre with flat side of ring facing out

INSTALL BOLLARD

Bollard is simply slipped over rings and secured by inserting securing stud beneath bottom ring.

UNIT INCLUDES

1. Base Plate
2. Concrete Anchors
3. Impact Recovery Rings
4. Stainless steel Clamps
5. Resistance Core
6. Stainless stud
7. Bollard Casing
8. Securing stud



CODE	IMPACT RECOVERY RINGS	WEIGHT
IRR-150	Ring to fit 150 Poly Bollard	1 kg
IRR-165	Ring to fit 165 mm Steel Bollard	1 kg
IRR-168	Ring to fit 168 mm Stainless Steel Bollard	1 .25 kg

Technology that transforms

Unlike anything you've seen before, Smart Urban was Awarded Innovator of the Year for developing these 'state of the art' products, designed, developed, tested and manufactured in Australia to deliver the highest performance.

1. Heavy duty internal core
2. Absorbing cushion
3. Bollard casing

(Steel, Stainless Steel or Advanced Polymer)

Advanced Engineering- Impact Recovery

Using a unique patented built-in memory that allows the material to flex, cushion and reform repeatedly upon impact from vehicles, saving vast amounts in bollard and vehicle repairs.

This Ultimate strength polymer created using new age plastics delivers improved impact resistance and durability which ensures rings continue working impact after impact

Energy Absorbing

The Impact Recovery Rings create a permanent cushion that absorbs the impact force and self-recovers improving safety and resilience

Optional finish

You can choose from Steel, Stainless-steel finish, or Advanced Polymer Bollards with built in memory enabling bollard to withstand impact not scratching or chipping (same colour throughout) that are fade resistant and further reduce damage to vehicles/ bike riders.

Re-usable Base plate

The Heavy Duty Galvanised and Zinc coated Base plate remains in position impact after impact as the resistance core takes the brunt of the impact and bends before the base plate is dislodged- simple- Smart!

Installation

Base Plate is 10 mm thick and 200 mm diameter with solid upright spigot.

The Surface Mount Base Plate is bolted down using 5 evenly spaced galvanised and recessed , flush mounted concrete anchors (supplied) to evenly distribute impact force and prevent damage

Depth Footing

For the Base Plate to be impact resistant the footing must be strong enough to withstand impact. It should be made from a min of 30MPa concrete (or greater) and must be at least 200 mm depth.

If footing is free standing it should be a minimum of 500 mm diameter and 300 mm depth, but the bigger the better.

40 MPa available from Bunnings $10.00 PER BAG

Self-drilling Concrete Anchors 12 x 150 MM

We supply the latest high tensile screw-in, self-tapping concrete and AS5216:2021 Compliant masonry screw anchor 12 mm x 150 mm
Installation is quick and very easy, simply drill, clean the hole and screw in the anchor.

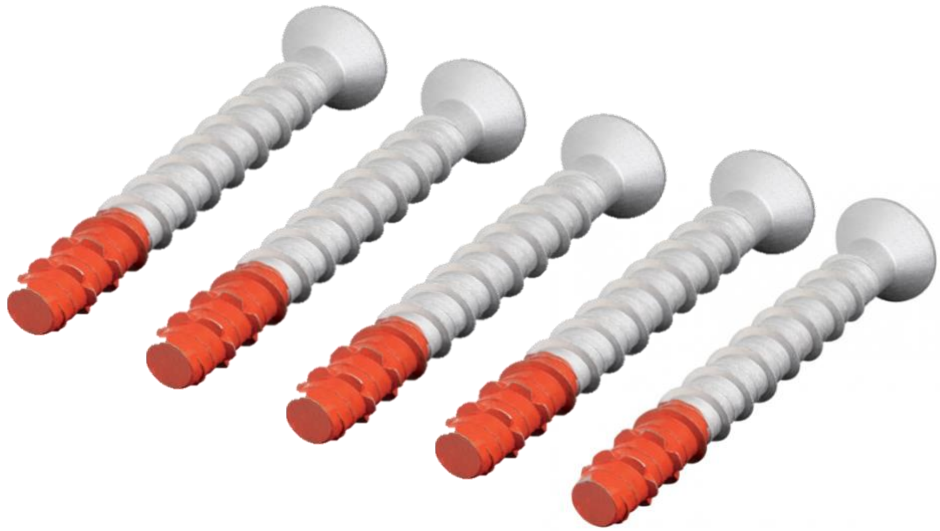
Do not miss step 2 or anchors will not install fully.

M12 x 150mm Galvanised Countersunk (10mm In/Hex) Concrete Anchors

- examine the bollard spacing plan then mark the precise centre point of each hole
- for optimal strength, the concrete should be at least 200 mm depth
- the bollard base should rest completely on the concrete

- tap a pilot divot hole in the centre of each mark to prevent the drill from drifting during boring
- set control on hammer drill or rotary hammer to proper depth (check drop-in insert manufacturer's recommendation and ensure that the depth is slightly more than the length of the concrete anchor
- insert concrete anchor through the holes in the base plate
- vacuum or blow debris from the hole

- Use hammer drill to install the concrete anchor until it finishes flush with base plate



Tools

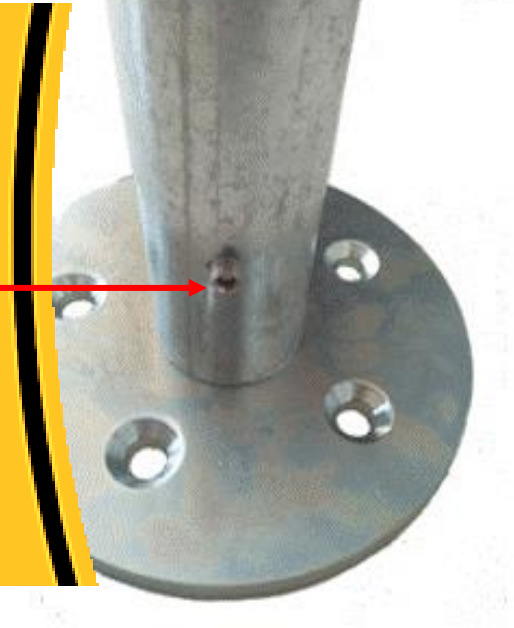
You can use a standard drill to install but we highly recommend using a hammer drill to speed up installation.

- Hammer Drill to secure concrete anchors
- Vacuum Cleaner or blower
- Masonry Bit
- 10 mm Allen key to secure the Securing studs
- Screwdriver (bit) to tighten the securing clamps

VIEW VIDEO:
https://www.youtube.com/watch?v=JuamV760JZI

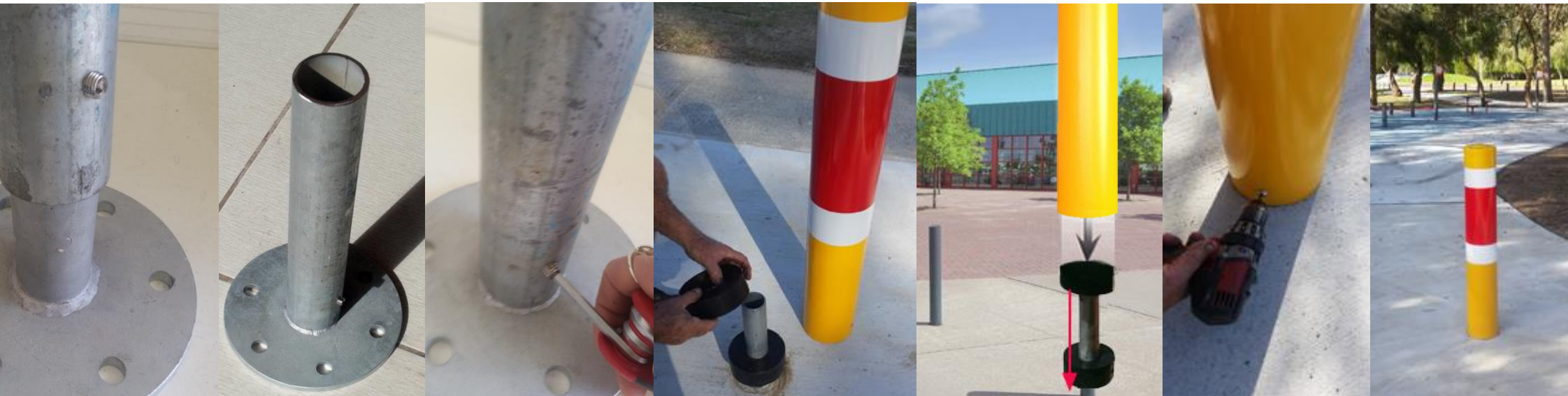
Install Resistance Core & Bollard

The Resistance Core is a CH Steel 3.6 wall thickness, secured to base plate using an embedded grub screw that is secured using an Allen key (suggest using Allen key drill bit)



1. Drop the Resistance Core over the upright spigot and secure using embedded grub screw
2. Spray Rings and inside bollard with lubricant
3. Attach first Ring 20 mm from bottom of Resistance Core with flat edge facing downward
4. Attach second Ring to top of Resistance Core with flat edge facing upward
5. Wiggle Bollard over rings and secure using Allen key to tighten securing stud until flush
   NB: Do not let stud eat into the Impact Recovery Ring- it should sit “below” the bottom Ring.

PLACE RESISTANCE CORE OVER SPIGOT AND INSTALL STUD. SECURE IMPACT RECOVERY RINGS USING CLAMPS THEN SLIP BOLLARD OVER RINGS AND SECURE USING STUD



Only replaceable component

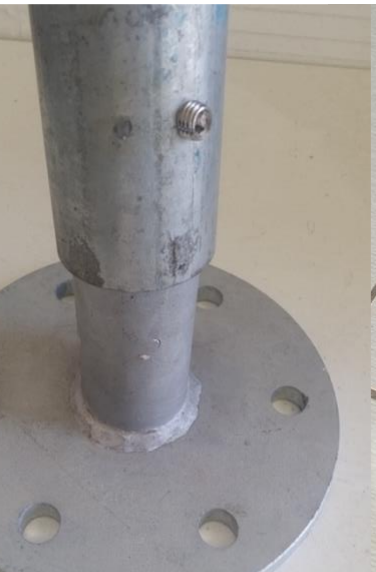
The resistance core is sacrificial. When a bollard is badly impacted the inner resistance core can bend and need replacing.

The expensive concrete footing, base plate, bollard and Impact Recovery Rings are reusable impact after impact

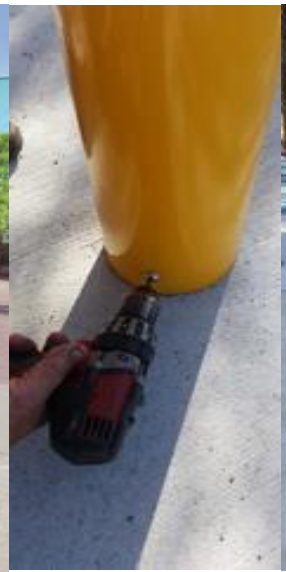
S/MOUNT RESISTANCE CORE

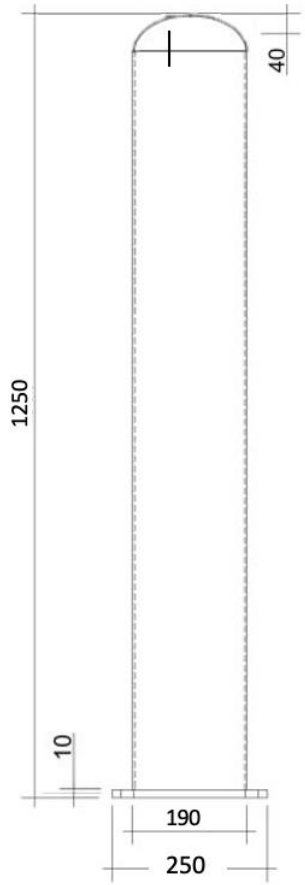
3.6 Walled Galvanised Steel. 300 mm Length with embedded securing stud to secure core to base

REMOVE DAMAGED CORE INSTALL NEW CORE AND STUD. SECURE IMPACT RECOVERY RINGS USING CLAMPS THEN REINSTATE BOLLARD AND SECURING STUD

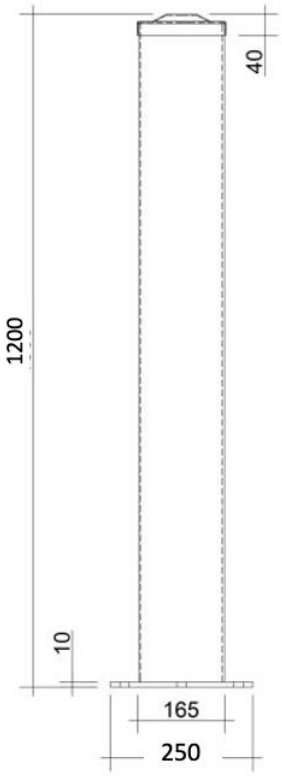




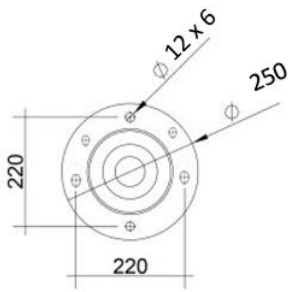



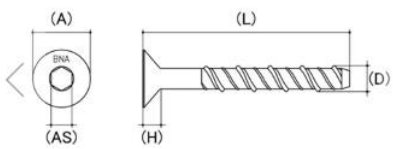



Bollard Covers 190 mm ∅



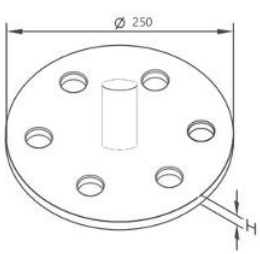
Galv Steel Bollard 165 mm ∅



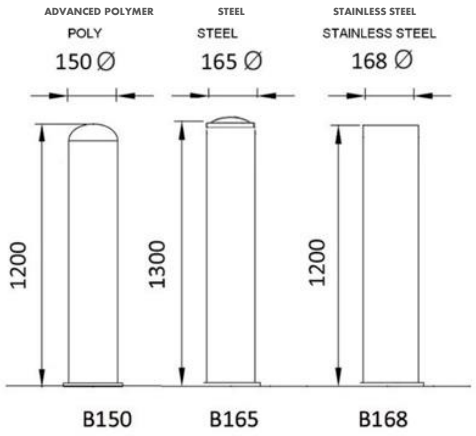


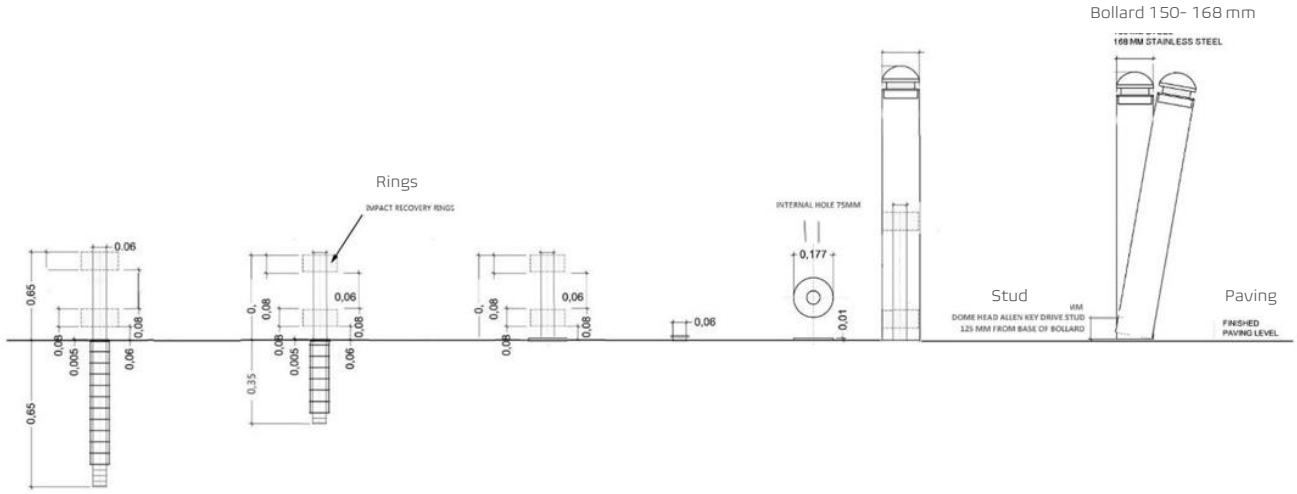
6 x Countersunk Screw Anchors

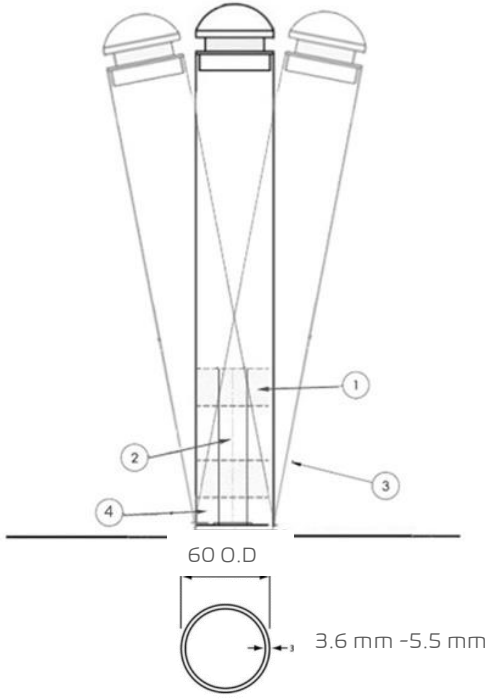
A: 27.65mm
L: 150 mm
D: M12: 12 mm
H: 10.20 - 10.40mm
AS: 10 mm



H= 8 MM





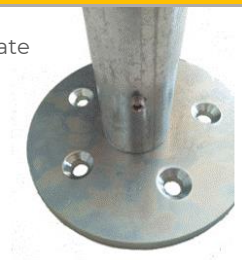


COMPONENTS

1. Impact Recovery Rings
2. Resistance Core
3. Bollard
4. Securing stud

* Internal Resistance Core must be a minimum of 3.6 mm wall thickness (can increase to 5.5 mm when using 650 mm depth foundations).

* Optional" Protective cuff available that sits beneath bollard to protect paving from scuffing due to steel bollards when they deflect (purchased separately)

TASK	HAZARDS	SAFE WORKING PROCEDURES
Installing Base Plate 	- Bending of the back - Twisting of the back - Working in traffic	• Dial before you dig • Install appropriate traffic management • Mark and drill holes to accept concrete anchors from standing or kneeling position • Clean out debris using vacuum cleaner from kneeling or standing position • Insert Anchors using hammer drill with straight back
Installing Bollards 	- Bending of the back - Twisting of the back - Working in traffic - Item not secure	• Install appropriate traffic management/ cones • Using two hands, from standing position wiggle bollard over rings until flush with ground • Install stud using Allen key driver to protect from unauthorized removal • Check bollard is sufficiently secure
Replacing Resistance Core 	- Bending of the back - Twisting of the back - Working in traffic	• Position safety cones or safety barriers at extremity of working space • Use Allen key driver to remove securing stud • Lift bollard (wiggle if tight) from Resistance Core • Remove Rings from Resistance Core • Install new Resistance Core • Re attach Rings • Reinstall bollard and securing stud.