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**SURFACE MOUNT BOLLARDS**  
**02** Impact Recovery

# 02



## Put an end to on-going repairs

Surface mount bollards are prone to becoming unstable, rust and corrosion making them unreliable and costly to maintain.

Unless you incorporate some form of shock absorbing mechanism the bollard and footing will need replacing every time a bollard is impacted.

Although we do manufacture heavy duty surface mount steel bollards, (with very heavy duty round base plates- we highly recommend our Impact Recovery Bollards to reduce ongoing maintenance costs

When impacted  
**something's got to give!**

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## **Bollard design** options

*You can secure steel, stainless or Advanced Polymer Bollards on the Impact Recovery System.*

### **Galvanised and powder coated Steel**

Suitable for industrial locations, but can chip and show scratches

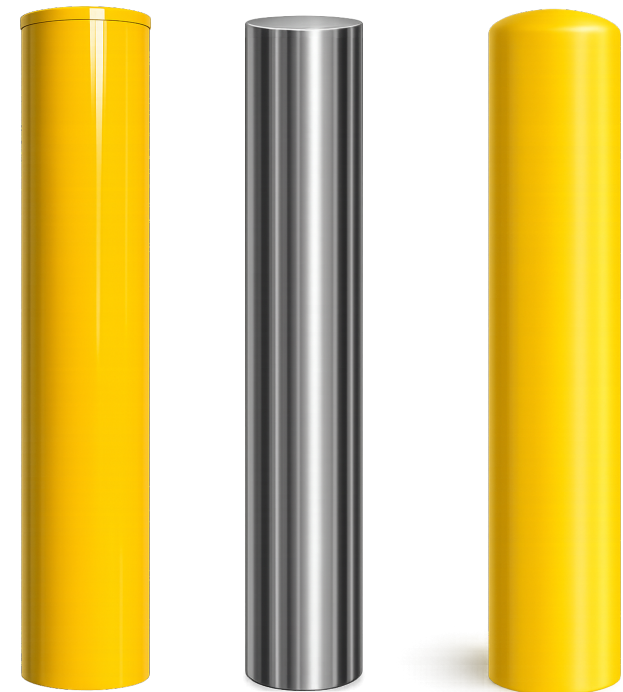
### **Stainless steel**

Stainless for aesthetically pleasing bollards – highly durable

### **Advanced Polymer**

Advanced Polymer impact resistant bollards are suitable for most locations greatly reducing maintenance. Excellent for carparks.

Reflective striping available and solar caps now being developed for Advanced Poly Bollard (glow at night)



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## Zero Waste re-usable **foundations**

The re-usable Base plate is made from heavy duty stainless steel. It is designed round, with 6 evenly spaced concrete anchors to evenly distribute the impact force making it highly resilient to impact

Two Impact Recovery Rings are used to absorb the impact force and dissipate it before the force is transferred to the inner sacrificial resistance core . For low speed impacts such as general carpark impact and glances, the bollard deflects and self recovers.

When impacted by large vehicle or high speed impact (and the force is strong enough to bend the inner resistance core), the base plate remains firmly planted and the resistance core may bend above the upright spigot and need replacing.



It's time to move from repetition **to resilience**



## 4 levels of protection

4 levels of protection to protect people and assets, protect bollards and surrounding foundations

### 1. Strong **resistance core**

Unlike spring-loaded bollards that can over-flex, the heavy-duty resistance core restricts bollard deflection to approximately 20 degrees under low-speed passenger vehicle impact.

For higher-risk zones and areas subject to utility vehicle impact, the 650 mm depth Inground IRS can be upgraded to an Extra Heavy Duty resistance core to further reduce the risk of bending

## 2. Reusable **foundations**

The reusable base plate is manufactured from heavy-duty stainless steel. It has a round design with six evenly spaced concrete anchors, helping to distribute impact forces evenly and improve overall impact resilience.



## 3. Impact **recovery rings**

Unlike spring-loaded systems that can lose performance over time, the Impact Recovery Rings form a permanent shock-absorbing cushion. The rings compress under vehicle impact to absorb and dissipate energy, allowing the bollard to deflect and self-recover after low-speed impacts and glancing strikes.

With no springs or moving mechanical parts, the system provides durable, repeatable impact absorption, improving safety, resilience, and long-term maintenance performance.



## 4. Durable **Bollard casing**

Bollard casings are available in **galvanised steel**, **Advanced Polymer**, or **stainless steel**

**Galvanised steel** provides a strong, Australian-made option with quality powder coating, although can chip, dent and rust as a result of impact

**Advanced Polymer** offers a lightweight, non-conductive, corrosion-resistant casing that will not rust and can flex under light impact, making it ideal near electrical assets, coastal locations, pedestrian areas, and public infrastructure.

**Stainless steel** Pipe (polished) provides a premium finish with excellent long-term durability, with **316 stainless steel** recommended for coastal or high-salt environments.

## **Bollard deflects** maximum 20 degrees

Under low-speed or glancing impacts, the Impact Recovery Rings absorb the initial force, allowing controlled bollard deflection of up to 20° before the internal Resistance Core limits further movement.

The bollard then slowly self-recovers without dangerous spring-back.

Designed for repeated impacts, the durable polymer Ring system maintains its recovery performance over time while helping protect the footing from damage.

[VIEW VIDEO](#)



# Fast efficient replacement

If the bollard is pushed beyond 20 degrees, the Resistance core will bend and need replacing. The bollard remains safely secured in the footing and footings remain undisturbed.

- 1.** The Bollard is slipped off the resistance core.
- 2.** The Resistance core replaced
- 3.** The bollard slipped back on

No disturbance to public or underground services. ZERO WASTE and zero expensive repairs.



# Surface mount Impact Recovery System

Surface Mount Impact Recovery Bollards are installed into solid concrete surfaces such as pavements, driveways, and slabs.

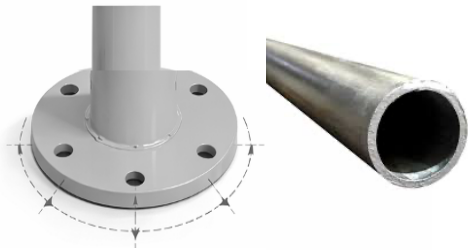
They remain rigid in normal use (cannot be deflected by hand like spring-loaded bollards) but under vehicle impact the ring system absorbs the initial force, allowing the bollard to deflect up to **20°** and then slowly self-recover.

- Remain Rigid
- Slowly self-recover
- Footings Re-usable following severe impact
- Bollard Re-usable following severe impact
- Rings Re-usable following severe impact

Following severe impacts, the internal Resistance Core may require replacement (only replaceable component)



Heavy duty base plate with solid upright spigot resists bending and 5 evenly spaced anchors distribute impact force.



Heavy Duty Resistance core resistant forward movement of vehicles beyond 20 degrees.



Impact Recovery Rings are made from advanced urethane and rubber compound, repeated recovering following impact





## Resistance Core 02-04

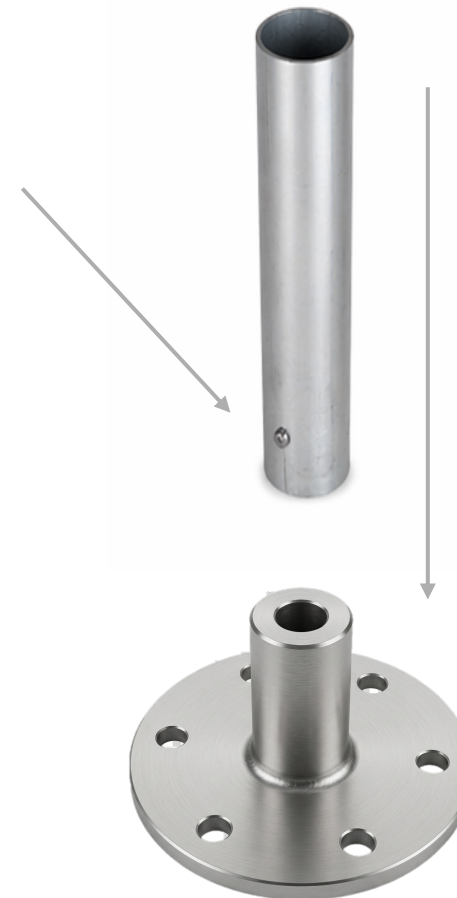
### S/MOUNT RESISTANCE CORE

Heavy Duty Galvanised Steel.  
300 mm Length with securing  
stud to secure core to base

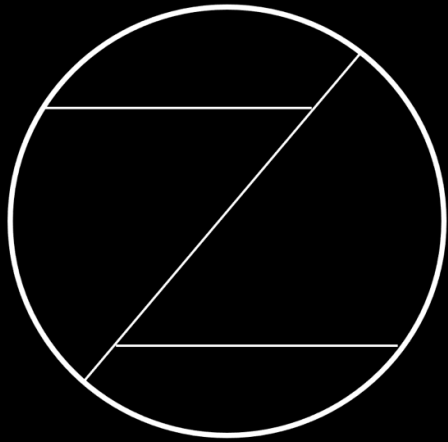
**\$50**

The Resistance core replaced using an Allen key to remove the securing stud.

1. A new resistance core is installed the by slipping over the upright spigot and securing using stud provided.
2. The rings are reattached using clamps provided .
3. The bollard is then slipped over the rings and secured using securing stud provided



|  | Standard Surface Mount Bollard  | Advanced Polymer IR  | Steel IR  | Stainless steel IR   |
|--|---|--|---|--|
| <b>Typical use</b>                             | Basic access control / visual barrier   | Carparks, pedestrian zones, electrical assets, coastal areas                               | Higher-risk carparks, warehouses, loading areas                 | Premium public spaces, commercial entries, coastal/high-exposure sites |
| <b>Bollard Casing</b>                          | Fixed steel or stainless bollard bolted to slab                               | Advanced Polymer 150 Ø casing  | Galvanised / powder-coated steel casing                         | Stainless steel casing   |
| <b>Impact Response</b>                         | Rigid — impact force transfers directly into base plate, anchors and concrete | Deflects under low-speed impact and self-recovers  | Deflects under low-speed impact; stronger outer casing          | Deflects under low-speed impact; premium durable outer casing          |
| <b>Energy Absorption</b>                       | Low   | High — Impact Recovery Rings absorb and dissipate impact energy                            | High — Impact Recovery Rings absorb and dissipate impact energy | High — Impact Recovery Rings absorb and dissipate impact energy        |
| <b>Base Plate Reusable After Impact</b>        | Often damaged or loosened after impact  | Yes — designed to remain reusable  | Yes — designed to remain reusable                               | Yes — designed to remain reusable                                      |
| <b>Footing / Slab Protection</b>               | Poor — force is transferred directly into concrete                            | High — reduced force transfer to footing   | High — reduced force transfer to footing                        | High — reduced force transfer to footing                               |
| <b>Bollard Reusable After Low-Speed Impact</b> | Usually no  | Yes  | Yes   | Yes  |
| <b>After Severe Impact</b>                     | Bollard, anchors, base plate or concrete may need repair                      | Resistance core may bend and be replaced   | Resistance core may bend and be replaced                        | Resistance core may bend and be replaced                               |
| <b>Corrosion Resistance</b>                    | Depends on finish   | Excellent — will not rust  | Good with galvanising/powder coating                            | Excellent, especially 316 stainless                                    |
| <b>Electrical Safety</b>                       | Conductive  | Non-conductive   | Conductive  | Conductive   |
| <b>Maintenance</b>                             | Higher after impact   | Low  | Low   | Low  |
| <b>Visual Finish</b>                           | Basic / functional  | Clean, modern, softer appearance<br>Safer, non-conductive, corrosion-free, impact tolerant | Industrial / heavy duty   | Premium architectural  |
| <b>Best Advantage</b>                          | Low upfront cost  | Lower rigid strength than steel  | Strongest general-purpose casing                                | Best appearance and corrosion resistance                               |
| <b>Main Limitation</b>                         | Transfers impact into slab and anchors  | Lower rigid strength than steel  | Can rust if coating damaged                                     | Higher upfront cost  |



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ADVANCED ZERO WASTE TECHNOLOGIES

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Photo: Stainless steel Surface Mount Impact Recovery Bollards City of Perth. First ones installed over ten years ago and still look good today (2026)