

ZERO WASTE

STEEL IMPACT RECOVERY BOLLARDS



The ultimate carpark bollard



ZERO DAMAGE

To Impact Recovery Rings

ZERO DAMAGE

To bollard

ZERO DAMAGE

To concrete footing or base plate

RESISTANT TO IMPACT, REMOVABLE AND REUSABLE FOLLOWING SEVERE IMPACT

City of Perth had a problem maintaining bollards in the busy city centre. They came to us to develop a solution that would provide protection for café strips and pedestrians, reduce damage to vehicles and reduce the escalating cost of maintaining their bollards. We developed the Impact Recovery System that provides a low cost and sustainable solution to all of these problems.

When impacted something's got to give!

Did you realise that both inground and surface mount bollards are designed to fail upon impact?

The result is that both the bollard and expensive footing need repeatedly replacing. If impacted only twice a year you need to pay for the bollard, plus replacement costs and tipping fees, which equates to around \$1 million per bollard over the life of the development

City of Perth had a massive problem maintaining bollards in the busy city centre. They came to us to develop a solution that would provide protection for café strips and pedestrians, plus protect new saplings that would later grow (if possible making the bollard removable).

They wanted to reduce damage to vehicles and reduce the escalating cost of maintaining their bollards. We developed the Impact Recovery System that met all of their requirements and provides a low cost and sustainable solution to all of these problems.



Impact Resistant

The bollard could not simply fold upon impact like spring loaded bollards, it had to provide some resistance to protect the trees they had just planted, and to protect pedestrians and buildings from errant vehicles.

Provide protection

Bollards had to be rigid (not floppy like spring-loaded bollards), They needed to provide some resistance when impacted so could not be deflected by hand – they had to appear to be solid inground bollards

Removable

When severely impacted instead of the entire footing and bollard having to be replaced- they wanted a low cost means of repairing the damaged bollard and hopefully preserving the concrete and paving



4 Levels of extreme protection impact after impact

1. Unlike spring loaded bollards that over-flex, a heavy-duty resistance core prevents deflection of the bollard beyond 20 degrees when impacted by a passenger vehicle at low speed such as a carpark
2. Unlike springs that quickly rust and wear out, creating dangerous litigation risks, our re-usable shock absorbing Impact Recovery Rings create a permanent shock absorbing cushion that absorb the impact force of a vehicle and self-recover, with no reduction in capacity following hundreds of impacts, greatly improving safety and resilience
3. Unlike cheap imported bollards that dent upon impact from a vehicle, and quickly fade, our heavy-duty pipe bollards provide an impact resistant surface and are powder coated using quality materials, so they not only look good but stay that way for years to come



Probably the most important: You can now protect costly foundations from damage indefinitely

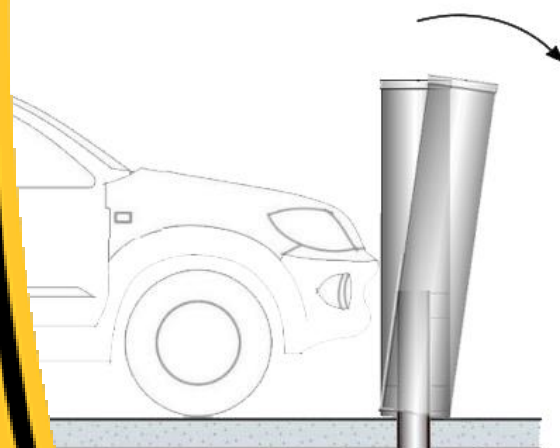
- You can secure Bollards using our ZERO WASTE Foundations that, unlike metal sockets, are unbreakable, so continue working impact after impact for the life of a development or s
- Surface mount your bollards using our Reusable base plate

We get knocked down, but we get up again. You're never going to keep us down!

Unlike spring-loaded or flexible bollards, ZERO Impact Recovery Bollards cannot be deflected by hand, but when impacted by a vehicle they deflect to a Maximum of 20 degrees when the resistance core prevents any further deflection.

Bollards self-recover from low-speed impact, and when severely impacted (truck or utility vehicle) replacements take less than 5 minutes. The bollard, expensive concrete footings and Impact Recovery Rings are reusable impact after impact, saving thousands over the life of a development.

Resistance core prevents deflection beyond 20 degrees



Upon Low Impact

Bollards remain rigid and appear to be solid inground bollards but when impacted by a vehicle they absorb the impact force deflecting a maximum of 20 degrees and self-recovering, with no diminished capacity following hundreds of impacts.

Severe Impact

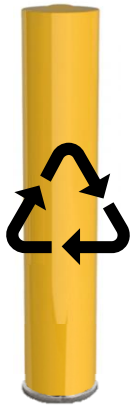
When severely impacted, the inner resistance core can bend allowing the bollard to fold but not be dislodged- preventing any further forward movement of the vehicle and enabling fast reinstatement. (Resistance core is the only replaceable component)

Fast efficient replacements

Replacements are simple Following severe impact bollard is easily removed (resistance core replaced) and reinstated in around 5 mins Bollards and Impact Recovery Rings are reusable impact after impact, improving safety & efficiency

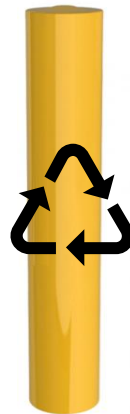
Range of options

- 1300/1500H
- Inground (removable) or surface Mount
- Standard units are powder coated Safety Yellow
- Other colours available (min 6 bollards)
- Reflective striping (red /white or MRWA) optional
- Cap can be supplied separately
- MRWA Bollards are 1300 L



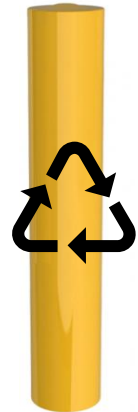
SURFACE MOUNT

You can safely surface mount your bollards using our base plate that is reusable impact after impact.



INGROUND 350 MM

Foundations that last a lifetime. Carpark bollards can be installed on 350 mm footings. *



INGROUND 650 MM

* When bollards may be subject to severe impact or will be installed in free standing foundations

Inground or Surface Mounting options

ZERO WASTE Unbreakable ground sockets (350 or 650mm depth) can be installed when pouring concrete footings by simply positioning upright, creating a perfect finish (and can be capped if bollard is removed)

Bollards are simply dropped into position (no pins or padlocks) "automatically" locking in using friction, which ensures they remain safe and secure perfectly aligned impact after impact, year after year.

Surface Mount base plate is heavy duty round base plate (to evenly distribute the impact force) secured using quality recessed and galvanised flush mounted concrete anchors and are reusable impact after impact.

