ZERO CIVIL

TECHNOLOGY THAT TRANSFORMS

IMPACT RESISTANT

Made from impact absorbing advanced polymer compound, that provides a safe, soft surface and self recovers from light impact

UV RESISTANT

Made with unique blend of Supa UV our Advanced Polymer Bollards offer 4.5 times the UV protection required by Australian Standard (AS/NZ 4766:2006)

FOOTINGS CAN BE MADE REUSABLE

When secured on Impact Recovery System the concrete footings can be protected from damage for the entire lifespan of a development!

BOLLARDS CAN BE MADE REUSABLE

When secured on Impact Recovery System bollards self-recover from low-speed impact and are removable and reusable following severe impact

Photo Dept Transport Safety Yellow Advanced Polymer XHD Impact Recovery Bollards

We offer non-conductive bollards in different structural formats depending on the application.

There’s good reason our bollards are specified by the market leaders - DOT, MRWA, major contractors and major cities.

We have been in the bollard industry for more than three decades and we don’t import cheap products- we manufacture bollards designed to last.- **not only saving landfill but saving an enormous amount of time and money.**

If you need specifications ; need help selecting the correct bollard for your job; or just want to know price and availability of our bollards, you can visit our website

zerocivil.com or call us on **0414628 511**

Resilient Bollard casing

Unlike old fashioned plastics, our Advanced Polymer provides excellent impact resistance, energy absorption and high tensile strength. UV Stabilised to prevent fading and cracking, and is an efficient electrical insulator, making it great for applications where safety is paramount.

- Highly efficient Electrical Insulator
- High impact resistance
- Abrasion Resistant
- Scratch and marking resistant
- Chemical resistant
- Water and moisture resistant
- UV Resistant/ shatter resistant
- Long-wearing
- Corrosion resistant
- Strength tested to AS/NZS 4766:2006
- UV20 Protection to ASTM D2565
- Australian Made

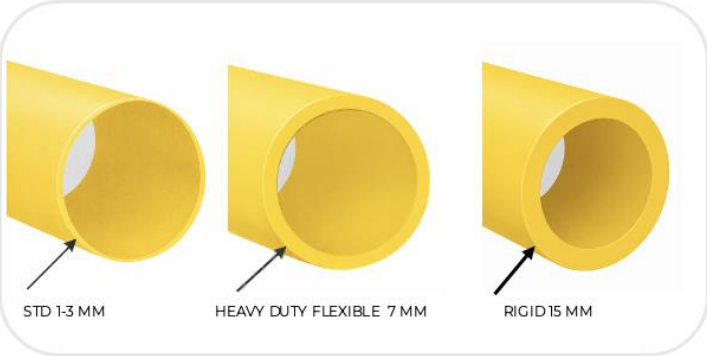
50 YR LIFE EXPECTANCY (25 IN DIRECT SUNLIGHT)

UV Resistant

We use a hexene copolymer based linear medium density polyethylene with a base resin VP319 polymer containing a long-term UV stabilisation package greater than UV8 to ensure bollards won't dry out and will not become brittle

SPECS

Tensile strength at 72°F: 1,400 psi
Tensile modulus: 57,000
Tensile elongation at break: 100%
Flexural modulus: 29,000 psi



Impact-Resistant

Unlike rigid materials, Advanced polymers absorb impact energy, allowing the bollard to “flex” and recover, reducing the force transferred into the footing and the subsequently reducing the risk of expensive footing damage.

Bollards are made from a solid piece of Advanced Polymer material, with **heavy duty 7 mm walls** which is robust enough to withstand impact and malleable enough to maintain the ability to absorb impact “flex” and recover.

Impact Recovery

The most resilient option of all. Using a shock-absorbing mechanism, the bollard is able to deflect under impact, self-recover from low-speed contact, and reduce force transfer into the surrounding footing.

This helps protect the foundation from damage and enables reusability of both the bollard and expensive concrete footings after impact.

In severe impact events, the resistance core may bend and require replacement, while both the **bollard and footing remain reusable**. The result is lower maintenance, faster replacement, and longer-lasting bollards

6 Options

Use the Impact Comparison and Resilience comparison chart to decide which installation method is best for your project.

In-ground – Concrete Filled

In-ground – Hollow

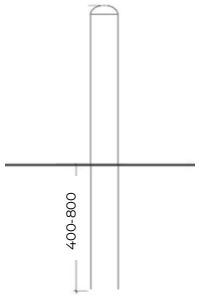
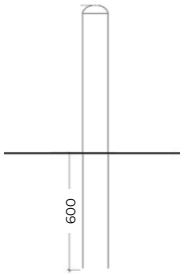
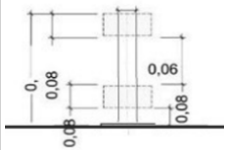
Impact Recovery – Surface Mount

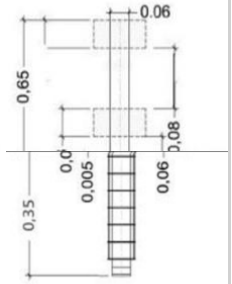
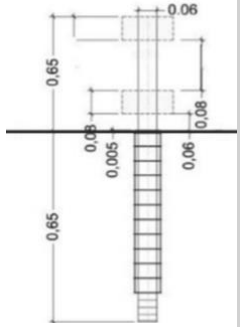
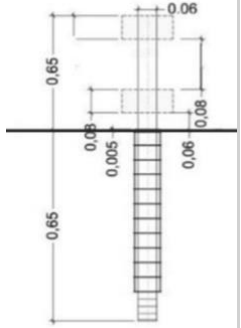
Impact Recovery – In-ground 350

Impact Recovery – In-ground 650

XHD Impact Recovery – In-ground 650 (Extra Heavy Duty)

INSTALLATION METHOD	MAX IMPACT	OUTCOME FOLLOWING IMPACT
In-ground – Concrete Filled	**≈ 8 km/h**	Concrete filling increases stiffness but offers little practical improvement in impact tolerance. Because the bollard becomes less able to flex, higher loads are transferred into the footing, which may increase the risk of footing damage or dislodgement.
In-ground – Hollow	**≈ 10 km/h**	The hollow bollard can flex and recover from light impacts. Under more severe impact, permanent deformation may occur, and the bollard may not fully recover. Footing damage remains possible because there is no impact recovery mechanism below ground.
Impact Recovery – Surface Mount	**≈ 13 km/h**	Bollard deflects and self-recovers under low-speed impact and side glances. Under higher-speed impact, the resistance core can bend and require replacement. **Surrounding footing is not damaged.**
Impact Recovery – In-ground 350	**≈ 16 km/h**	Improved stability over surface mount. Bollard deflects and self-recovers under low-speed impact and side glances. Under higher-speed impact, the resistance core can bend and require replacement. **Surrounding footing is not damaged.**
Impact Recovery – In-ground 650	**≈ 19 km/h**	Greater embedment improves resistance to more serious low-speed impacts. Bollard deflects and self-recovers under low-speed impact and side glances. Under higher-speed impact, the resistance core can bend and require replacement. **Surrounding footing is not damaged.**
XHD Impact Recovery – In-ground 650 (Extra Heavy Duty)	**≈ 21 km/h**	Highest-duty option for severe low-speed impacts, including impacts from utility vehicles or trucks. Bollard deflects and self-recovers under low-speed impact and side glances. Under higher-speed impact, the resistance core can bend and require replacement. **Surrounding footing is not damaged.**

BOLLARD		INSTALLATION	BOLLARD REUSABLE	FOOTINGS REUSABLE
		**INGROUND CONCRETE FILLED - LOWEST RESISTANCE** Advanced Polymer 150 ∅ 1800 L. Installed directly inground (suggest min 600 mm Depth in solid concrete 30MPa) and concrete filled. High force transfer to bollard and footing under impact. May survive light impact (with possible damage to concrete at base and inside bollard) but with multiple impacts (or impact at medium speed) both the bollard and footings will need replacing		
		**INGROUND HOLLOW IMPACT TOLERANT** Advanced Polymer 150 ∅ 1800 L. Installed directly inground and left hollow, or concrete filled (to ground level providing reinforcement where needed). Flexible material- Bollard will withstand light impacts (such as carpark bumps and recover without need for maintenance. Upon medium to high impact, the bollard may bend but remain secured in concrete footing (providing a safety cushion between the vehicle and the electrical asset). Bollard and footings may need replacing.		
		**SURFACE MOUNT IMPACT RECOVERY LOW-MEDIUM RESISTANCE** Advanced Polymer 150 ∅ 1200L. Suitable for low speed zones such as carparks. Existing footing must be solid concrete or asphalt. Rather than “flexing” the bollard has a shock absorbing core that allows the bollard to deflect up to 20 degrees and slowly recover from low speed impacts and glances (no maintenance). Footings and bollard are also reusable following even severe impact.		

BOLLARD		INSTALLATION	BOLLARD REUSABLE	FOOTINGS REUSABLE
		**INGROUND 350 MM IMPACT RECOVERY MEDIUM RESISTANCE** Advanced Polymer 150 ∅ 1200L (350 mm depth) Suitable for low speed zones such as carparks. 350 mm footing suitable for areas with existing concrete footings to provide stability to concrete base and protect against dislodgement. Rather than "flexing" the bollard has a shock absorbing core that allows bollard to deflect up to 20 degrees and slowly recover from low to medium speed impacts and glances (no maintenance). Footings and bollard are reusable following even severe impact.	♻	♻
		**INGROUND 650 MM IMPACT RECOVERY HIGH RESISTANCE** Advanced Polymer 150 ∅ 1200L (650 mm depth) Suitable for low to medium speed zones such as carparks. 650 mm footing suitable for areas with no existing concrete footings (free standing footing). Rather than "flexing" the bollard has a shock absorbing core that allows bollard to deflect up to 20 degrees and slowly recover from low to medium speed impacts and glances (no maintenance). Footings, and bollard are reusable following more severe impacts and glances (such as utility vehicles)	♻	♻
		**INGROUND 650 MM XHD IMPACT RECOVERY MOST RESISTANT** Advanced Polymer 150 ∅ 1200L (650 mm depth Extra Heavy Duty Resistance Core provides 150% greater resistance to bending upon impact from a vehicle) Suitable for medium to high impact from large passenger vehicles and utility vehicles. Rather than "flexing" the bollard has a shock absorbing core that allows bollard to deflect up to 20 degrees and slowly recover from low to medium speed impacts and glances (no maintenance). Footings and bollard are reusable following severe impacts (such as utility vehicles).	♻	♻

Cap moulded

Quality UV stabilised impact resistant material Highly durable

Lightweight- easy to use

Flexes upon impact reducing risk of damage to footings

Heavy 7 mm wall thickness

Can concrete fill to ground level for added resistance and retain flexibility

Available in other colours- ask for colour chart.
Min qty 10

150 MM ADVANCED POLYMER

Inground concrete filled

RESILIENCE RATING – 01

1. **Casing:** UV-stabilised, dent and rust resistant
2. **Impact response:** Will not recover from impact
3. **Bollard reuse:** Not reusable after severe impact
4. **Footing reuse:** Not reusable after severe impact

150 MM ADVANCED POLYMER

Inground

Cap moulded

Quality UV stabilised impact resistant material Highly durable

Flexes upon impact reducing risk of damage to footings

Lightweight- easy to use

Heavy 7 mm wall thickness

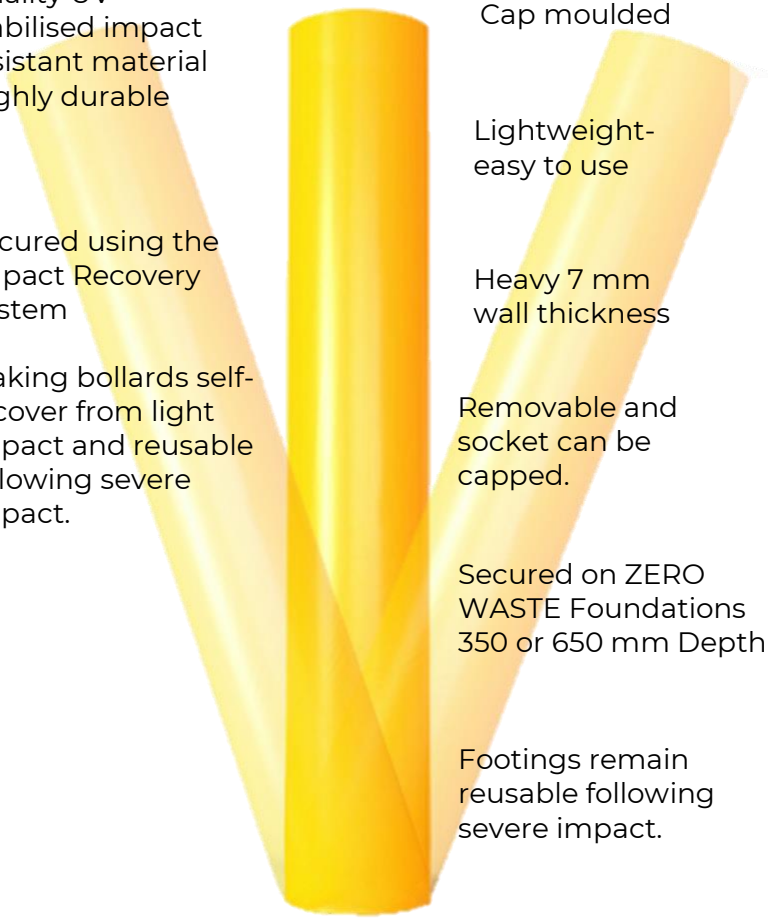
Can concrete fill to ground level for added resistance and retain flexibility

Available in other colours- ask for colour chart.
Min qty 10

RESILIENCE RATING – 02

1. **Casing:** UV-stabilised, dent and rust resistant
2. **Impact response:** Recovers from low-speed impact
3. **Bollard reuse:** Not reusable after severe impact
4. **Footing reuse:** Not reusable after severe impact

MOST POPULAR



150 MM ADVANCED POLYMER

Impact Recovery Inground

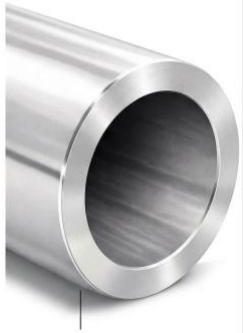
RESILIENCE RATING – 04

1. **Casing:** UV-stabilised, dent and rust resistant
2. **Impact response:** Recovers from low-speed impact
3. **Bollard reuse:** Reusable after severe impact
4. **Footing reuse:** Reusable after severe impact

MORE INFO

Secured using the Extra Heavy Duty Impact Recovery System reducing risk of core bending by 150%

Secured on ZERO WASTE Foundations 650 mm Depth



Extra Heavy-duty Resistance Core

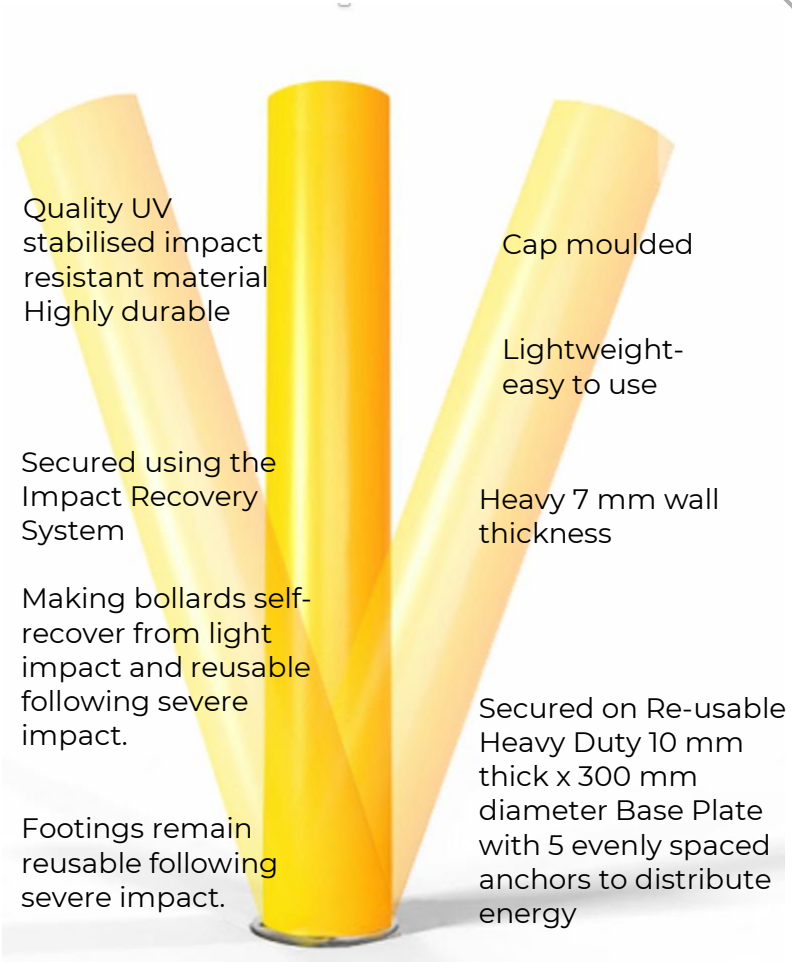
150 MM ADVANCED POLYMER

XHD Impact Recovery Inground

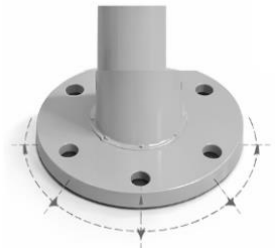
RESILIENCE RATING – 05

1. **Casing:** UV-stabilised, dent and rust resistant
2. **Impact response:** Recovers from low-speed impact
3. **Bollard reuse:** Reusable after severe impact
4. **Footing reuse:** Reusable after severe impact
5. **XHD Resistance** core provides reduced risk of resistance core bending

MORE INFO



100% AUSSIE MADE



150 MM ADVANCED POLYMER

Impact Recovery Surface Mount

RESILIENCE RATING – 04

1. **Casing:** UV-stabilised, dent and rust resistant
2. **Impact response:** Recovers from low-speed impact
3. **Bollard reuse:** Reusable after severe impact
4. **Footing reuse:** Reusable after severe impact

MORE INFO

Resilient Foundations

EXTENDING THE LIFE OF YOUR BOLLARDS

1. HEAVY DUTY RESISTANCE CORE

Unlike spring loaded bollards that over-flex, a Heavy-duty resistance core works to prevent deflection of the bollard beyond 20 degrees when impacted by a passenger vehicle. The resistance core can be increased from Heavy Duty to Extra Heavy Duty

2. SHOCK ABSORBING IMPACT RECOVERY RINGS

Unlike springs that quickly wear out, creating dangerous litigation risks, our re-usable energy absorbing Impact Recovery Rings create a permanent shock absorbing cushion that absorb the impact force and self-recover, with no reduction in capacity following hundreds of impacts, greatly improving energy absorption, safety and resilience

3. PROTECTIVE BOLLARD CASING

Our impact resistant advanced polymer bollards further reduce maintenance. UV stabilised and heavy walled made from advanced polymers they are rust proof, scratch and dent proof, designed to last and further improve energy absorption

4. **ZERO WASTE FOUNDATIONS**:

You can secure your bollards using either surface mount or in-ground ZERO WASTE Foundations that continue working, keeping bollards safe and secure, following multiple high and low speed impacts.
(see over for details)

WE SWEAR TO PROTECT YOU

Unlike "flexible" bollards that simply fold at the slightest sign of danger, we have a strong resistance core that prevents the bollard from deflecting beyond 20 degrees, protecting you and your assets

WE CAN TAKE THE HARD KNOCKS

When severely impacted instead of hours of disturbance, all that rubble and money spent on new bollards and footings, you simply replace the resistance core (less than 5 minutes) and we're back on the job. No fuss!

BUT YOU CAN'T PUSH US AROUND

Unlike spring loaded bollards we can't be deflected by hand, but when impacted by a vehicle we roll with the punches and like the true heroes we are, we slowly, elegantly self-recover, without any fuss!

WE'RE MORE THAN JUST GOOD LOOKS

We're strong but we are kind too. When someone hits us- we don't get all bent out of shape, we are made to take the hard knocks and retain our good looks years after inferior bollards look like @#$%

Impact Recovery Rings are made from advanced urethane and rubber compound, withstanding hundreds of impacts

Ground socket protects surrounding foundations from damage impact after impact

Cap included

350 IRS

650 IRS

Inground
Impact Recovery System

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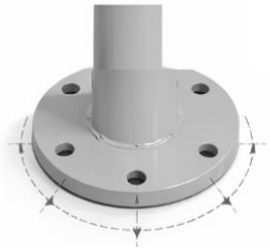

Heavy duty base plate with solid upright spigot resists bending and 6 spaced anchors evenly distribute impact force.

Heavy Duty Resistance core resistant forward movement of vehicles beyond 20 degrees. This is sacrificial (only replaceable component)

Surface mount
Impact Recovery System

resistance
core

With 650 mm Depth Foundations you can choose an Extra Heavy-duty core that increases resistance to bending by 150%

This reduces maintenance in zones subject to impact from utility vehicles and trucks.

NB: You must weigh up the extra damage to vehicles against the benefit of reduced maintenance.

VISIT WEBSITE FOR SPECS & VIDEOS

Heavy Duty Resistance Core

Extra Heavy-duty Resistance Core

only replaceable component

Suggest keeping stock, to avoid delays.

S/MOUNT RESISTANCE CORE
Heavy Duty Galvanised Steel. 300 mm Length with securing stud to secure core to base

$50.00

350 MM DEPTH RESISTANCE CORE
Heavy Duty Galvanised Steel. 350 mm Depth (650 mm Length) with self-locking Taper attached

$60.00

650 MM DEPTH RESISTANCE CORE
Heavy Duty Galvanised Steel. 650 mm Depth (950 mm Length) with self-locking Taper attached

$80.00

650 MM DEPTH XHD RESISTANCE CORE
Extra Heavy Duty Galvanised Steel. 650 mm Depth (950 mm Length) with self-locking Taper attached

$150.00