
Impact Recovery Bollards

02 Specifications



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Should you require any further information please contact us or visit the website for installation details and videos.

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zerocivil.com

Steel

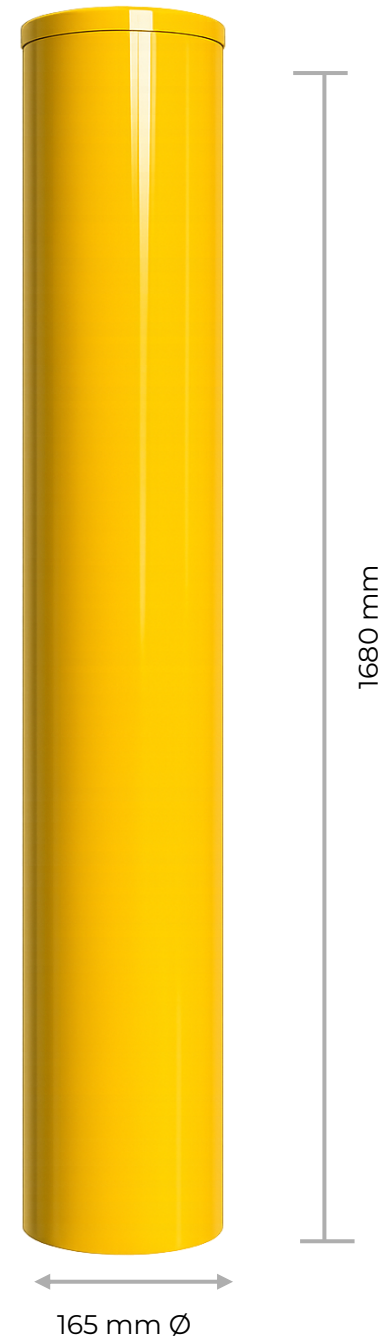
Bollard casing

Lifespan
10-15 years

- Australian Steel AS 4100
- 165mm Ø Galvanised Steel Pipe
- Cleaned
- Quality Polyester
- Knock-on Cap
- Hole drilled and tapped to accept securing stud

NOTE: 10-year corrosion warranty and 20-year chalk/colour fade warranty

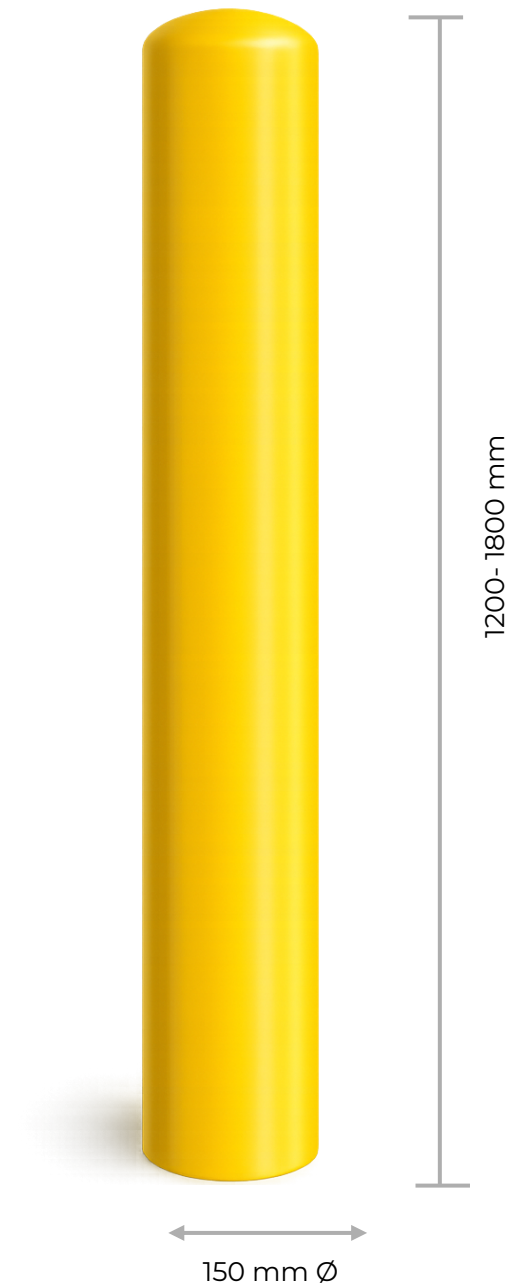
Cheap powder coating can reduce lifespan to as little as 1-2 years before fading



Advanced Polymer Bollard casing

Long life
25-50 years

- Australian Made
- Advanced Polymer Casing
- UV Stabilised (good in harsh sun)
- Long life 25 in direct sunlight- 50 years
- Heavy Duty 7mm walls
- Allows for a little "flex"
- Won't rust or chip like steel powder coated bollards
- Excellent outdoor functional lifespan
- Dents and scratches don't show
- Can be wiped clean tyre marks using Car polish
- Hole drilled to accept securing stud
- Reduces risk of damage to vehicles
- Non-Conductive



Stainless Steel Bollard casing

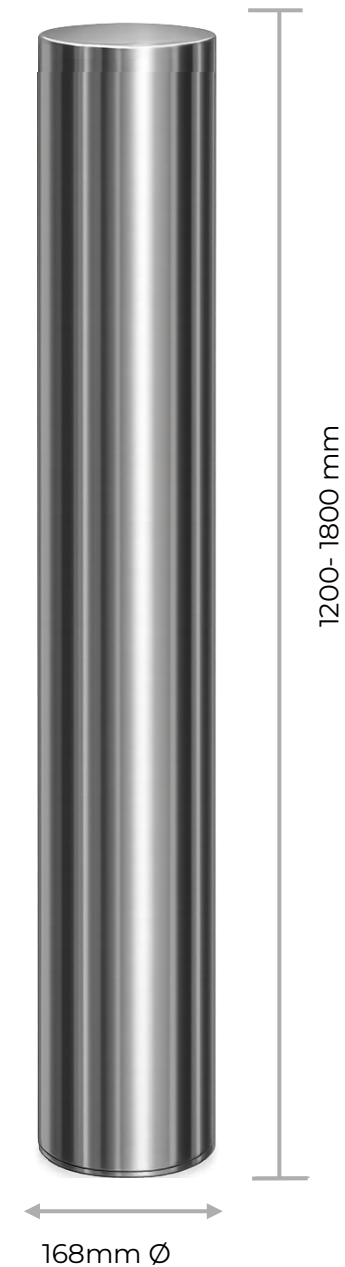
Long life
50 years

- Australian Stainless steel 304
(316 available for coastal regions)
- 168mm Ø Stainless Steel Heavy Duty Pipe
- Cleaned & Polished to a Satin Finish
(most durable finish)
- Seamless flat cap (slightly domed)
- Manufactured to secured height
- Hole drilled and tapped to accept
securing stud

Compliance:

NOTE: ASSDA warns about imported 200-series stainless being sold as 304, which has caused corrosion failures

- Manufactured to ASTM A240/A480
- Mill Test Certificate available
- Welding compliant to AS/NZS 1554.6





Bollards Impact Resistant

ZERO CIVIL Bollards are made from Australian heavy-duty materials designed to withstand impact, remaining in good condition



Bollards self-recover

Upon low-speed impact bollards absorb the impact force, slowly self-recovering and are removable and reusable following severe impact



No damage to footings

ZERO WASTE Foundations remain in good working condition following multiple low and high speed impacts. Base plates are reusable following impact



Superior protection

Unlike flexible bollards that can over-flex, the strong resistance core provides superior protection against errant vehicles, greatly improving safety



Bollard re-usable

Both surface mount and Inground bollards are removable and reusable following severe impact, saving thousands over the life of a development



Footings reusable

ZERO WASTE foundations remain in pristine condition and surface mount base plates are reusable following severe impact, saving thousands



Simple replacements

Bollards are low cost to maintain. If damaged, they are removed and replaced in less than 5 minutes without the need for digging or heavy labour.



Impact resistant base plate

With square base plates the impact force is concentrated on one anchor- with heavy duty round base plates the impact force is evenly distributed, reducing the risk of damage

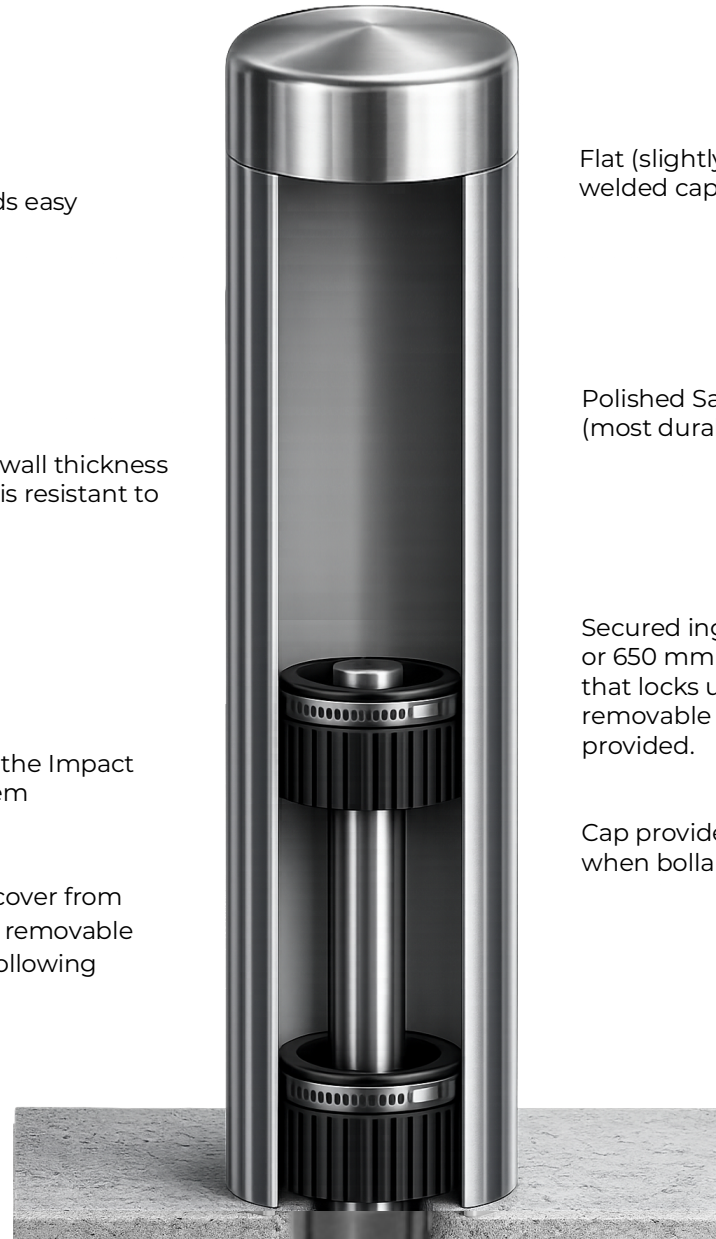
In-ground Impact Recovery Bollard

Quality Bollards easy
to install and
maintain

Heavy 3.6 mm wall thickness
Bollard casing is resistant to
impact

Secured using the Impact
Recovery System

Bollards self-recover from
low impact, are removable
and re-usable following
severe impact



Flat (slightly domed)
welded cap

Polished Satin finish
(most durable finish)

Secured inground using 350
or 650 mm ground socket
that locks units in- only
removable using tools
provided.

Cap provided to cover socket
when bollard is removed.

unit includes

- 2 x Impact Recovery Rings
- 2 x Stainless steel Securing Clamps
(to secure rings)
- Heavy Duty Resistance Core with self-
locking taper attached
(60 Ø x 300 mm x 3.5 wall thickness)
- Securing stud
(10 mm x 40 mm stainless steel)
- 350 mm Ground socket (two sockets
required for 650 mm Depth footing)
- Cap for ground socket

TOOLS REQUIRED

Installation tool for socket
Removal tool to remove Resistance core
Screwdriver to remove clamps
Allen key to remove securing stud

Surface Mount

Impact Recovery Bollard

Quality Bollards easy to install and maintain

Heavy 3.6 mm wall thickness Bollard casing is resistant to impact

Secured using the Impact Recovery System

Bollards self-recover from low impact, are removable and re-usable following severe impact

Flat (slightly domed) welded cap

Polished Satin finish (most durable finish)

Secured on Re-usable Heavy Duty 10 mm thick x 300 mm diameter Stainless steel Base Plate

5 evenly spaced recessed High quality concrete anchors to evenly distribute energy reducing risk of damage



unit includes

- 2 x Impact Recovery Rings
- 2 x Clamps (to secure rings)
- Resistance Core
(60 Ø 300 mm Heavy Duty Pipe)
- Securing stud
(10 mm x 40 mm stainless steel)

Heavy Duty Base Plate

- 10 mm thick
- 200 mm diameter
- Upright spigot 100 mm High made from hollow bar.

Resistance Core

Resistance Core is a Heavy Duty CHS steel pipe secured to base plate using an embedded grub screw.

Evenly spaced Concrete anchors

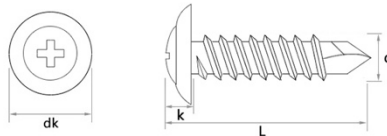
Surface Mount Base Plate is bolted down using 6 evenly spaced recessed concrete anchors to evenly distribute impact force and prevent damage to the base plate

TOOLS REQUIRED

Allen key
Screwdriver

In-ground Footings 02-01

- 350 mm Depth (suitable for most locations as the Impact Recovery System absorbs the energy, thus reducing the need for large footings)
- 650 mm units (using 2 ground sockets) are advised for industrial locations where bollard may be subject to more intense impact forces. Or where there are no existing foundations to help secure the footing (i.e. free standing footing installed in soil or paving)
- If using the Extra Heavy Duty core, you need 650 mm depth sockets and can add a reinforcement reo cage to protect the footing



Stainless Steel Self Drilling Screws come with a sharp, piercing tip or a flat, blunt tip. The sharp tipped screws are designed for drilling their own hole into softer materials such as wood and plastic so unlike self-tapping screws, they don't need a pilot hole. DK 5 K 1 L 9.5 D 5

Surface Mount Base Plate **02-02**

Heavy Duty Base Plate

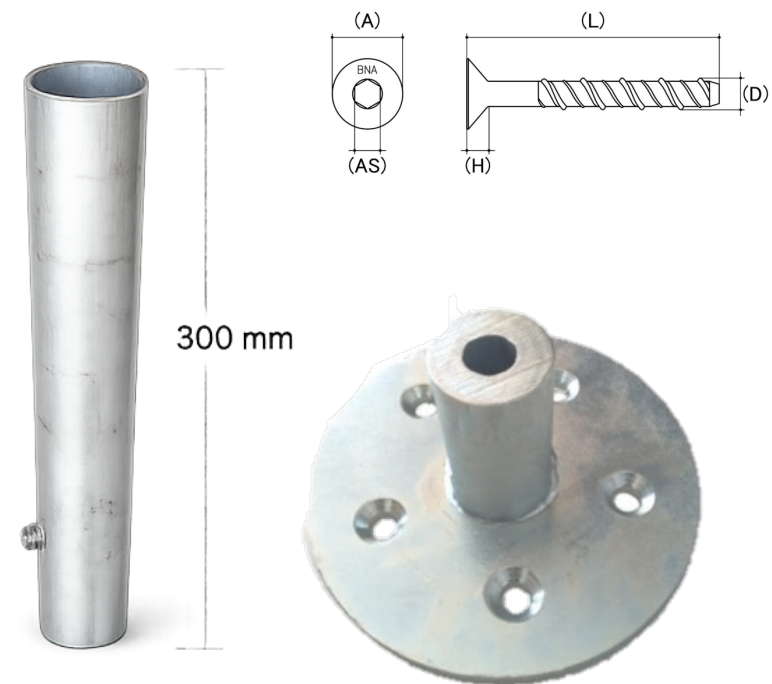
- 10 mm thick
- 200 mm diameter
- Upright spigot 100 mm High made from hollow bar.

Resistance Core

Resistance Core is a Heavy Duty CHS Steel pipe secured to base plate using an embedded grub screw.

Evenly spaced Concrete anchors

Surface Mount Base Plate is bolted down using 6 evenly spaced countersunk M10 x 100 mm concrete anchors (D=10 L=100) to evenly distribute impact force and prevent damage to the base plate



Impact Recovery

Rings 02-03

Available in 3 dimensions to secure

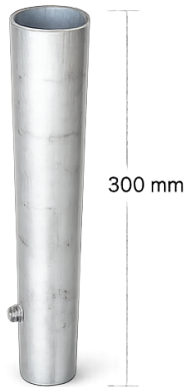
- Advanced Polymer bollards 150 mm \varnothing
7 mm wall thickness
- Steel Bollards 150NB (165 mm \varnothing)
5 mm wall thickness
- Stainless Steel Bollards (168 mm \varnothing)
3.6 mm wall thickness



CODE	IMPACT RECOVERY RINGS	WEIGHT
IRR-150	Ring to fit 150 Advanced Polymer Bollard	1 kg
IRR-165	Ring to fit 165 mm Steel Bollard	1.25 kg
IRR-168	Ring to fit 168 mm Stainless Steel Bollard	1.56 kg

Resistance

Core **02-04**



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

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

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

Extra Heavy Duty Galv. Steel 650 mm Depth (950 mm Length) with self-locking Taper attached



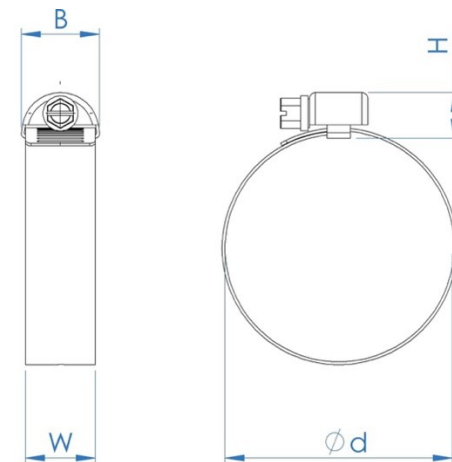
RINGS ATTACHED

Resistance Core shown here with two Impact Recovery Rings attached. Please Note: *Images show original rings without ribs.*

Securing Clamp 02-05

Used to secure Impact Recovery Rings to Resistance Core

- Stainless Steel Clamps
- 78-102 mm \varnothing
- 304 Stainless Steel
- 15 mm width
- Supplied with Rings
- Tightened using screwdriver



Bollard casing weights and dimensions

Our bollards are made from heavy duty materials- quality steel Australian made, and UV stabilised Advanced Polymer compound (Non-conductive).

CODE	DETAILS	WEIGHT
GALV STEEL	165 mm Ø x 5 mm wall thickness x 1650 L	34 kg
GALV STEEL	165 mm Ø x 5 mm wall thickness x 1200 L	25 kg
STAINLESS STEEL	168 mm Ø x 3.6 mm wall thickness x 1200 L	18.8 kg
ADVANCED POLYMER	150 mm Ø x 7 mm wall thickness x 1800 L	5.2 kg
	150 mm Ø x 7 mm wall thickness x 1200 L	3.5 kg

Components weights and dimensions

Only replaceable component is the resistance Core. * NB can be made under license, but distributors and clients are NOT authorised to make these without a license to ensure quality control.

CODE	DETAILS	WEIGHT
IRR-150	Ring to fit 150 mm Poly Bollard	1 kg
IRR-165	Ring to fit 165 mm Galvanised Steel Bollard	1.25 kg
IRR-168	Ring to fit 168 mm Stainless steel Bollard	1.3 kg
RCORE-SM	Galvanised Resistance Core x 300 mm	1 kg
RCORE-350	3.6 Galvanised Resistance Core x 650 mm	2 kg
RCORE-650	3.6 Galvanised Resistance Core x 950 mm	3 kg
RCORE-XHD	5.5 Galvanised Resistance Core x 950 mm	7.5 kg
TOOLPACK	Pack of tools Install & removal	12 kg
CON-ANCH	Concrete anchors	

Required Tools



Installation tool used to correctly align socket, enables installation of ground socket from standing position



Removal tool used to lever items from ground socket, operated from standing position, facing traffic, (sheared post removal attachment included)

Scan for more info



Advanced Polymer

Non-conductive bollards

Advanced Polymer Bollards offer:

- high impact resistance
- excellent toughness
- flexibility under load
- reliable performance across a wide range of temperatures
- reduced risk of brittle failure over time

Under lighter impact, the material can flex and recover. Scuff marks from tyres can typically be cleaned away without affecting the structural performance of the bollard.

Long life

Many plastic products exposed to sunlight will eventually fade, chalk, crack, and become brittle as ultraviolet radiation breaks down the polymer structure over time. This often leads people to assume that polymer bollards will not last in the sun. That is not the case with our Advanced Polymer Bollards.

Our Advanced Polymer material is specifically formulated for demanding outdoor environments, helping the bollard maintain its strength, flexibility, appearance, and structural integrity over the long term.

UV Resistance

Australia experiences some of the highest UV radiation levels in the world, so ultraviolet protection is critical for any polymer used outdoors. Our UV stabilisation package provides a much higher level of protection than the Australian industry standard (AS/NZ 4766:2006).

Through careful selection of a high-quality Polyethylene base polymer specifically designed for outdoor use, advanced additives such as UV stabilisers and antioxidants, pigmented "SUPA UV" provides a UV36 level

of stabilisation to protect against the harmful effects of prolonged sun exposure. This helps prevent:

- brittleness
- chalking
- cracking
- warping
- premature material breakdown

Impact Resistance

Unlike rigid materials that may dent, deform, or permanently distort under impact, Advanced Polymer is able to absorb and disperse impact energy. This gives the bollard cover excellent toughness and helps reduce the risk of cracking or permanent visual damage from everyday contact.

Heavy Duty Construction

Advanced Polymer Bollards and Bollard Covers are rotomoulded as a solid one-piece unit with heavy-duty 7 mm wall thickness.

This robust construction provides:

- increased durability
- improved shape retention
- strong resistance to distortion
- long-term structural stability
- dependable performance in hot outdoor environments

The one-piece moulded design also removes weak joins and helps ensure consistent wall strength throughout the cover.

Appearance Retention

Durability is not only about impact performance — it is also about how well the product continues to look over time.

Because Advanced Polymer is **colour-fast** and coloured throughout the material, scratches and minor surface scuffs are far less noticeable than with painted finishes. Unlike powder-coated steel, the colour is not just on the surface.

This provides several practical benefits:

- improved appearance retention
- reduced visibility of scratches and marks
- no paint chipping
- easy cleaning after tyre scuffs or contact marks

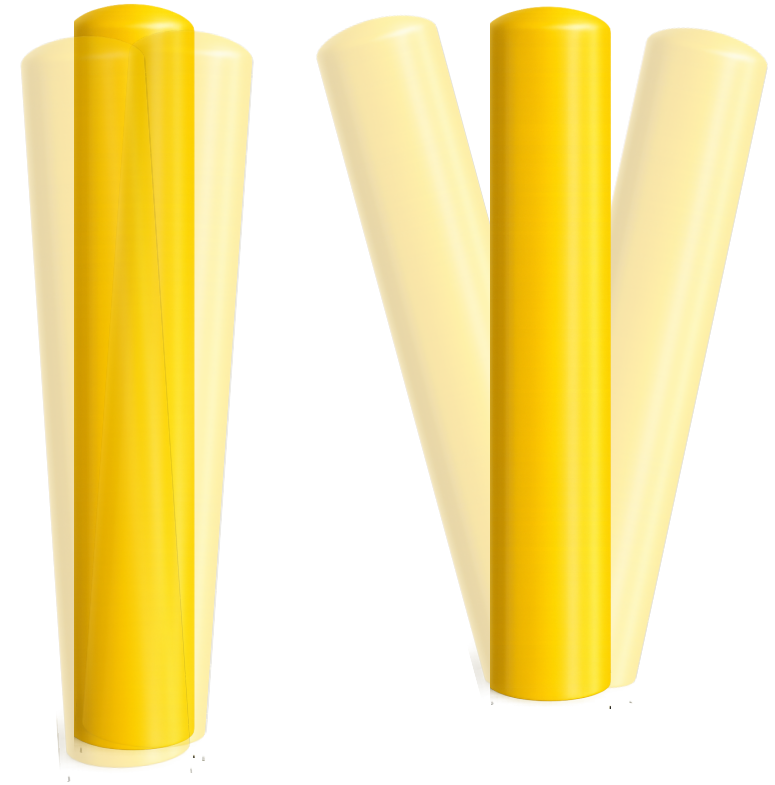
Recovery Performance

Advanced Polymer Bollard Covers are designed to flex under load and recover from light impact.

When combined with the **ZERO WASTE Impact Recovery System**, the bollard system provides even greater resilience, allowing bollards and footings to remain reusable following even severe impact

Technical Properties

- **Material:** Advanced Polymer
- **Base Description:** UV-stabilised material
- **Wall Thickness:** 7 mm
- **Manufacturing Method:** One-piece rotomoulded construction
- **Tensile Strength at 72°F:** 1,400 psi
- **Tensile Modulus:** 57,000 psi
- **Tensile Elongation at Break:** 100%
- **Flexural Modulus:** 29,000 psi

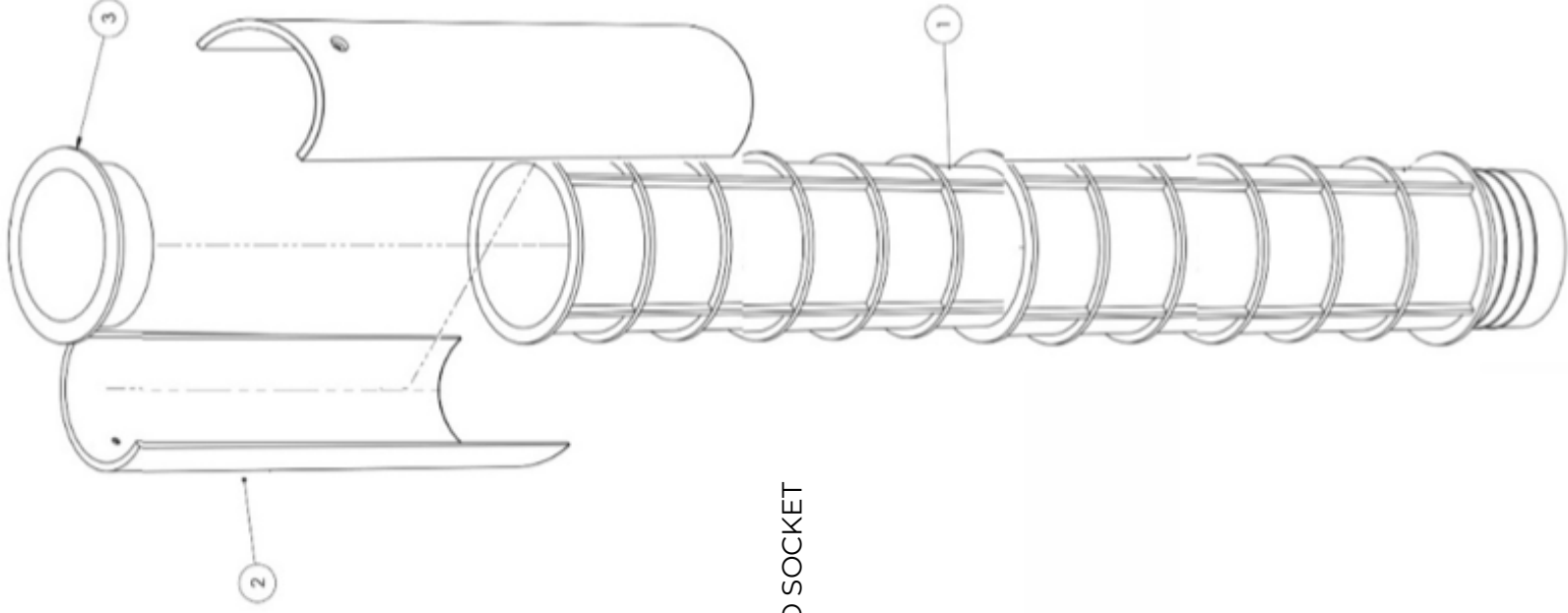


FLEXES

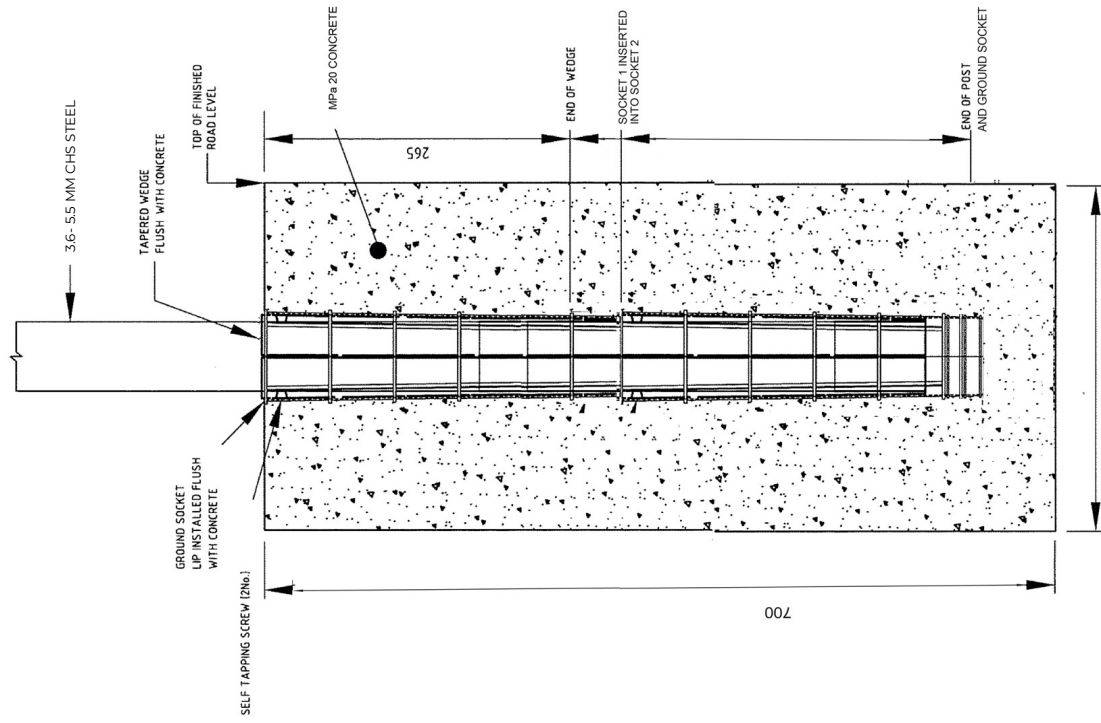
IRS: DEFLECT 20 DEGREES

MATERIAL LIFESPAN

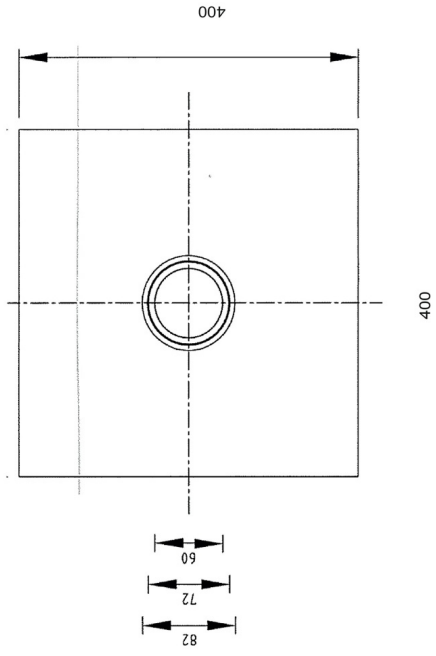
Advanced Polymer Bollards and Bollard Covers have a design life of around 50 years (25 years in direct sunlight).

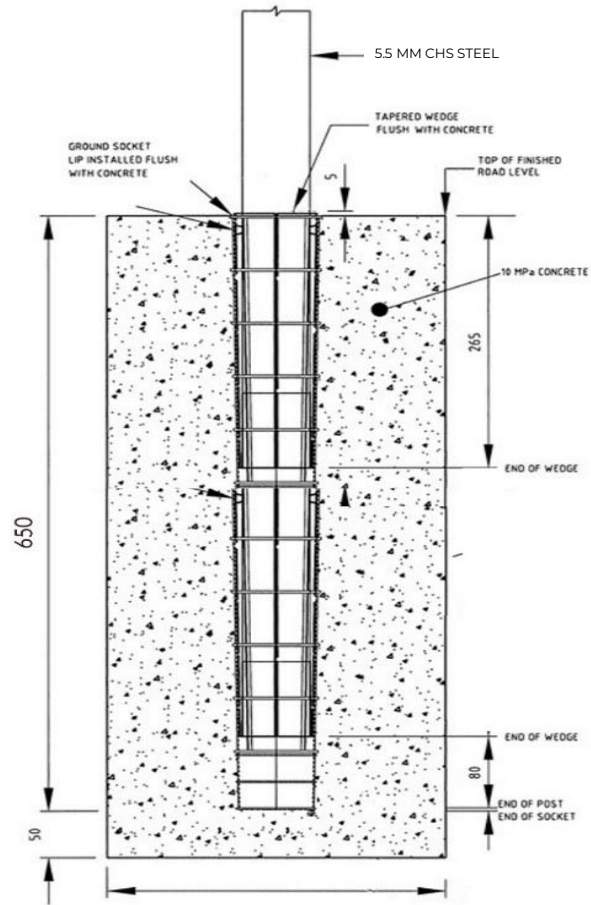
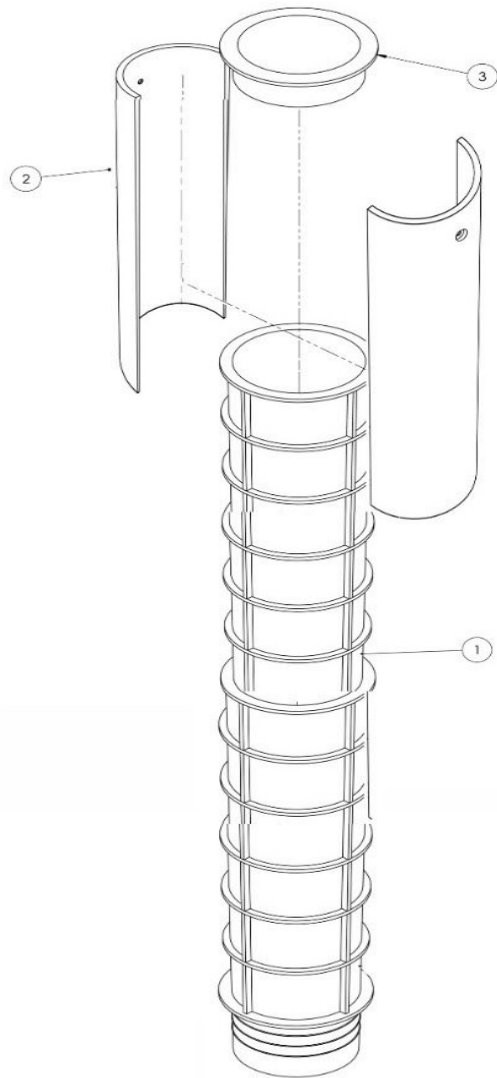


- 1. GROUND SOCKET
- 2. TAPER
- 3. CAP

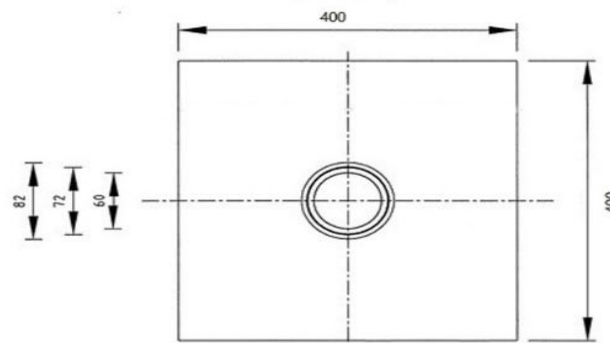


SECTIONAL ELEVATION
FOOTING

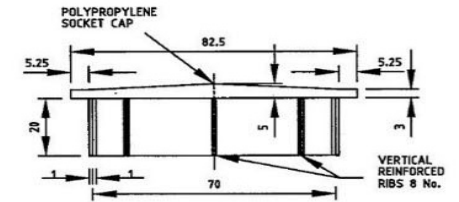




SECTIONAL ELEVATION
FOOTING



PLAN



ELEVATION
SOCKET CAP

NOTES

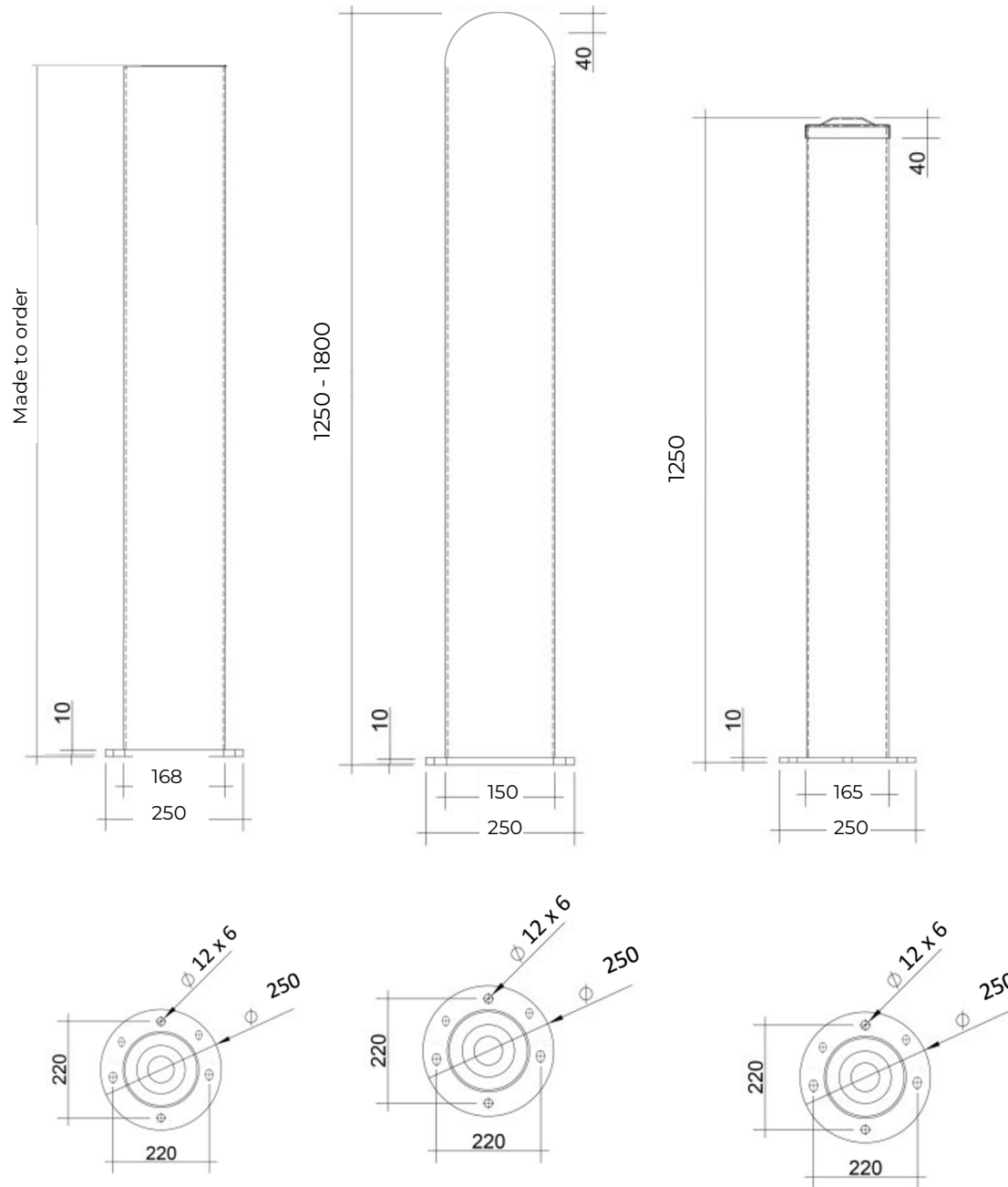
To secure the Extra Heavy Duty Resistance Core you need a 650 mm Depth 30MPa concrete footing

If installing footing in sand, we suggest using a reo cage to reinforce the concrete footing.

Stainless Steel

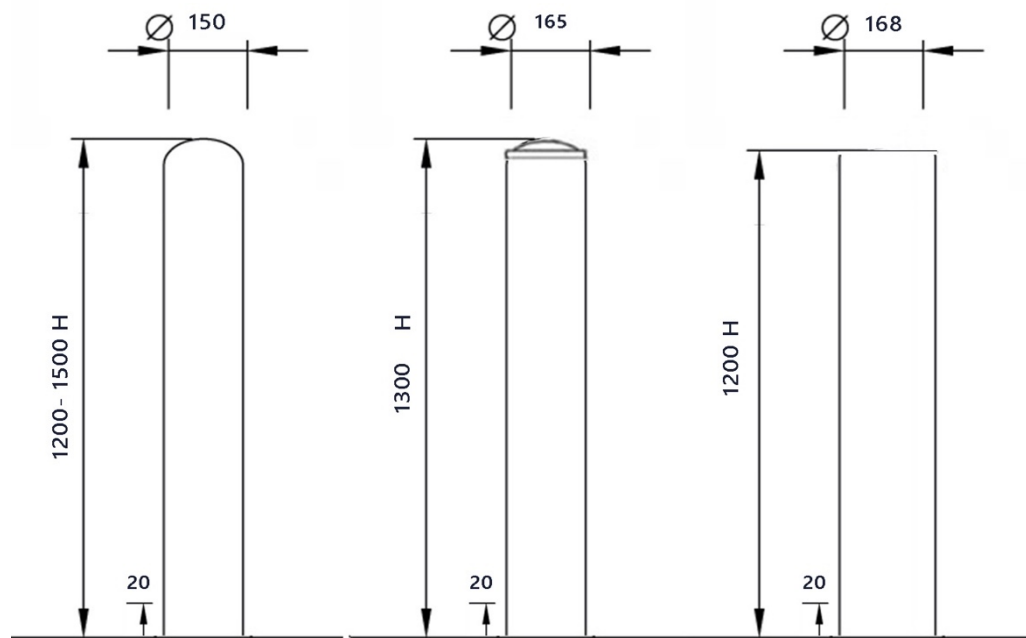
Advanced Polymer

Galv Steel

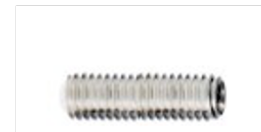


SURFACE MOUNT IRS

Solid 10 mm Base plate with evenly spaced anchors evenly distributes impact force to reduce damage.

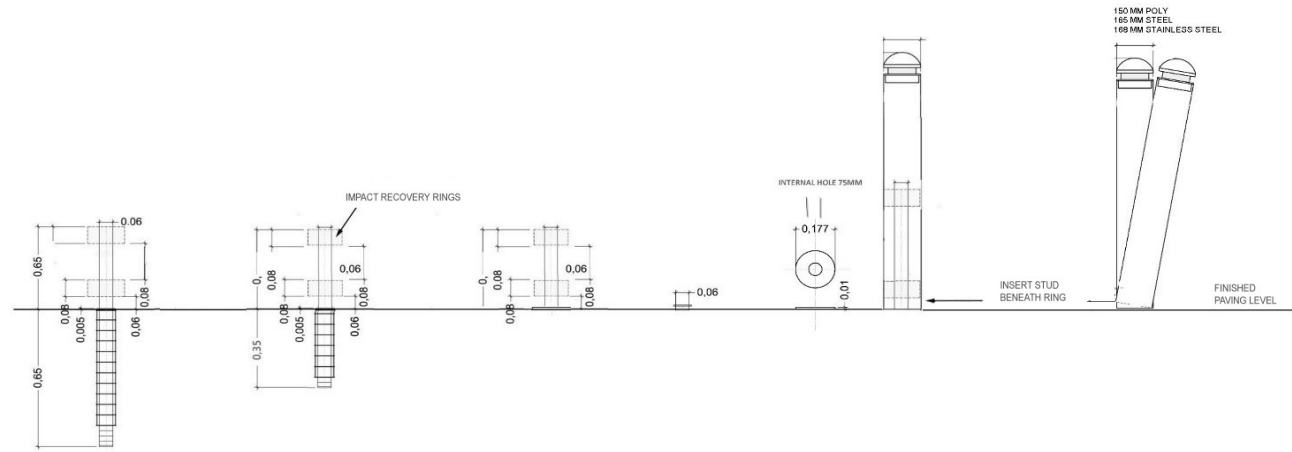
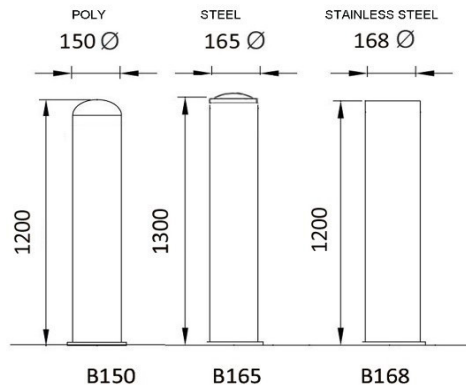


HOLE TO ACCEPT 10 MM STUD

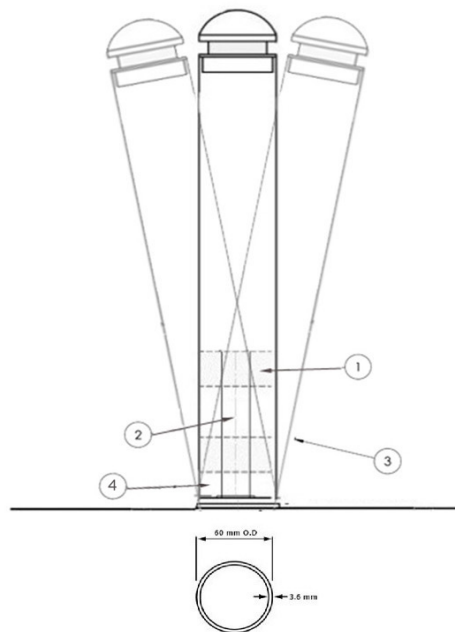


* Hole must be drilled (and tapped) approx. 20 mm from base of bollard to accept 10 mm stud. Advanced Polymer do not need tapping - suggest using 8.5 mm drill bit.

Stud must sit "below" bottom ring- should not bite into ring.



650 MM DEPTH 350 MM DEPTH SURFACE MOUNT CAP PROTECTIVE BASE PLATE BOLLARD

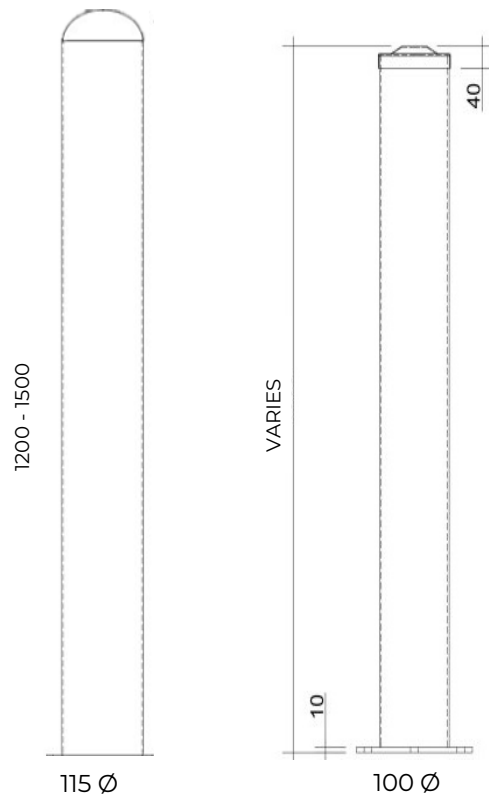


COMPONENTS

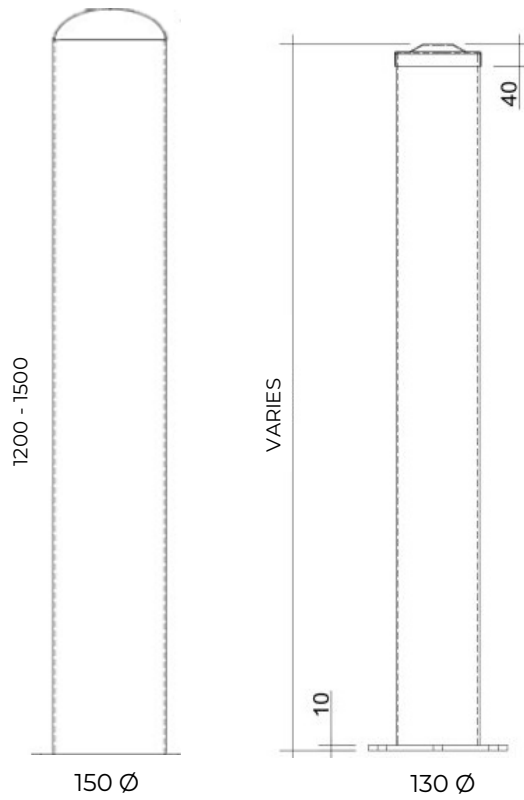
1. IMPACT RECOVERY RINGS
2. INTERNAL CORE 300 MM HIGH 3.6 WALL THICKNESS
3. BOLLARD CASING - POLY/ STEEL OR STAINLESS
4. SECURING STUD (SECURITY STUD AVAILABLE)

Stud is inserted in hole at base of bollard and sits below the bottom Impact Recovery Ring

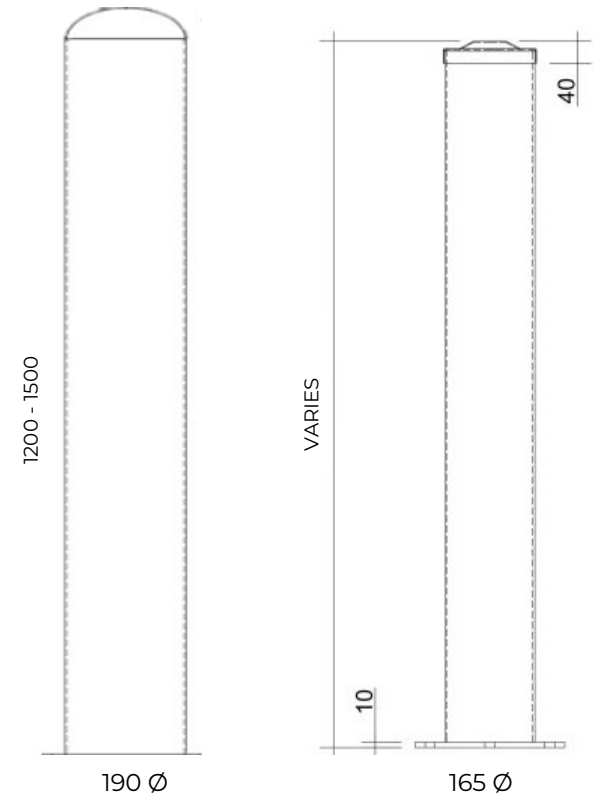




Fits 100 mm Ø or less



Fits 130 mm Ø or less

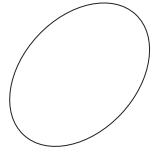


Fits Galv Steel Bollard 165 mm Ø

BOLLARD COVER DIMENSIONS

Available in a large range of colours- ask for colour chart

Colour Chart: Advanced Polymer Non-conductive bollards & Bollard Covers



05 WHITE



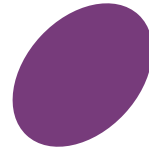
551 BLOOD RED



61 ORANGE



526 MAGENTA



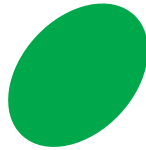
539 PURPLE



18 YELLOW



257 LIME GREEN



209 LIGHT GREEN



329 TEAL



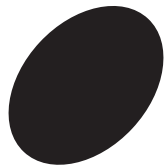
326 DARK BLUE



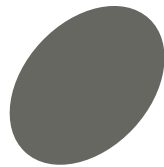
35 LIGHT BLUE



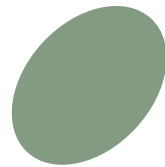
234 RIVER GUM



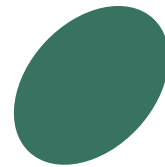
70 BLACK



89 SLATE GREY



206 MIST GREEN



2081 HERITAGE GREEN



890 ARMOUR GREY



930 WHEAT



392 MOUNTAIN BLUE



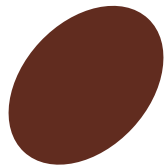
918 MERINO



916 BEIGE

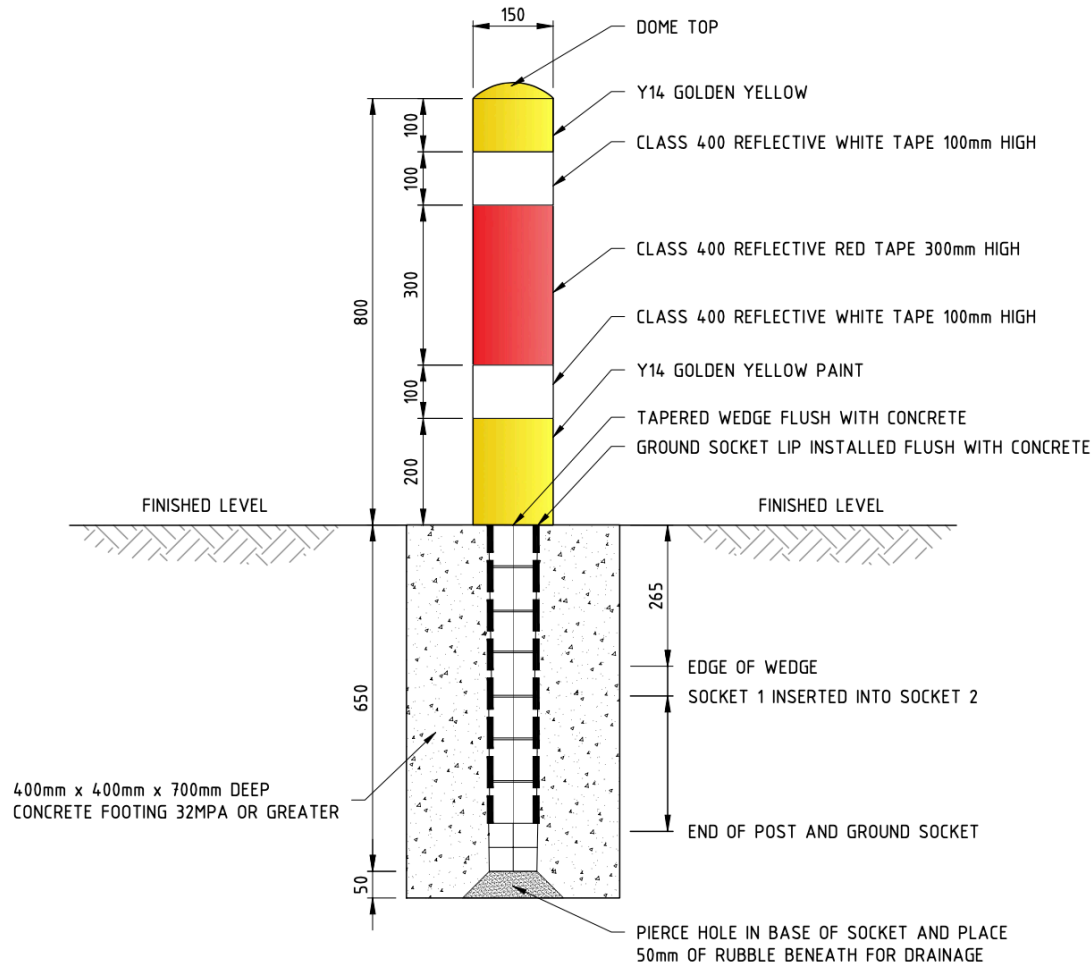


947 SMOOTH CREAM



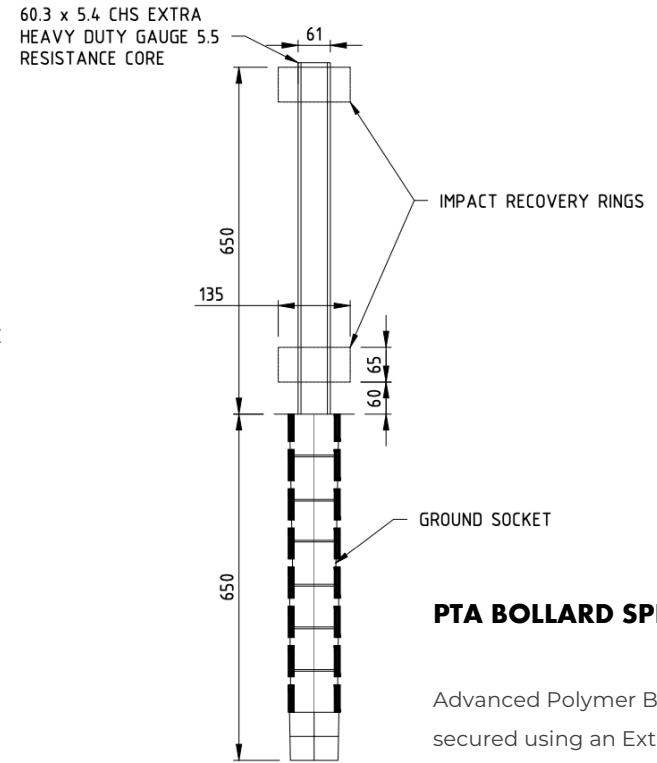
45 HERITAGE RED





BOLLARD DETAIL
SCALE 1:10

GAS	LOCAL GOVERNMENT REQUIREMENTS; FOR EXAM (GAS DISTRIBUTION NETWOR
SEWER + WATER	AS/NZS 3500.1



PTA BOLLARD SPECS

Advanced Polymer Bollards
secured using an Extra Heavy Duty
Resistance core on 650 mm Depth
ZERO WASTE Foundations.

BOLLARD INTERNAL COMPONENT DETAIL
SCALE 1:10

Mill certificate



UTKARSH INDIA LIMITED AN ISO 9001:2015 CERTIFIED COMPANY

Office
Regd. Office : Arrjavv Square ,4th Floor ,95A ,Elliot Road , Kolkata-700016
Ph. No.: 91-33-2230-9124/25/9157, Fax: 91-33-2230-5384
Website: www.utkarshindia.in, email: info@utkarshindia.in



MANUFACTURER QUALITY CERTIFICATE

1. QUALITY CERTIFICATE NO. : UIL/EXP/DITH/AUS/021/25-26, Date : 14.05.2025
 2. CLIENT NAME : DITH AUSTRALIA PTY LTD
 LEVEL 30,31 MARKET STREET
 SYDNEY, NSW 2000
 AUSTRALIA
 3. MANUFACTURER : UTKARSH INDIA LIMITED
 4. CONTRACT NO. : 7503014428
 PI/UIL/EXP/DB/24-25/1740, Dtd: 05.03.2025
 5. LOT NO. : 4958-M4
 6. SPECIFICATION : AS 1074
 Description of Goods / Services : ERW WELDED GALVANIZED STEEL PIPES

Sl. No.	Size (mm)	Ends	Thickness (mm)	Length (mm)	Total Number of Bundles of Each Size	Pieces Per Bundle of Each Size	Total Length of Each Size in Meters	Theoretical Weight of Each Size (kg)	Pcs.	Heat Number	Chemical Properties					Mechanical Properties					Galvanizing	
											C%	Mn%	P%	S%	B%	CE	TS Range (MPa)	Min Yst (Mpa)	Min EL%	Bend Test	Flattering Test	Mass of Zinc Coating g/m ² (Min-296)
1	NB 32	PE	3.20	6500	15	61	5947.5	18399	915	2550987	0.10	0.25	0.013	0.009	<0.0008	0.141	420	321	30	PASSED	NA	432/441
2	NB 50	PE	2.90	6500	5	37	1202.5	4936	185	2551014	0.08	0.28	0.016	0.011	<0.0008	0.126	417	318	31	PASSED	NA	428/432
3	NB 90	PE	4.00	6500	2	19	247	2378	38	2502028	0.06	0.36	0.016	0.008	<0.0008	0.120	418	320	31	NA	PASSED	430/439

Note:

1. TS = Tensile Strength, YS = Yield Strength, EL = Elongation (* S1 Inner Surface, * S2 Outer Surface)
 2. It is certify that each steel tubes is hydrostatically Tested to test pressure of 50 Bar - passed for 5 Second, Found to be satisfactory. No Leakage & Pressure Drop.
 3. All the Visual Finish & Dimensional characteristics like O.D., Thickness conform to the specified limit & tolerance.
 4. All pipes are marked as per PO.
- Country of origin for supplied goods- INDIA
 - Supplier of HR coils is STEEL AUTHORITY OF INDIA LIMITED which is used for manufacturing the HDG Pipes

AUTHORIZED SIGNATORY



SAFETY DATA SHEET

JE025QF 30-2168 INTERPON 600 SAFETY YELLOW

Section 1. Identification

GHS product identifier : JE025QF 30-2168 INTERPON 600 SAFETY YELLOW
SDS code : 8133005
 JE025QF/25KG

Relevant identified uses of the substance or mixture and uses advised against

	Identified uses
Industrial use	
Consumer use	Uses advised against

Product use : Electrostatic coating for use in industrial plants

Supplier's details

Akzo Nobel Coatings Inc.
 150 Columbia Street
 Reading, PA 19601 USA

1-610-372-3600

Emergency telephone number (with hours of operation) : CHEMTREC +1 (800) 424-9300 (Inside the US)
 CHEMTREC International +1 (703) 527-3887 (Outside the US, collect calls accepted)
 Domestic Poison Control Center Customer Service +1 (800) 854-6813

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : **ACUTE TOXICITY (oral)** - Category 4
SERIOUS EYE DAMAGE - Category 1
SKIN SENSITIZATION - Category 1
GERM CELL MUTAGENICITY - Category 1
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

GHS label elements

Hazard pictograms :



Signal word : Danger

Date of issue/Date of revision

: 9/12/2025

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1/13