

PIONEER

CONCRETE SLEEPERS

retaining wall system



NEW RANGE

Designed and made in Australia, Pioneer Reinforced Concrete Sleepers are a perfect solution for termite proof retaining walls.

Available in a large range of colours and finishes.

PIONEER CONCRETE SLEEPERS RANGE

All Pioneer Reinforced Concrete Sleepers are 200mm high and 75mm thick, and include internal reinforcing so they're solid, strong, and dependable. Available in a variety of lengths, and a range of finishes, they're adaptable to almost any project.

Pioneer's matching galvanised post system makes design and install easy – just draw out your wall, count your posts and select your sleepers - it's that easy!

PIONEER SMOOTH
simple and understated



Charcoal



Grey

PIONEER SANDSTONE
sandstone block finish



Graphite



Natural

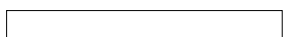
PIONEER TIMBERLOOK
create a timber finish



Gumtree



Ironbark



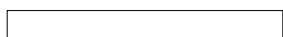
Smooth Unit

Size:

1200 L x 200 H x 75 T mm

1530 L x 200 H x 75 T mm

2000 L x 200 H x 75 T mm

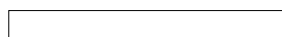


Sandstone Unit

Size:

1580 L x 200 H x 75 T mm

2000 L x 200 H x 75 T mm



Timberlook Unit

Size:

1580 L x 200 H x 75 T mm

2000 L x 200 H x 75 T mm

POSTS AND BRACKET RANGE

POST TYPE	WALL HEIGHT	POST HEIGHT
100UC Joiner	0.4m	1.15m
	0.6m	1.15m
	0.8m	1.55m
	1.0m	1.95m
	1.2m	2.35m
	1.4m	2.75m
	1.6m	3.15m
	1.8m	3.55m
	2.0m	3.95m

POST TYPE	WALL HEIGHT	POST HEIGHT
100PFC Ender	0.4m	0.8m
	0.6m	1.2m
	0.8m	1.6m
	1.0m	2.0m
	1.2m	2.4m
	1.4m	2.8m
150PFC Ender	1.6m	3.0m
	2.0m	4.0m

BRACKET	FENCE TYPE	BRACKET SIZE
Straight	Colourbond	580mm x 100mm x 3mm
	Timber	580mm x 100mm x 6mm

BRACKET	FENCE TYPE	BRACKET SIZE
Offset	Colourbond	580mm x 187mm x 3mm
	Timber	580mm x 187mm x 6mm



BENEFITS OF CONCRETE SLEEPERS



Code compliant

Pioneer is the only product in the market that exceeds AS4678 requirements and satisfy the National Construction Code.



Low maintenance

With Pioneer sleepers there is minimal maintenance required to keep your retaining wall looking good.



Designed to last

Pioneer is offered with a 35 Year product warranty and 60 Year design life. When built to engineers specifications Pioneer walls are rated to 5kPa.



Rust, rot and termite resistant

Pioneer sleeper products wont rust, rot or corrode and are termite resistant.



Hot dipped galvanised posts

Steel posts are hot dipped galvanised to satisfy AS/NZ4680 and ensure long lasting performance.



Range of finishes

Pioneer is available in a range of three finishes to suit your style.

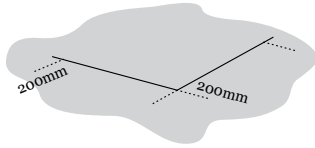


WARRANTED TO LAST

Added Peace of Mind

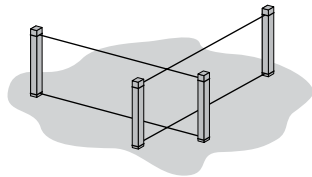
Designed and made in Australia, Pioneer Reinforced Concrete Sleepers are guaranteed for up to 35 years making them the perfect solution for termite proof retaining walls up to 3m high.

INSTALLATION OVERVIEW



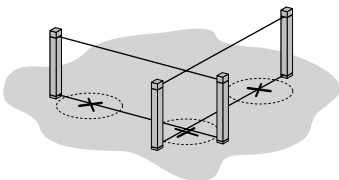
1. Prepare the Area

- Clear and level your site where you plan to build the retaining wall. Ensure you leave 200mm behind the retaining wall area for backfill.



2. Alignment

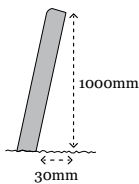
- Place a star piquet or peg at both ends of the proposed wall. Attach two string lines at each end of the wall, top and bottom, to keep your wall aligned.



3. Mark out Hole Positions

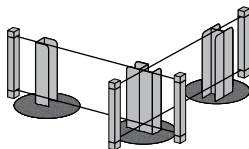
- Starting from one end of the wall, mark a cross on the ground at intervals with their centre being approximately 15mm more than the length of the sleeper.

For example: If you are using 1530mm sleepers the hole centres should be 1545mm apart – note, this will vary on the length of sleeper used.



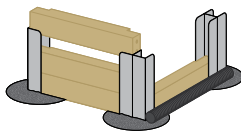
4. Auger Holes and Pour Concrete

- Auger holes as per your engineers specifications as approved by council.
- Pour concrete into holes, one at a time.
- Make the concrete stiff. If using readymix concrete, order 20/20, 60 slump.
- Set your post by lowering into ground until level with the top string lines.
- Ensure there is a minimum lean back of 30mm for every 1.0m in height.



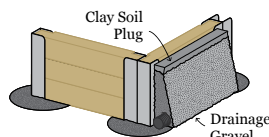
5. Checking Posts

- Use a spirit level to make sure all your posts are aligned with the string line and are perpendicular on the sides.
- It is also important to measure the remaining distance to the top of your steel posts, to ensure the sleepers finish flush with the top of the posts.
- If required, lay a concrete pad on both sides of the steel post.



6. Ag Pipe and Backfill

- Allow the concrete to cure for two to three days before you place your sleepers in. Place ag pipe at the base, then backfill with gravel to 200mm from the top.



7. Soil Plug

- A soil plug is then placed in, to fill the wall to the top.

*Retaining walls must be designed to AS4678

*Most councils require that any retaining walls over 1.0m in height from natural ground level are subject to building approval.

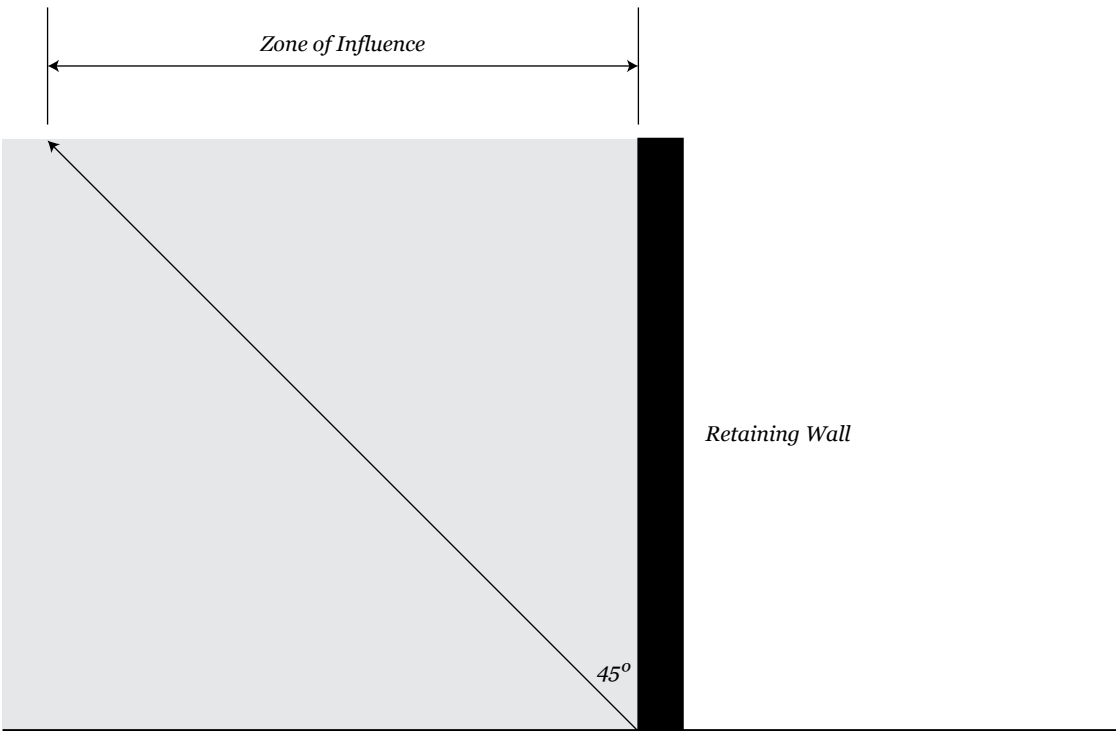
* Any retaining wall that is less than 1.5m away from a building or other retaining wall also requires building approval.

GENERAL DESIGN GUIDE FOR 5kPa SURCHARGE

WALL HEIGHT	SLEEPER LENGTH (MAX.)	POST SIZE (mm)	POST C/C SPACING	POST LENGTH
0.4m	2.00m	UC100	2030mm	1.15m
0.6m	2.00m	UC100	2030mm	1.15m
0.8m	2.00m	UC100	2030mm	1.55m
1.0m	2.00m	UC100	2030mm	1.95m
1.2m	2.00m	UC100	2030mm	2.35m
1.4m	1.53m	UC100	1550mm	2.75m
1.6m	1.53m	UC100	1550mm	3.15m
1.8m	1.53m	UC100	1550mm	3.55m
2.0m	1.53m	UC150	1550mm	3.95m

EXCLUSION ZONE

There must be an exclusion zone behind the wall at an angle of 45 – no structure can be placed within that exclusion zone, Zone of influence = height of the wall.



Global stability and tiered wall design is excluded and should be assessed by a qualified Geo-tech engineer.

The following Australian Standards should be consulted when designing a concrete sleeper retaining wall system:

AS4678-2002 Earth Retaining Structures | AS4100-1998 Steel Structures | AS3600-2018 Concrete Structures | AS2159-2009 Piling-Design and Installation

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forever*



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