

U-PANEL

A SLEEPER LIKE NO OTHER



U-Panel Retaining Wall System

[BENEFITS](#) | [USER GUIDE](#) | [SPECIFICATIONS](#) | [PRODUCT OPTIONS](#)

Horizontal U-Panel Sleeper

Lighter Stronger Better

The U-Panel Sleeper retaining wall system is a great choice for retaining walls in gardens, residential applications and commercial projects. The simplicity of the system, the lightweight per-sleeper and usage of recycled materials makes the U-Panel Sleeper retaining wall a smart choice for your next project.

Key Benefits:

- U-Panel Sleeper can be installed horizontally and vertically.
- Environmentally friendly, over 50% of the raw materials are recycled (flyash).
- Lightweight, each panel is only 44kgs (2 man lift)
- Available in a range of textures and finishes, plus custom finishes are available.



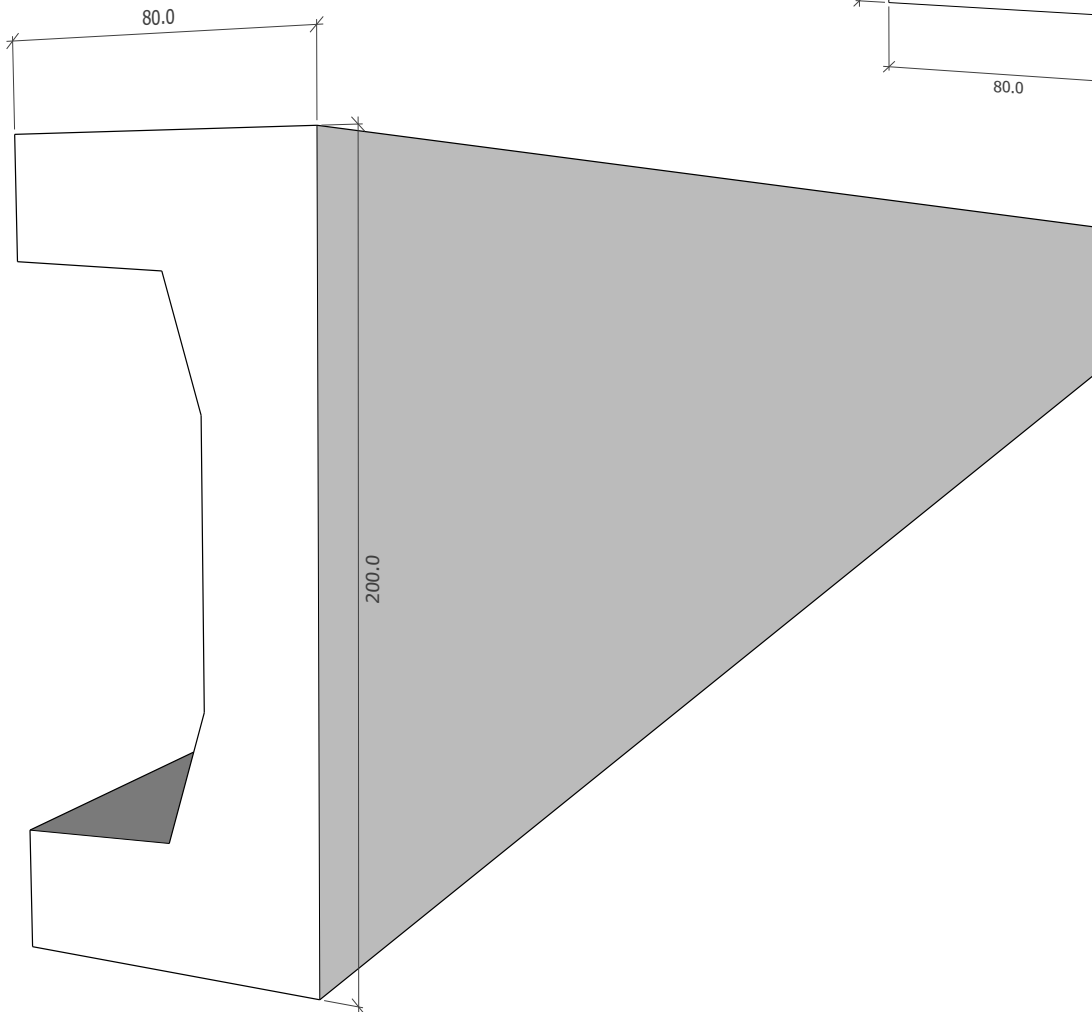
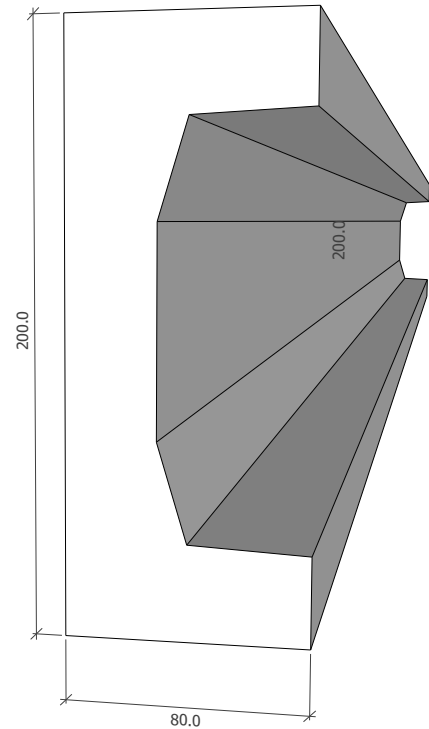
U-Panel Sleeper Specifications

U-Panel Sleepers are made of fibre reinforced concrete
each U-Panel Sleeper is 2400x200x80mm and weighs 44.4kgs.

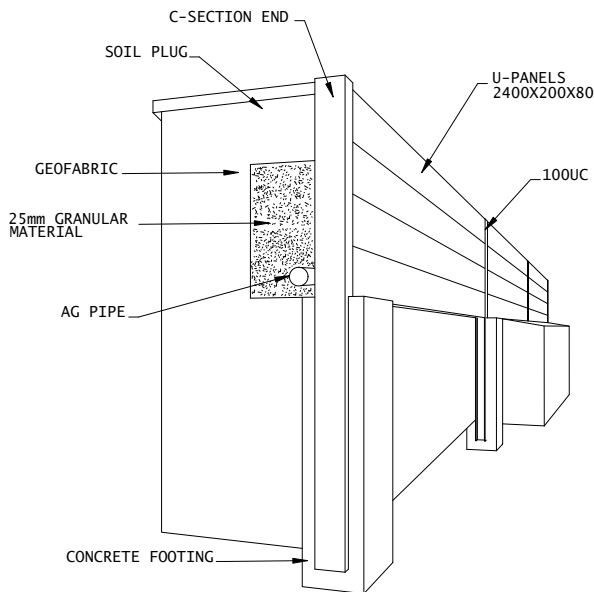
All U-Sleepers are designed to:

- ✓ AS3600/2009
- ✓ AS4100
- ✓ AS1170.0.2002
- ✓ AS1170.1.2002

All sleepers are made from
U-Crete geopolymer reduced
Co2 by over 60%



U-Panel Sleeper Specifications

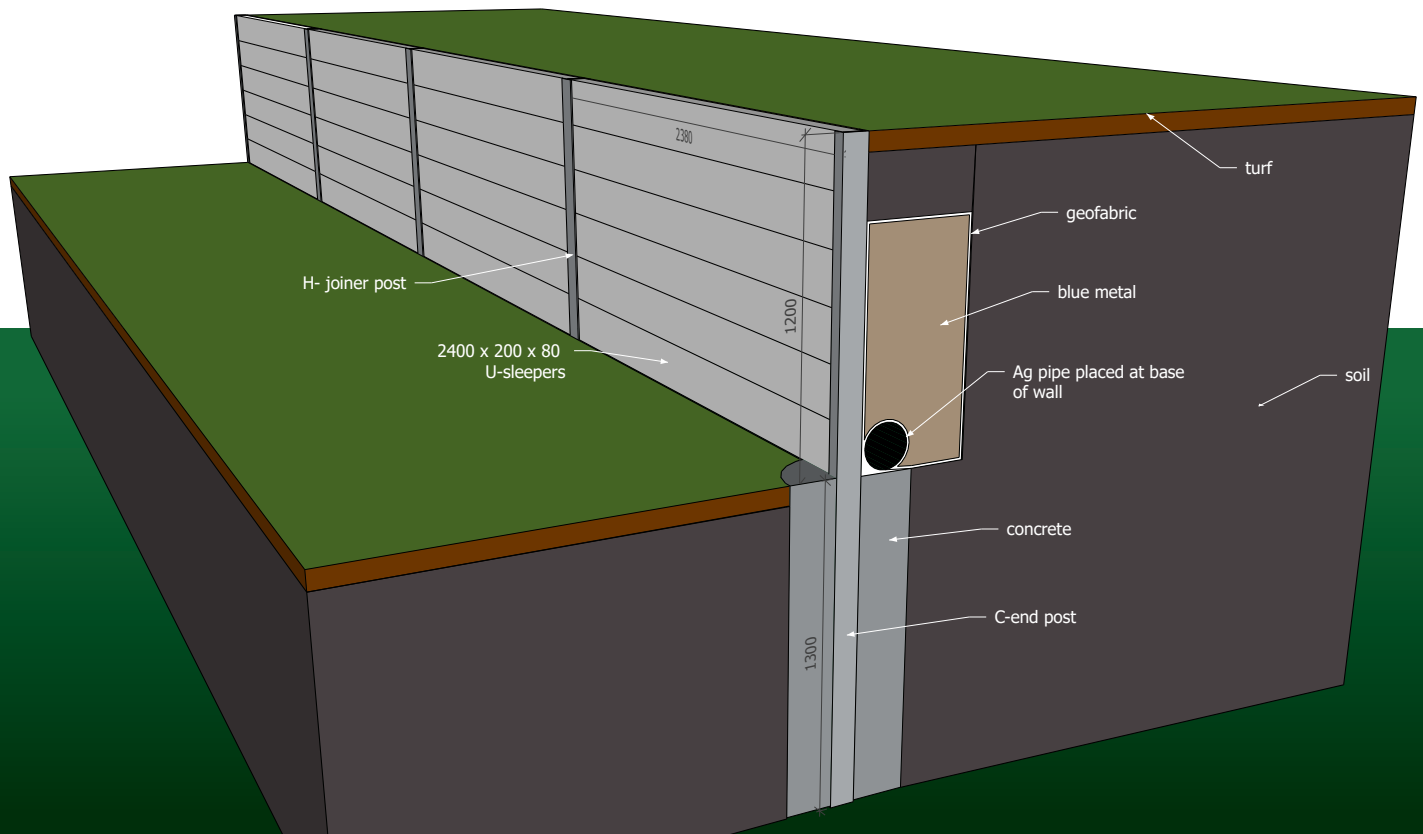


SPECIFICATIONS FOR USE OF UPANEL SLEEPERS

- THESE SLEEPERS ARE ONLY SUITABLE FOR USE WITH RETAINING WALL WHICH SATISFY THE FOLLOWING CONDITION/LIMITATIONS.
 - THE WALL IS NOT SUBJECT TO HEAVY SURCHARGE LOADS. FOR EXAMPLE, NEARBY EXISTING RETAINING WALLS, STRUCTURES OR BUILDINGS WITHIN A DISTANCE EQUAL TO TWO TIMES THE WALL HEIGHT.
 - THE FINAL SURFACE GRADIENT ABOVE THE WALL IS LEVEL OR ONLY SLIGHT-IE: LESS THAN 1 VERTICAL RISE IN 10 HORIZONTAL.
 - THE WALL BACKFILL IS FREE DRAINING, CONSISTING OF SAND & OR GRAVEL.
 - ALL SUB-SURFACE WATER IS DRAINED BY MEANS OF AN AGRICULTURAL DRAIN.
 - SLEEPERS ARE HANDLED WITH DUE CARE DURING TRANSPORT AND ERECTION.
 - SLEEPERS MINIMUM END BEARING LENGTH SHALL NOT BE LESS THAN 40mm EACH END.

			GENERAL NOTES		CLIENT:		BY		DATE		Suite 108 658 Pittwater Road Brookvale, NEW 2100 Australia			
			1. ALL CHANNELS/ANGLES TO BE ERECTED WITH DIRECTION OF FLANGES/LEGS AS INDICATED ON PLANS/ELEVATIONS.		ULTIMATE HOUSING		DRAWN.		15/02/21		 PROFESSIONAL STEEL SHOP DRAWINGS			
			2. ALL MEMBERS TO HAVE MARK END AS PER MARK BUBBLE ON PLANS/ELEVATIONS. i.e. MARK END AS SHOWN ON FABRICATION DRAWING IS REPRESENTED BY LOCATION OF MARK BUBBLE. SEE DIAGRAM -		PROJECT:		CHECKED		CAD				Phone: (612) 9938 2399 Fax: (612) 8078 0210 Website: cadraw.com.au	
					WALL SYSTEM		APPROVED		15/02/21					
0 ISSUED FOR CONSTRUCTION			15/02/21		TITLE:		SCALE		1:10		SHEET A3			
REV	REVISION DESCRIPTION	DATE			RETAINING WALL						JOB No.			
											ORIG No. WD-401			
											REV. 0			

1.2m Retaining Wall Cut Through



Benefits of using the U-Panel Sleeper (UPS) retaining walls compared to standard concrete sleepers (SCS)



Cost

U-Sleepers are between 10% - 15% cheaper than others on the market. Cost savings also come in transport, being lighter enables more sqms on each truck. Installation is cheaper and safer not having heavy machinery on site to lift panels into place.



Environmentally friendly

UPS - over 50% of the raw materials are recycled (flyash) and no sand or aggregate
SCS - standard concrete with cement, sand, aggregate and steel re-bars



Sqms to fit on a semi-trailer (under 20ton)

UPS - 220sqms (440 panels)
SCS - 102sqms (214 panels)



Durability

UPS - fibre re-enforced so no cracking and no steel re-bars to rust
SCS - steel re-bar can rust if panel cracks



Compressive strength

UPS - 66MPa
SCS - 40MPa



Weight

UPS - 2400x200x80 44kgs (2 man lift)
SCS - 2400x200x80 94kgs (mechanical lift)

Recommended U-Panel Sleeper Length to be used in retaining wall (m) with 5kPa surcharge

Height of wall	Soil Type			
	Well drained (wet) clay	Dry Clay	Wet Clay	Gravely Clay
1.2m (6 sleepers)	2.4	2.4	1.8	2
1m (5 sleepers)	2.4	2.4	2	2.4
0.8m (4 sleepers)	2.4	2.4	2	2.4
0.6m (3 sleepers)	2.4	2.4	2.4	2.4

Recommended retaining wall posts design with 5kPa surcharge (well drained wet clay)

Height of wall	Sleeper length	Post size	Post Spacing	Post Length
1.2m (6 sleepers)	2.38	UC100	2.4	2.5
1m (5 sleepers)	2.38	UC100	2.4	2.2
0.8m (4 sleepers)	2.38	UC100	2.4	1.8
0.6m (3 sleepers)	2.38	UC100	2.4	1.5

Specifications and Limitations

Sleepers are engineered for retaining walls 1.2m high with the following conditions:

- Back wall is free for drainage consisting of sand and or gravel.
- All sub surface water is drained by means of an agricultural drain or other suitable method.
- Sleepers are handled with care during transportation and erection on site.
- No compaction of back fill is allowed within a distance of 75% of the wall height.
- Walls over 1 metre will require council permission and engineers specifications.



All U-Sleepers are designed to:

- ✓ AS3600/2009
- ✓ AS4100
- ✓ AS1170.0.2002
- ✓ AS1170.1.2002

All Concrete Sleepers are 66MPa
which Complies with AS3600/2009

Vertical U-Panel Sleeper Specifications

Vertical panels concrete core filled with steel re-enforcement

Max Height – 2.7m

Panel weight 38kg (2 man lift) 66mpa fibre reinforced

No Scaffold required

Fast install

Custom patterns available on request



Top View



Benefits of using U-Panel Sleeper (UPS) retaining walls compared to core filled blockwork (CFB).



Speed of build

- UPS - 80 sqm per day (3 labourers)
- CFB - 23 sqm per day (2 bricklayers and 1 labourer)



Weather delays

- UPS - dry fit, can be installed in any weather conditions
- CFB - wet trade, weather days can also flow on from previous job delays



Labour needed

- UPS - Low skilled labour (non skilled)
- CFB - experienced tradesman in brick/block laying



Environmentally friendly

- UPS - over 55% of the raw materials are recycled (flyash) and no sand or aggregate. Naturally cured.
- CFB - sand, cement, aggregate and varied amounts of flyash. 20% - 40% blocks need to be steam cured



Work on site

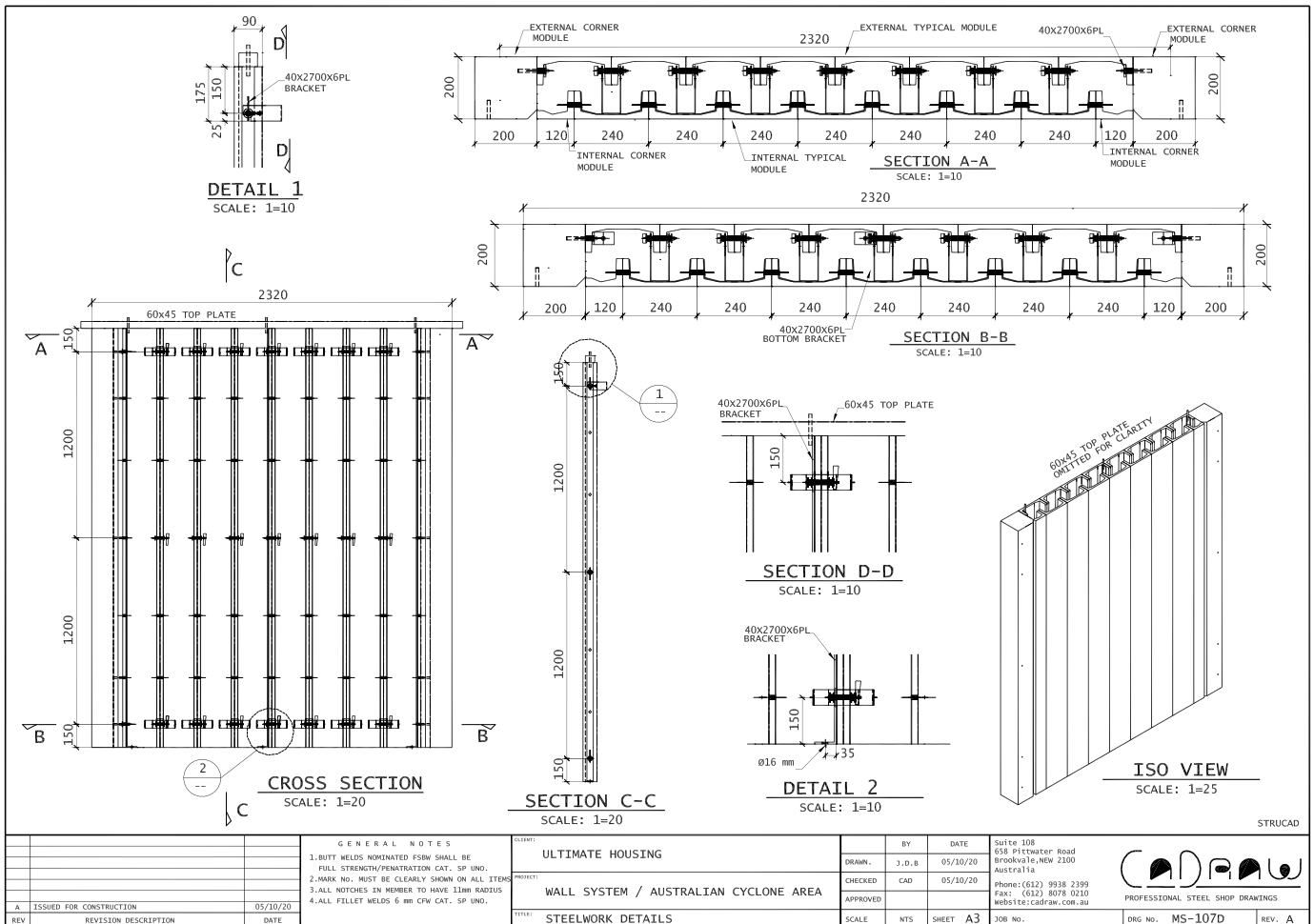
- UPS - all panels are dry fit and cut to size so no mess
- CFB - (Plain blocks) need mortar and render, both are extremely messy on site.
- CFB - (Patterned/coloured blocks) still require mortar



Core Filled Walls

Drawing of 200mm wide retaining wall system.

Engineer to specify starter bars and steel reinforcement to suit job required.



U-Panel Sleeper Finishes (Classic Range)

U-Panel Sleepers are available in 3 popular finish options.

Special orders have the freedom to choose:



- ✓ Any custom pattern required.
- ✓ Any colours can be chosen as are applied after.



Raw Smooth Concrete



Natural Timber Grain

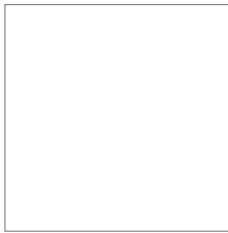


Timber Grain with Groove

U-Panel Sleeper Colours (Classic Range)

U-Panel Sleepers have been intentionally left raw so you can colour it your way. We recommend the Dulux Avista Range:

COLOUR TINT RANGE



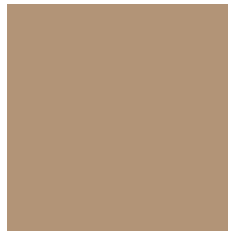
WHITE
FD200565-1L



CREAM
FD200661-1L



SANDY BEIGE
FD200658-1L



MERINO
FD200656-1L



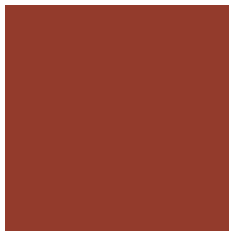
LITE MOCHA
FD200646-1L



LIGHT TERRACOTTA
FD200655-1L



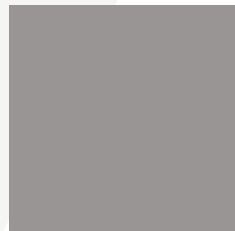
DARK TERRACOTTA
FD200652-1L



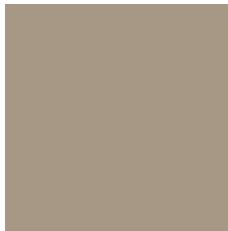
BRICK RED
FD200648-1L



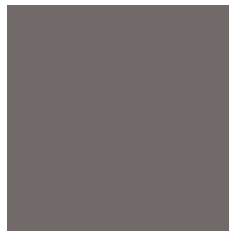
BLUEGUM
FD200672-1L



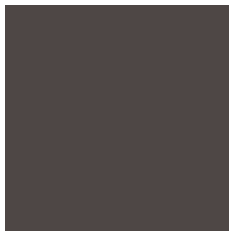
FRENCH GREY
FD200654-1L
FD278062-10L*



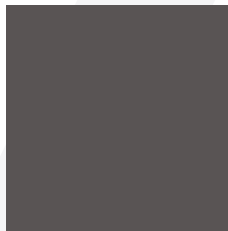
SILVER SANDS
FD200662-1L



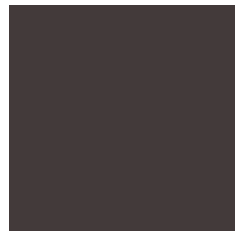
SLATE GREY
FD200671-1L



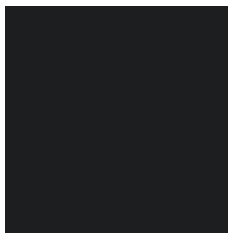
GUNMETAL
FD200664-1L



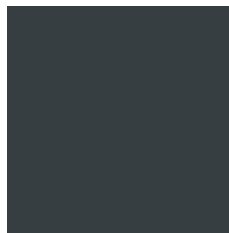
NEW BLUESTONE
FD200561-1L
FD278061-10L*



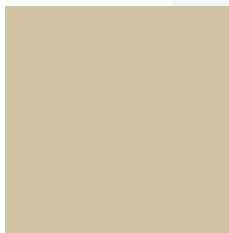
CHARCOAL
FD200666-1L
FD278060-10L*



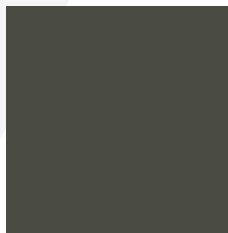
JET BLACK
FD200667-1L



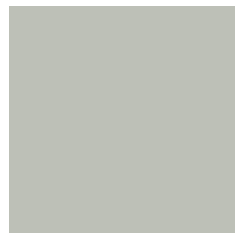
MONUMENT®
FD200560-1L



PAPERBARK®
FD200564-1L



WOODLAND GREY®
FD200562-1L



SHALE GREY™
FD200563-1L

*Dulux Avista Coloured Sealer 10L is pre-tinted.

Colours shown in this brochure are intended as a guide only and are based on Dulux Avista 1L Colour Tint being mixed into Dulux Avista 19L Tintable base. Variations in colour may also occur depending on the job conditions, surface texture and finishing practices employed by your applicator.

Customer Service 1800 801 108

duluxavista.com.au

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COLORBOND® and ® colour names are registered trade marks of BlueScope Steel Limited.

™ colour names are also trade marks of BlueScope Steel Limited.

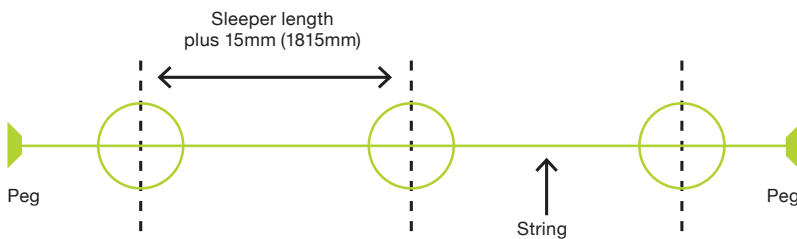


Assembly and Installation

U-Panel Sleepers are installed just like timber retaining walls using steel posts, here's a guide:

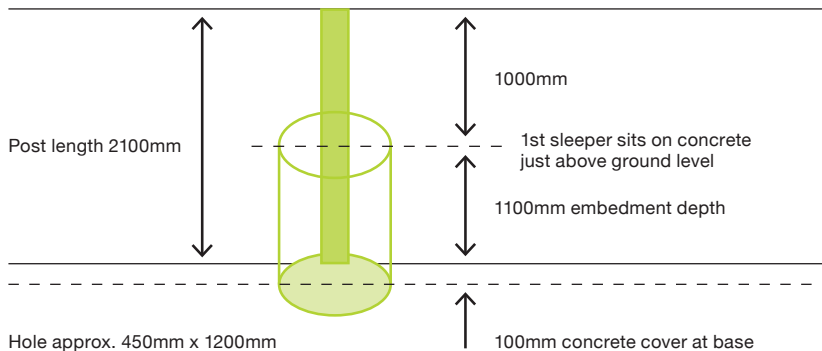
STEP 1: Setup

Use a string line to ensure correct alignment and set pegs about 500mm from the ends of the retaining wall.



STEP 2: Post Holes

The post holes into which the retaining wall posts will be placed shall be 450mm diameter with minimum 100mm concrete cover below the post. Footing depth is typically equal to the height of the retaining wall. For this example, therefore, the post hole is 1200mm.



STEP 3: Alignment & Concrete

Once the holes are ready, place post and align with a spirit level. Fix a timber guide rail along the string line to ensure the concrete levels are all equal. The timber rail guide can also be used to stabilise the retaining wall post during concrete pouring.

Pour concrete into holes and level.



Assembly and Installation (Continued)

STEP 4: Installing Sleepers

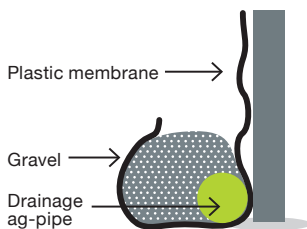
After the concrete has cured, place the first sleeper and check alignment. Packing material may be required to ensure the sleeper is level. The first sleeper rests on the concrete surface slightly above ground level.

The remaining sleepers can now be added.



STEP 5: Drainage & Backfill

Place non woven geotextile fabric or a plastic waterproof membrane material behind the retaining wall. Position the ag-pipe at the bottom of the wall and fill with gravel to approx. 300mm deep to allow for drainage.



STEP 6: Caution

Although timber sleepers are designed to retain the soil load behind the wall, they are not designed to take extra loads due to placement of machinery or heavy equipment directly behind the wall. It is recommended that no additional loads be placed within 1m of the wall edge.

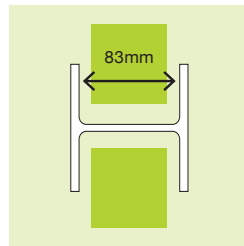
NOTE: The information in this publication is provided for use as a GUIDE ONLY. Except to the extent that responsibility cannot lawfully be excluded, NEPEAN Building & Infrastructure ("NB&I") does not accept responsibility for any loss or damage of any kind however arising in connection with the selection and use of Galintel® Retaining Wall Post. NB&I recommends that local council building requirements and professional advice be sought in the selection and use of Galintel® Retaining Wall Post.

Retaining Wall Posts

100mm series to suit U-Panel

Hot-Dip galvanised to comply with AS/NZS4680

H-Section Joiner Post

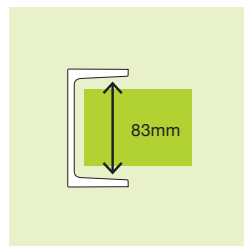


Available standard length range – 100mm Series:

(m)	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6
H-Section	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Steel weight guide: 14.8kg/m

C-Section End Post

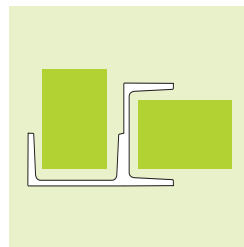


Available standard length range – 100mm Series:

(m)	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6
C-Section	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Steel weight guide: 8.33kg/m

90° Corner Post

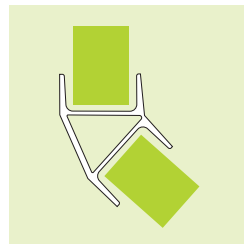


Available standard length range – 100mm Series:

(m)	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0
90° Joiner	✓	✓	✓	✓	✓	✓	✓	✓

Steel weight guide: 17kg/m

45° Corner Post



Available standard length range – 100mm Series:

(m)	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0
45° Joiner	✓	✓	✓	✓	✓	✓	✓	✓

Steel weight guide: 20kg/m

Retaining Fence Brackets

Galintel® Fence Brackets are designed specifically to join timber and steel fence posts to Galintel Retaining Wall Posts.

Their universal design makes it suitable for both 100mm & 150mm Series Galintel Retaining Wall Posts, providing easy installation when constructing timber and steel fencing on top of retaining walls.

Timber Fence Bracket



Available range:

Available in 6mm for timber fence posts

Suits: H Post, C Post, 90° Corner Post, and 45° Corner Post

Code: RWPFBHDT

Nut, bolt and washer included

Steel Fence Standard Bracket



Available range:

Available in 6mm for steel fence posts

Suits: H Post, C Post, 90° Corner Post, and 45° Corner Post

Code: RWPFBBS

Nut, bolt and washer included

Steel Fence Offset Bracket



Available range:

Available in 6mm for steel fence posts

Suits: 90° Corner Post

Code: RWPFBBS90

Nut, bolt and washer included



U-PANEL

A SLEEPER LIKE NO OTHER

**For more information
contact your local retailer.**

