

CASE STUDY

DIY RETAINING WALL PROVIDES COST-EFFECTIVE SOLUTION TO CREATE BEAUTIFUL LEVEL LAWN



Background

This resident needed to level the uneven yard of his home situated on the low side of the street and increase the functionality of his outdoor space. The solution had to offer affordable, easy installation that matched the modern aesthetics of their home as well as fitting within their renovation budget.

Solution

The VogueWall Aluminium retaining wall ticked every box. Installation was quick and simple – no strip footing was needed and its modular, lightweight nature required only a day's work, saving them time and cost. This cost reduction was the difference that made renovations affordable, allowing them to spread the funds across other areas of the project, such as garden landscaping.

The unique, cementitious surface of the panels accept any finish, including paints, textures and cladding, and was painted to match the home's rendered aesthetic and accentuate the connected architectural design. The spectacular tiered garden of planter boxes softened the space and their new, level lawn has boosted its functionality for outdoor entertaining, as well as adding a manicured appearance to the yard. The resident was extremely impressed with the outcome, receiving many compliments on the recently landscaped area. Overall, the VogueWall Aluminium retaining wall allowed renovation visions to become a financial reality, without sacrificing aesthetic or quality.

Industry leader in innovative and cost effective acoustic and boundary walls

- **Proven acoustic performance**
- **Cost effective**
- **Durable, lightweight modular construction**
- **Quick and easy installation**
- **Suited to environmentally harsh and remote locations**

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SPECIFICATION SHEET

VogueWall™

Aluminium Post Retaining

TECHNICAL SPECIFICATIONS

	Thickness	Post Type	Density	Fire Class†	Max Wall Height	Post Centres
VogueWall Retaining Panel	75mm	Aluminium	15.90kg/m ²	BAL29	750mm Retaining (2.5kPa)	2450mm

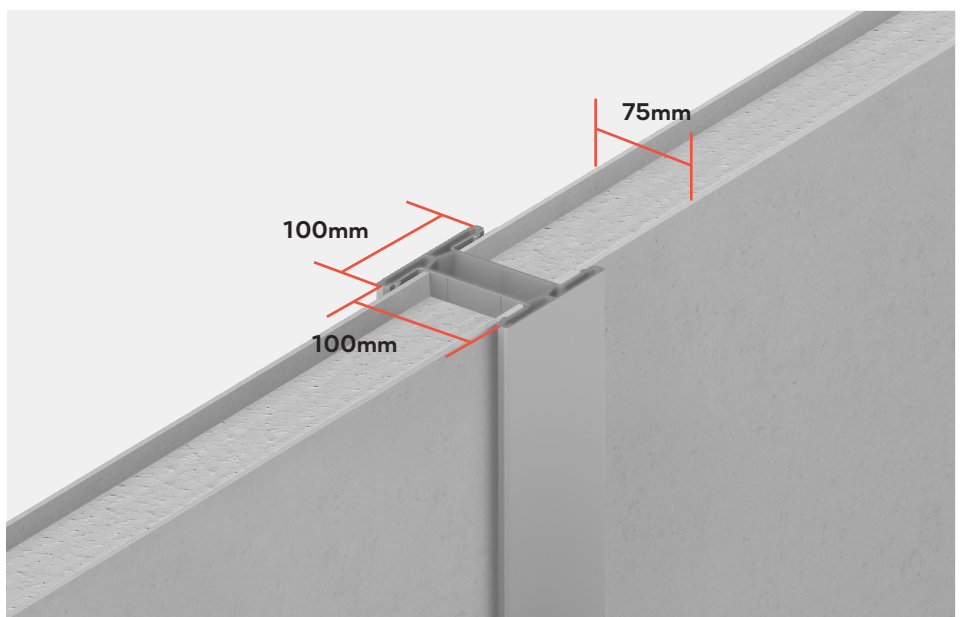
FEATURES

- Near flush finish across post and panel profile
- High grade structural aluminium support posts and trims
- Can retain up to 750mm (2.5kPa) with the VogueWall retaining panel
- Multiple finishing options
- Integrate above with a VogueWall Aluminium boundary wall or optional fence connector.

VogueWall Aluminium is suited to any architectural style and because of its versatility is a very popular product.

VogueWall Aluminium is perfect as a boundary or front wall, and also ideal as a feature wall, privacy wall or low standalone retaining wall.

VogueWall Aluminium is acoustically rated for proven noise reduction and can be finished with numerous paint and texture options, custom letterboxes, lighting, gates and slat infills.



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At times, a difference in ground levels can occur on opposite sides of a VogueWall installation. VogueWall Retaining has been designed for use in these circumstances, providing a seamless appearance whilst holding these soil loads at bay. VogueWall Retaining provides a solution to backyard soil retention up to 750mm that is robust and elegant.

APPLICATION

The VogueWall Aluminium post integrated with the VogueWall Retaining Panel is ideally suited for:

- Replacement of an old timber or colorbond fence that is leaning away from the retained embankment
- New housing developments or subdivisions with uneven ground levels between blocks
- Stand-alone planter boxes, raised garden beds or terraced lawns

SPECIFICATION

VogueWall Retaining consists of:

- Composite reinforced Vogue Retaining Panel
- Size: 2400mm (L) x 600mm (H) x 75mm (W)
- Weight: 22.9kg

ASSEMBLING OF STRENGTHENING MEMBER

This booklet previously instructs on the correct methodology of installation of the strengthening member of VogueWall Aluminium posts.

During this step any post that will be performing a retaining function will need the addition of structural a strengthening member installed.

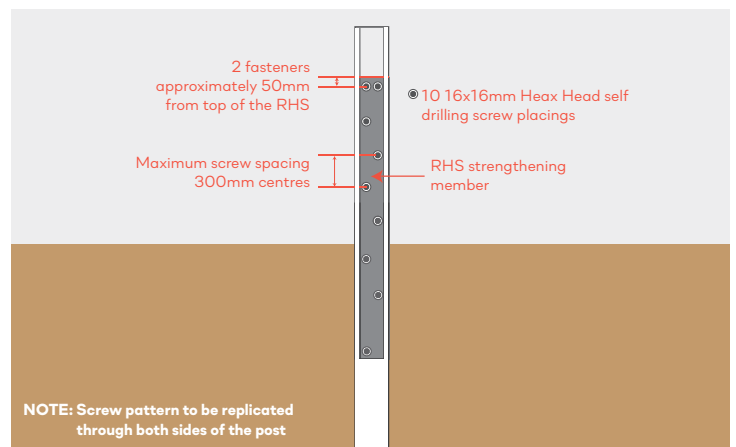
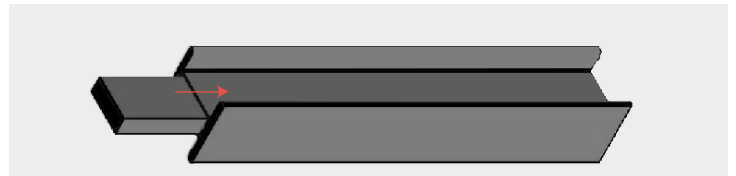
Snapshot from page 16 - VogueWall Aluminium Installation Guide

ADDITIONAL

ASSEMBLE WITH RHS STRENGTHENING MEMBER (APPLICATION DEPENDANT)

Slide RHS strengthening member inside the post. The strengthening member should be positioned 50% above ground and 50% below.

Screw the post and RHS together starting with a double screw at the top approximately 50mm down and then in an off-set pattern at a maximum 300mm centres from then on.



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Aluminium Post Retaining

Step 5 (page 11) of this booklet instructs on the correct methodology for installing the base capping channel.

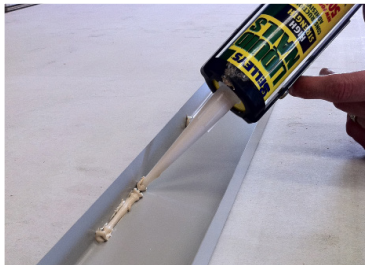
Snapshot from Step 5, page 11

STEP 5:

INSERTING WALL PANELS ONTO BASE CHANNEL

Place your base channel onto the brackets. The base channel should enter the post by at least 5mm from the post face on each side.

Apply 'liquid nails fast grab' or similar along both internal radiuses of the base channel. This adhesive will contact with the fibre cement sheets once the panel is seated.

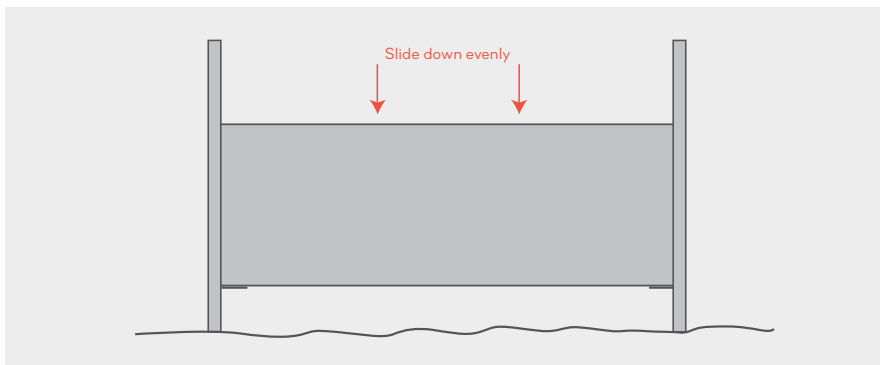


Then with one person at either end, lift the panel vertically and insert into the top rebates of the post. You may need a small platform to stand on to achieve the required height.

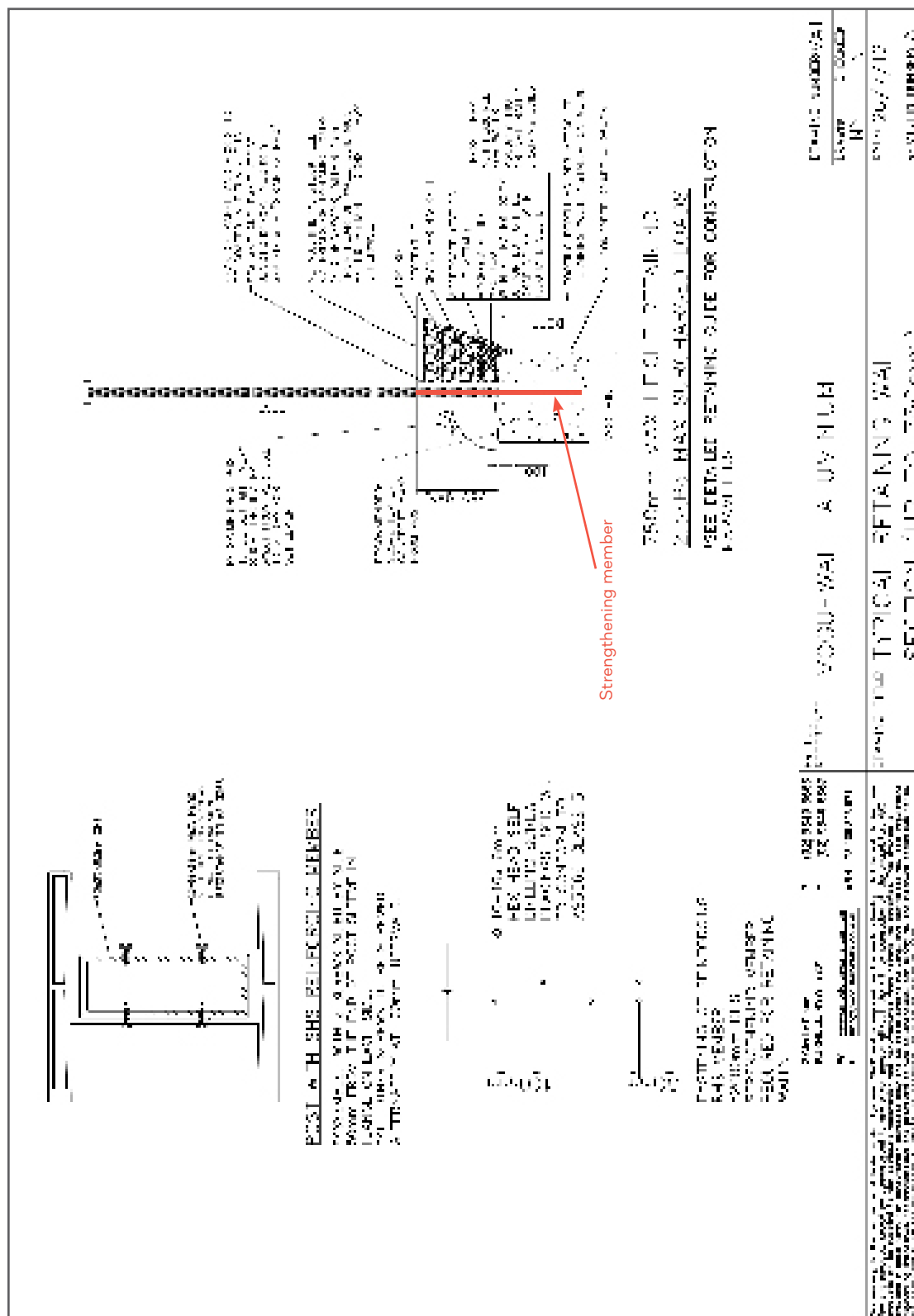
Carefully press the panel down onto the base channel making sure you have not caught any of the fibre cement edges. Once seated pull up on the base channel to make sure it is fully seated against the panel.

NOTE: The panel must be guided down at an even and level rate or it will jam.

NOTE: Always take special care if working from heights or lifting objects above your head.



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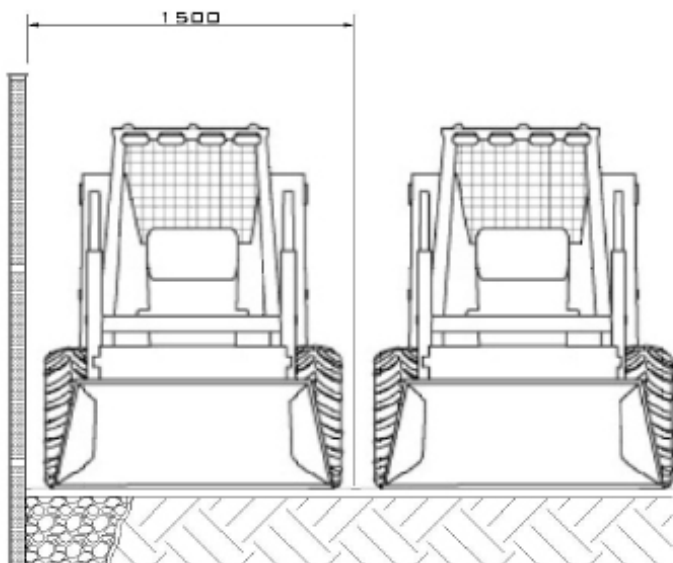
Aluminium Post Retaining

CONSTRUCTION PARAMETERS

The following conditions must be observed for all VogueWall Aluminium Retaining installations:

- Soil height / surcharge - Maximum height that can be retained = 750mm with a 2.5kPa surcharge load.
- Wall height - Maximum wall height above upper ground level = 1800mm (wind region dependent)
- Post spacing - Maximum centre-to-centre post spacing = 2450mm.
- Footing Diameter - Minimum footing diameter = 350mm.
- Footing Depth above - Minimum footing depth = height of retained soil + half the height of any free standing wall.
- FOR EXAMPLE: a wall which is retaining 750mm of soil and extends an additional 1500mm above the soil would require a minimum footing depth = $750 + 1500/2 = 1500\text{mm}$.
- Post embedment - 50-100mm less than actual footing depth, to prevent the post from directly sitting on the soil.
- Soil type - Minimum lateral Soil Bearing Capacity (SBC) = 100kPa. Additionally, soils with (foundations) moisture reactivity above 'Class S' are not suitable for use with the VogueWall Aluminium Retaining system without additional engineering assessment.
- Surcharge Loads - **Loads placed on the upper retained ground level are limited to pedestrian activity only. Stockpiled materials, additional raised garden beds, driveways or adjacent buildings are not permitted within 1.5m from the rear of the wall, unless otherwise specified by ModularWalls.**
- Backfill material is not to be compacted or vibrated.**

REQUIREMENTS



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Aluminium Post Retaining

VogueWall Retaining has requirements that are no different to any other retaining wall of similar size. The process of properly finishing the back of your wall is done in 3 easy stages of:

- Coating/Sealing
- Drainage
- Backfilling

The materials and procedure for each of these steps is described below.

CONSTRUCTION PARAMETERS

The following applies to any section of the wall that is to be buried by backfill material.

Using a commercial grade polyurethane sealant (e.g. SikaFlex PRO), seal the junction between the posts and panels full length at the rear of the wall.

Apply a water proofing sealer to the required area of the posts and panels. Any commercial waterproofing or bituminous product designed for such use will suffice. VogueWall uses and recommends SikaTite BE which is available from most hardware stores. Where the wall is to be backfilled for only part of its height, apply the sealing product to 100mm above the intended fill level. Posts should be coated on their rear face as well as the support bracket and base channel.

A layer of plastic sheeting can also be used to line the back of the wall to provide an extra membrane and also to protect the bitumen coating during backfilling. Heavy Duty 'Builders Plastic' (200um thick) for example is suitable. Position the plastic sheeting so it will cover the areas of the wall that are to be backfilled.

NOTE: Any plastic sheeting should not compromise the drainage capability of the wall.

DRAINAGE

A retaining wall without adequate drainage will act as a dam with the potential to damage the wall. This applies to running water that is both above and below the ground surface.

The ground behind the wall should be suitably contoured to prevent surface water being trapped.

At the base of the wall it is recommended that an Agricultural Line (75mm – 100mm Diameter) be used to allow under ground seepage to escape. A line fitted with an external filter-sock is recommended to reduce silt entering the line. Place the Agricultural Line on top of the 'Base layer' of aggregate (refer to the 'Backfilling' section & the typical section drawing on the previous page).

Position the Agricultural Line to allow it to connect to a free-draining outlet (Eg: stormwater or to daylight). Directing of the Agricultural Line through the wall panel for the purpose of draining is not recommended but can be done if no other draining method is possible.



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