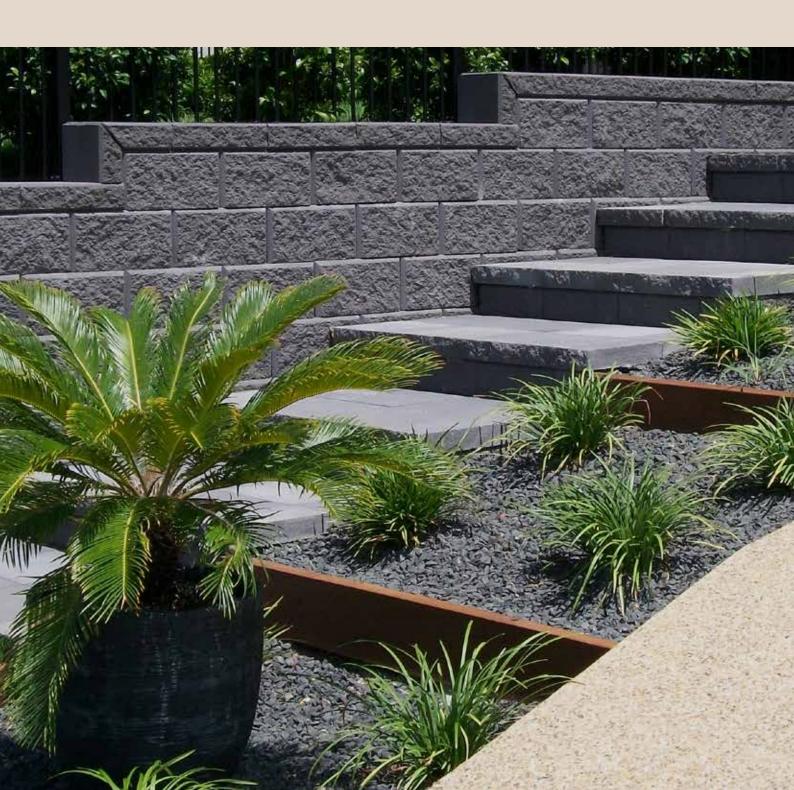


# **Retaining Walls**

Victoria



## What's inside

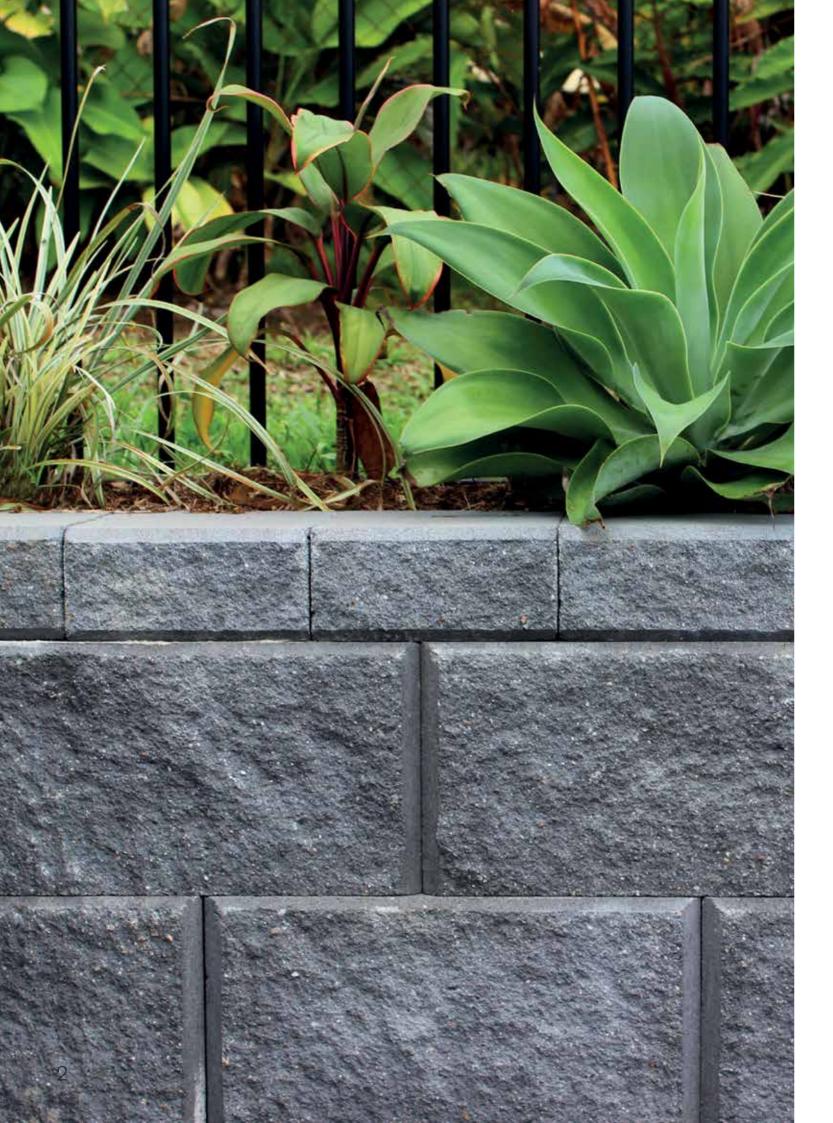
- 1 Retaining Wall Blocks p<sup>05</sup>
  Bribie p<sup>06</sup>
  Arrinastone p<sup>08</sup>
  Valleystone p<sup>10</sup>
  Hayman p<sup>12</sup>
  Heron p<sup>14</sup>
  Moreton p<sup>16</sup>
  Sydneystone p<sup>18</sup>
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- 2 Concrete Sleepers p<sup>24</sup> Explorer Range p<sup>26</sup> Posts and Brackets p<sup>29</sup>
- 3- Product Details p<sup>30</sup>

# Style and function

When it comes to inspiration, we start by simply looking at nature. From appearance and texture, to colour and form, our Landscaping Collection carefully balances each element to ensure flexibility to just about any design. Coupled with our thorough testing and technical innovation, you're guaranteed long-lasting durability for decades to come.



A BRAND O



# **Designed to last**

Not all landscaping products are the same. Our masonry range is designed to stand the test of time. Easy to install. Simple to care for.

# **1.** Affordable

## Low maintenance

2.

Minimal maintenance, maximum impact. You're guaranteed a long-lasting, tough, and easy to care for solution.

5.

For a premium product, our

offers an affordable option.

concrete masonry range

### Termite resistant With no organic wood materials present in our concrete formulations, our masonry range is naturally termite resistant.

## 6. Simple installation

Easy to install and structurally

robust – our products are perfect for 'do it yourself' installations.

## 3.

## All-weather resistant

Heavy storms. Blistering heat. Sub-zero frosts. Our products are designed to hold up to anything our weather systems are capable of throwing at it.

## 4.

## Fire resistant

All of our products are non-combustible and highly fire resistant – making them ideal for bushfire prone areas.

## 7.

### Environmentally aware

We've designed our production processes to minimise effects on the environment ensuring they do not deplete precious natural resources.

## 8.

### Impact resistance

Our masonry range is also renowned for its toughness and hard-wearing properties, and can handle impacts from many external forces.

# Selecting the right product for you

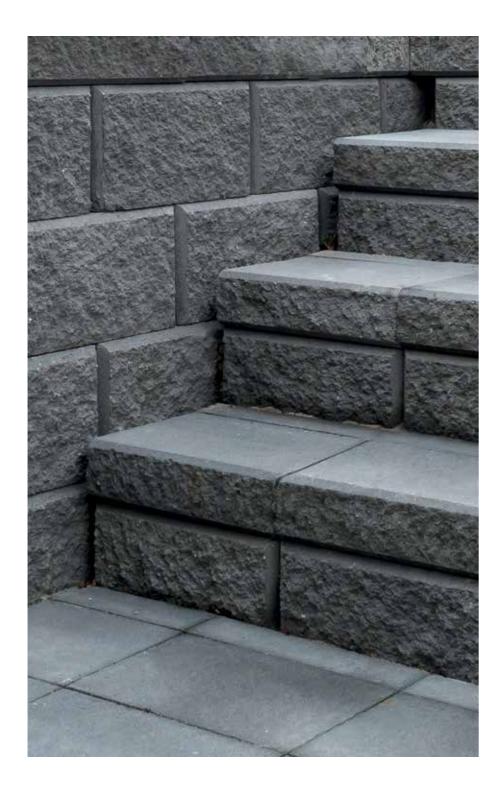
Understanding which retaining wall products are best for your project can be challenging. To assist you we have compiled an overview of the key attributes for each range below.

|    | Range       | Max Wall Height                 | Applications   | Best Suited to               | Wall Systems   | Finish        | Components  | Colours                                    |
|----|-------------|---------------------------------|--|------------------------------|--|---------------|---|--|
| X. | Keystone    | 800mm<br>(15m with engineering) | <ul> <li>Straight or Curved Walls</li> <li>Steps</li> <li>90 Degree Corners</li> </ul> | DIY or Civil<br>Applications | • Gravity Walls<br>• No Fines Concrete<br>• Geogrid Reinforced                           | Near Vertical | • Wall Blocks<br>• Corner Unit<br>• Capping Units | ۱  |
|    | Explorer    | 3m with engineering             | <ul> <li>Straight or Curved Walls</li> <li>Steps</li> <li>90 Degree Corners</li> </ul> | DIY or Civil<br>Applications | • Cantilevered Walls   | Vertical      | • Sleepers<br>• Posts                             |  |
|    | Heron       | 800mm<br>(3m with engineering)  | <ul> <li>Straight or Curved Walls</li> <li>Steps</li> <li>90 Degree Corners</li> </ul> | DIY or Civil<br>Applications | <ul> <li>Gravity Walls</li> <li>No Fines Concrete</li> <li>Geogrid Reinforced</li> </ul> | Near Vertical | • Wall Block<br>• Corner Unit<br>• Capping Unit   | IN THE |
|    | Hayman      | 800mm<br>(3m with engineering)  | <ul> <li>Straight or Curved Walls</li> <li>Steps</li> <li>90 Degree Corners</li> </ul> | DIY or Civil<br>Applications | • Gravity Walls<br>• No Fines Concrete<br>• Geogrid Reinforced                           | Near Vertical | • Wall Block<br>• Corner Unit<br>• Capping Unit   |  |
|    | Hastings    | 800mm<br>(3m with engineering)  | <ul> <li>Straight or Curved Walls</li> <li>Steps</li> <li>90 Degree Corners</li> </ul> | DIY or Civil<br>Applications | <ul> <li>Gravity Walls</li> <li>No Fines Concrete</li> <li>Geogrid Reinforced</li> </ul> | Near Vertical | • Wall Block<br>• Corner Unit<br>• Capping Unit   |  |
|    | Sydneystone | 800mm<br>(3m with engineering)  | <ul> <li>Straight or Curved Walls</li> <li>Steps</li> <li>90 Degree Corners</li> </ul> | DIY or Civil<br>Applications | <ul> <li>Gravity Walls</li> <li>No Fines Concrete</li> <li>Geogrid Reinforced</li> </ul> | Near Vertical | • Wall Block<br>• Corner Unit<br>• Capping Unit   |  |
| 日空 | Valleystone | 800mm                           | <ul> <li>Straight or Curved Walls</li> <li>Steps</li> <li>90 Degree Corners</li> </ul> | DIY Applications             | • Gravity Walls  | Set Back      | • Wall Block                                      | ۱  |
|    | Moreton     | 800mm                           | • Straight or Curved Walls<br>• Steps  | DIY Applications             | • Gravity Walls  | Set Back      | • Wall Block<br>• Capping Unit                    | 🍈 🏀 🌑                                      |
|    | Arrinastone | 600mm                           | • Straight Walls<br>• Steps  | DIY Applications             | • Gravity Edging   | Near Vertical | • Wall Block<br>• Corner Units                    | ۱  |
|    | Bribie      | 360mm                           | • Garden Edging  | DIY Applications             | • Garden Edging  | Near Vertical | • Wall Block                                      | ۱  |
|    |             |                                 |  |                              |  |               |   |  |

4

Wall heights shown are for gravity walls and assume good soil conditions and 2.5kPa loading behind wall. For walls outside these parameters, refer to Austral Masonry Installation guidelines for preliminary design charts. Note: Please consult with regulating council for local design requirements prior to the commencement of any retaining wall. Councils may request walls over 0.5m in height and/or where a surcharge exists (e.g. driveway, house, fence or other structure) be designed and certified by a suitably qualified consulting engineer.

# **Retaining Wall Blocks**



- Bribie
- Arrinastone
- Valleystone
- Hayman
- Heron
- Moreton
- Sydneystone
- Hastings
- Keystone
- 7



## Bribie

Light weight but sturdy, Bribie masonry blocks combine a rugged textured surface with classic cut edges for visual appeal.

| Applications   | Straight Walls   Curved Walls |
|----------------|-------------------------------|
| Max Height     | 360mm*                        |
| Minimum Circle | 18 blocks                     |
| Minimum Radius | 450mm (to inside)             |

## Colours







Charcoal

## Types



### Standard Unit

| Size: 1901 × 100W × 120H m | nm |
|----------------------------|----|
| 0120.1002.00011.0201111    |    |

### Weight (each): 4.5kg

Units per lineal metre: 5.25





## Arrinastone

Lightweight and simple to maintain, these blocks provide an easy way to create a practical outdoor space. Available in a fresh, naturally-inspired colour palette, Arrinastone adds a genuine touch of natural beauty to any environment.

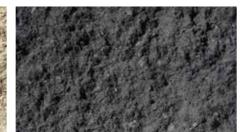
| Applications | Straight Walls   Corners   Steps |
|--------------|----------------------------------|
| Max Height   | 600mm                            |

## Colours



Oyster

Nougat



Charcoal

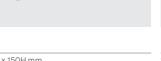
## Types



Standard Unit

Size: 300L × 200W × 150H mm

Weight (each): 12.8kg Face Area: 22.2 units per m<sup>2</sup>



**Right Corner** Size: 350L × 200W × 150H mm

Weight (each): 13kg







10

## Valleystone

Valleystone's natural texture and clever curved angles allow you to make a bold statement with garden paths, courtyards or retaining walls.

| Applications   | Straight Walls   Curved Walls   Steps                           |
|----------------|---|
| Max Height     | 800mm*  |
| Minimum Circle | 22 blocks based on 1m radius<br>12 blocks based on 570mm radius |

## Colours





Nougat

Hawkesbury Yellow

## Types



## Angled Unit\*

Size: 295L × 203W × 125H mm Weight (each): 13kg

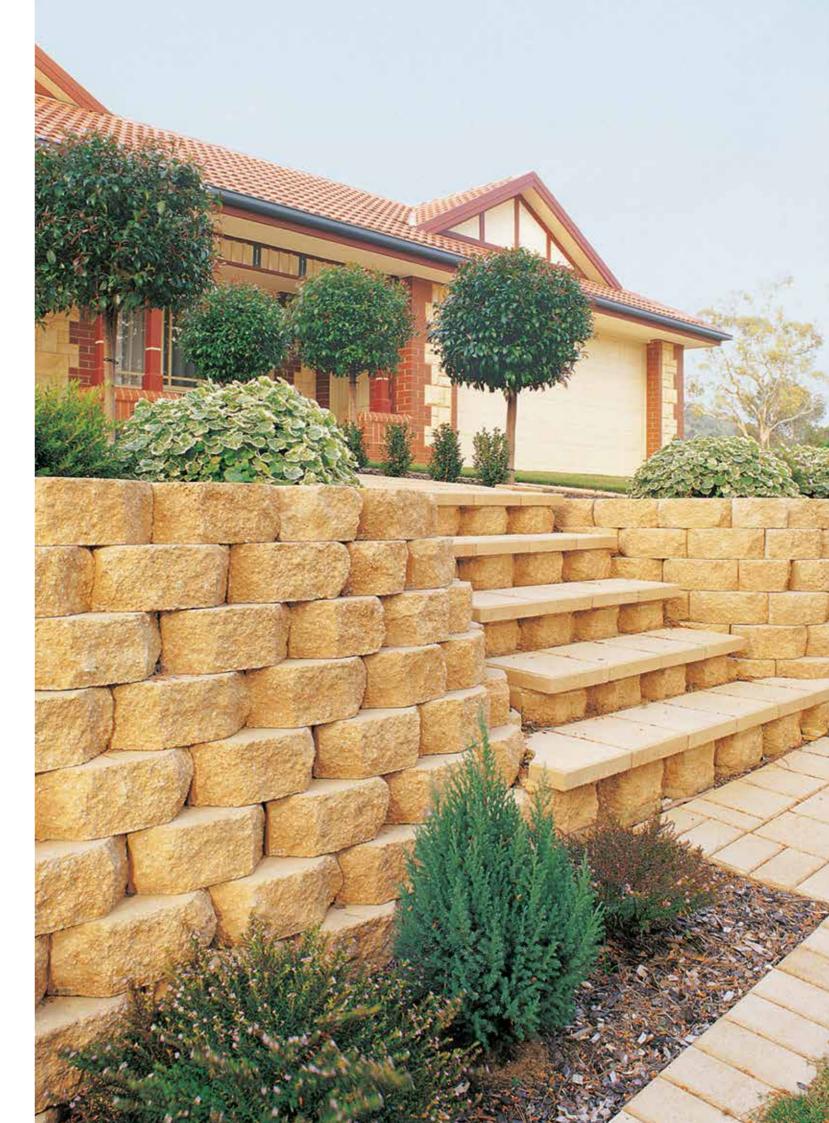
Face Area: 27.1 units per m<sup>2</sup>



# Size: 295L × 203W × 125H mm

| Weight (each): 14.9kg                    |
|--|
| Face Area: 27.1 units per m <sup>2</sup> |

\*Available in Nougat only.



Valle Product –

## Hayman

Hayman retaining wall blocks offer a smooth finish with options to suit contemporary colour schemes.

| Applications | Straight Walls   Curved Walls   Corners   Steps |
|--------------|---|
| Max Height   | 800mm* (3m when engineered)                     |

## Colours





Limestone

Charcoal

## Types



Standard Unit

Size: 390L × 245W × 198H mm

Weight (each): 24kg

Face Area: 13 units per m<sup>2</sup>



Universal Corner

Size: 160L × 360W × 198H mm

Weight (each): 17.2kg

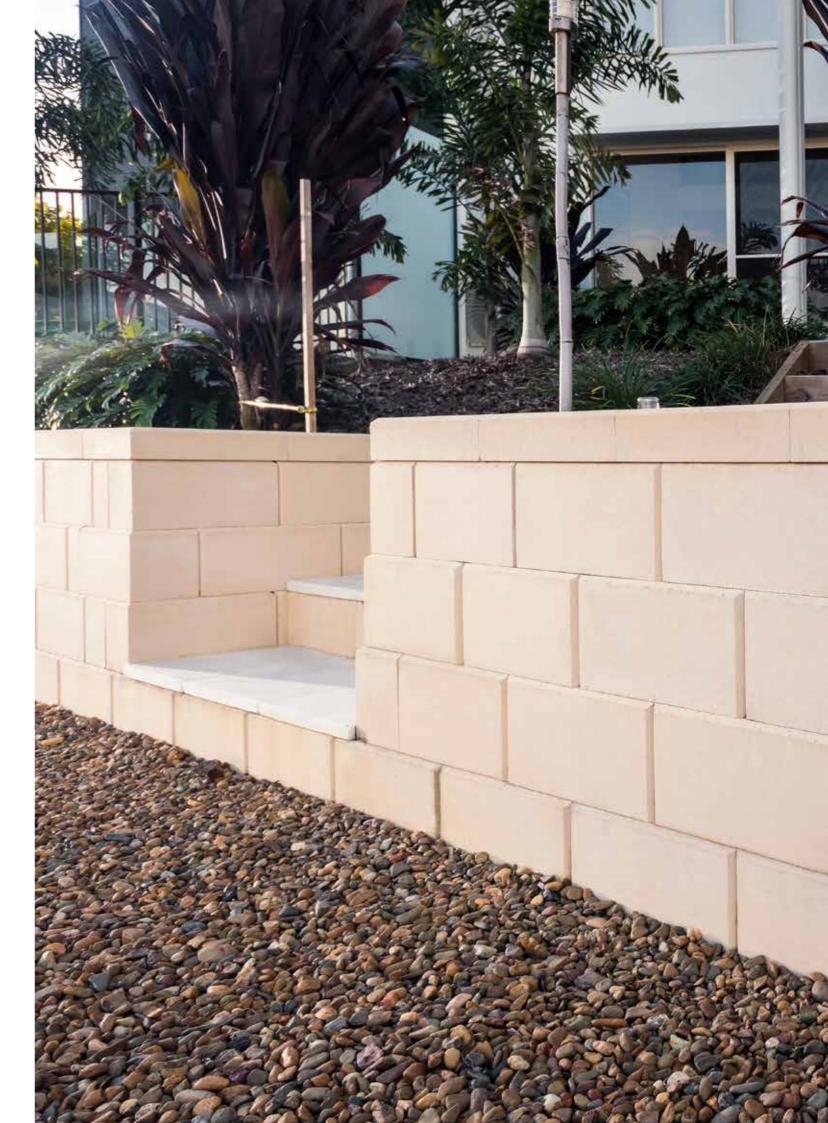


Capping Unit

Size: 390L × 245W × 90H mm

Weight (each): 16kg

Units per lineal metre: 2.56





## Heron

Heron retaining wall blocks have a colour and finish for all landscaping projects. Structurally sound and perfect for the 'do it yourself' weekend warrior, Heron blocks require no mortar and are virtually maintenance free.

| Applications   | Straight Walls   Curved Walls   Corners   Steps |
|----------------|---|
| Max Height     | 800mm* (3m when engineered)                     |
| Minimum Radius | Approx 1,200mm                                  |

## Colours





Brisbane Blend

Limestone



Sandstone

Sydney Blend



Standard Unit Size: 390L × 245W × 198H mm Weight (each): 24kg

Face Area: 13 units per m<sup>2</sup>



Charcoal

Corner Block
Size: 160L × 360W × 198H mm
Weight (each): 20kg
Available in right and left
(right shown)



Capping Unit

| Size: | 390L × 245W × 90H mr     | n |
|-------|--------------------------|---|
| Weig  | iht (each): 16kg         |   |
| Unite | e ner lineal metre: 2.56 |   |

\_\_\_\_\_



## Moreton

With natural colours and a split face finish, Moreton retaining wall blocks will complement any landscape with a unique and timeless appeal.

| Applications            | Straight Walls   Cur | ved Walls   Steps   |          |
|-------------------------|----------------------|---------------------|----------|
| Max Height              | 800mm                |                     |          |
| Colours                 |                      |                     |          |
| Limestone               |                      | Sydney Blend        | Charcoal |
| Types                   |                      |                     |          |
| 6                       |                      | TREES               |          |
| Standard Unit           |                      | Capping Block       |          |
| Size: 390L × 200W × 200 | )H mm                |                     | -        |
|                         |                      | Weinht (seeh) 00km  | -        |
| Weight (each): 18.5kg   |                      | Weight (each): 22kg |          |

Product - Moreton | Sydney Bl



## Sydneystone

The Sydneystone collection gives any design a strong and timeless look thanks to their classic chamfered edges. Great for both straight and curved dry stacked retaining walls, Sydneystone is simple to install.

| Applications   | Straight Walls   Curved Walls   Corners   Steps |
|----------------|---|
| Max Height     | 800mm (3m when engineered)                      |
| Minimum Radius | Approx 1,200mm                                  |

## Colours





Truffle

Charcoal

### Types



Standard Unit Size: 390L × 245W × 200H mm Weight (each): 21kg

Face Area: 13 units per m<sup>2</sup>



Corner Block

Size: 340L × 140W × 200H mm Weight (each): 20kg

Available in right and left (right shown)



Capping Unit

| Size: 390L × 245   | W×90H mm    |
|--------------------|-------------|
| Weight (each): 16  | îkg         |
| Lipita par lipad p | antro: 0 E6 |

Units per lineal metre: 2.56



## Hastings

For colour, style, and presence, Hastings creates a bold statement thanks to its realistic naturally-inspired tones and rugged facings. The individual finish to each block makes it an ideal choice for straight and curved walls, corners and steps.

| Applications   | Straight Walls   Curved Walls   Corners   Steps |
|----------------|---|
| Max Height     | 800mm* (3m when engineered)                     |
| Minimum Radius | Approx 1,200mm                                  |
|                |   |
| Colours        |   |
| CARLES STORES  |   |



Charcoal

### Types

Alpine



Size: 390L × 245W × 200H mm Weight (each): 21.5kg

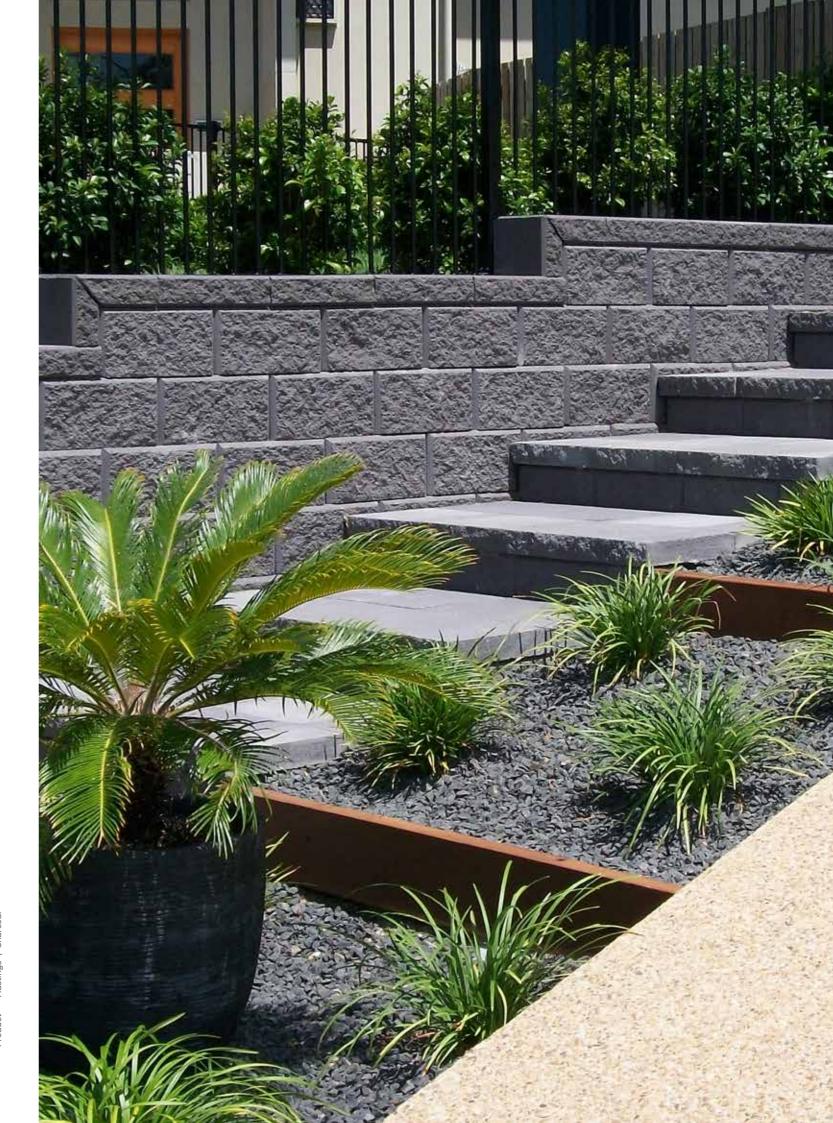


Size: 340L × 140W × 200H mm





| Size: 195L   | < 245W × 90 | )H mm |  |
|--------------|-------------|-------|--|
| Weight (ea   | ch): 9kg    |       |  |
| Units per li | neal metre: | 5.13  |  |



Face Area: 13 units per m<sup>2</sup>

## Keystone

The Keystone retaining wall system is robust, strong, and available in standard and flushface finishes. This product is ideal for both straight and curved walls and features a patented interlocking pin connecting system that is best suited to engineered walls up to 15m in height.

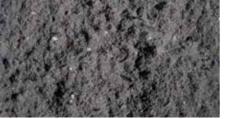
| Applications | Straight Walls   Curved Walls   Corners   Steps   |
|--------------|---|
| Max Height   | 800mm* (15m when engineered)  |
|              | *When using front pin holes to secure units and there are no surcharge loads<br>behind the wall. Please check with your local council in regards to engineering requirements. |

Colours









Charcoal

## Types

Standard Unit

Weight (each): 39kg

Face Area: 11 units per m<sup>2</sup>

Size: 455L × 315W × 200H mm

Almon







Face Area: 11 units per m<sup>2</sup>

Size: 455L × 315W × 200H mm Weight (each): 42kg

Standard Capping Unit Size: 455L × 310W × 100H mm Weight (each): 30kg Units per lineal metre: 2.2



Flushface Straight Side Cap Size: 455L × 310W × 100H mm Weight (each): 31kg

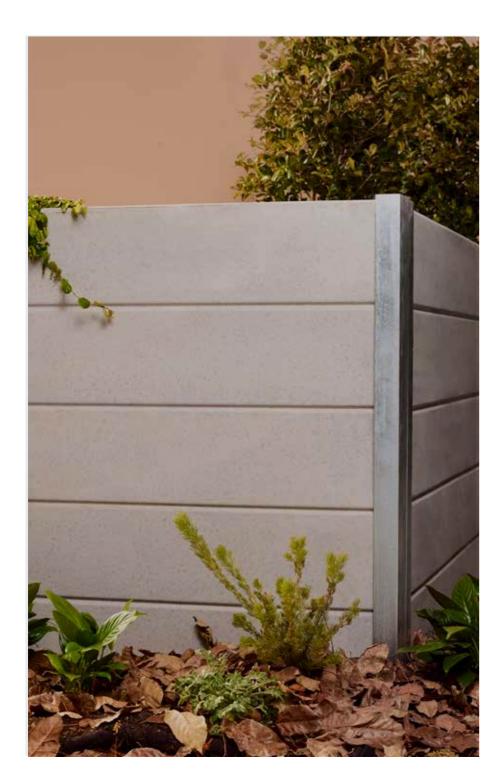
Units per lineal metre: 2.2



Corner Unit 90°\* Size: 438L × 210W × 200H mm Weight (each): 29kg







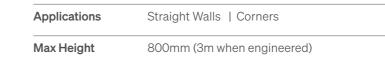
**Concrete Sleeper Retaining Walls** & Accessories

- Explorer





Both subtle and sleek, Explorer was crafted to blend in to any project whether it be commercial or residential.



### Colours

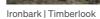




Grey | Smooth

Charcoal | Smooth







Charcoal | Slate

29







Natural | Sandstone





Gumtree | Timberlook

## **Explorer Concrete Sleeper Sizes**

Each of our sleeper finishes is available in a range of sizes to suit your project and design. Please see the sizes available for each finish below.

| Sizes                       |                             |                             |
|-----------------------------|-----------------------------|-----------------------------|
|                             |                             |                             |
| xplorer 200   1200L*        | Explorer 200   1530L*       | Explorer 200   1580L**      |
| Size: 1200L x 75W x 200H mm | Size: 1530L x 75W x 200H mm | Size: 1580L x 75W x 200H mm |
|                             |                             |                             |
| Weight (each): 40kg         | Weight (each): 49kg         | Weight (each): 50kg         |
|                             | Weight (each): 49kg         | Weight (each): 50kg         |
|                             | Weight (each): 49kg         | Weight (each): 50kg         |
| /eight (each): 40kg         |                             |                             |



### Explorer 1000\*

Size: 2000L x 75W x 1000H mm

Weight (each): 362kg

^ Available in all finishes \* These types are only available in smooth finish \*\*Available in all finishes except smooth

## Explorer Post & Bracket Range

We offer an extensive range of galvanised posts and fence brackets which are designed to complement our concrete sleeper collection.

### Post Types



Size: please see sizes in the tables below



Joiner with Deformed Bar Size: please see sizes in the tables below

| Post Type                         | Wall Height | Post Height | Post Type                   | Wall Height | Post Height |
|-----------------------------------|-------------|-------------|-----------------------------|-------------|-------------|
|                                   | 0.4m        | 1.15m       |                             | 0.4m        | 0.8m        |
|                                   | 0.6m        | 1.15m       | _                           | 0.6m        | 1.2m        |
|                                   | 0.8m        | 1.55m       |                             | 0.8m        | 1.6m        |
|                                   | 1.0m        | 1.95m       |                             | 1.0m        | 2.0m        |
| 100UC Joiner<br>with deformed bar | 1.2m        | 2.35m       | 100UC Joiner<br>Full Length | 1.2m        | 2.4m        |
|                                   | 1.4m        | 2.75m       |                             | 1.4m        | 2.8m        |
|                                   | 1.6m        | 3.15m       |                             | 1.6m        | 3.0m        |
|                                   | 1.8m        | 3.55m       |                             | 1.8m        | 3.4m        |
|                                   | 2.0m        | 3.95m       |                             | 2.0m        | 3.6m        |
|                                   | 2.0m        | 3.95m       | _                           | 1.6m        | 3.0m        |
|                                   | 2.2m        | 4.35m       | _                           | 2.0m        | 3.6m        |
| 150UC Joiner<br>with deformed bar | 2.4m        | 4.75m       | 150UC Joiner                | 2.2m        | 4.0m        |
|                                   | 2.6m        | 5.15m       |                             | 2.4m        | 4.4m        |
|                                   | 3.0m        | 5.95m       |                             | 2.6m        | 4.8m        |
|                                   | 0.4m        | 0.8m        |                             |             |             |
|                                   | 0.6m        | 1.2m        |                             |             |             |
| 100PFC Ender                      | 0.8m        | 1.6m        |                             |             |             |
|                                   | 1.0m        | 2.0m        |                             |             |             |
|                                   | 1.2m        | 2.4m        |                             |             |             |
|                                   | 1.4m        | 2.8m        |                             |             |             |
| 150PFC Ender                      | 1.6m        | 3.0m        |                             |             |             |
| IDUFFC Ender                      | 2.0m        | 4.0m        |                             |             |             |



Straight Fence Brackets

Offset Fence Brackets





### Ender

Size: please see sizes in the tables below



### Straight Fence Brackets

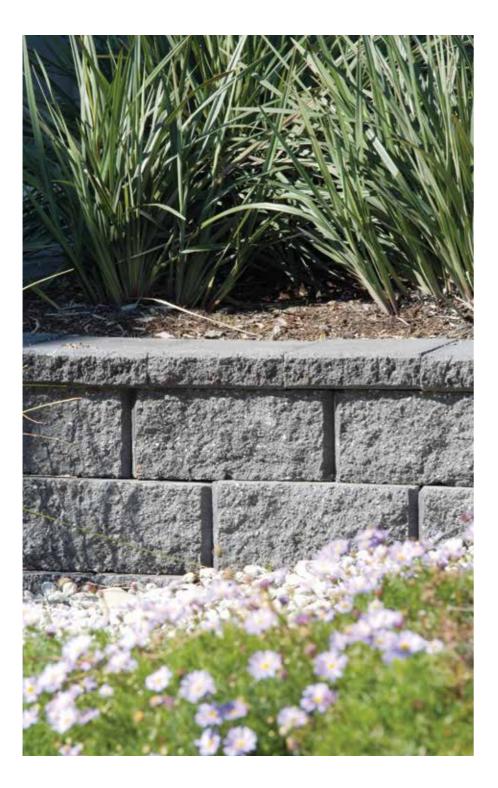
Colorbond Fence 580L x 100W x 3T mm Timber Fence 580L x 100W x 6T mm

### Offset Fence Brackets

Colorbond Fence 580L x 187W x 3T mm Timber Fence 580L x 187W x 6T mm

\*Please note: Fence brackets are not suitable for use in cyclonic areas. Nuts and bolts are included with each bracket.

# **Product Details**





# **Build Segmental Block Retaining Walls**

### **Your Checklist**

### □ String line

- Tape measure
- Walling units
- Compaction tool
- □ Shovel
- Spirit level
- Wheelbarrow
- Agriculture drain pipe
- Pegs or stakes
- Broom
- Gloves & eye protection
- Saw (to cut blocks if required)
- □ 10-20mm crushed stone
- Crushed rock (for base)

Austral Masonry retaining wall blocks Note: Please consult with regulating are an ideal choice for retaining walls council for local design requirements in gardens, a range of residential prior to the commencement of any applications and commercial projects. retaining wall. Councils may request The interlocking and dry stacked nature walls over 0.8m in height and / or where of these blocks makes them easy to a surcharge exists (e.g. driveway, house, install for the "Do It Yourself" landscaper. fence or other structure) be designed and certified by a suitably qualified No matter what the project, the result is always an attractive and low maintenance consulting engineer. retaining wall. The flexibility of the system provides tremendous scope, from edging to terraces, straight walls to curves.

## 1.

## Permits

Check with your local council to ensure all local Building Codes are complied with.

## 2.

### Foundation

The foundation material shall be compacted by several passes of a mechanical plate vibrator. Where there are significant variations of foundation material or compaction, soft spots, or where there is ponding of ground water, the material shall be removed, replaced and compacted in layers not exceeding 150mm. Trenches shall be dewatered and cleaned prior to construction, such that no softened or loosened material remains.

## 3.

### Levelling Pad (footing)

The facing shall be built on a levelling pad. not less than 150mm thick and 300–600mm wide, consisting of one of the following options:

- Compacted road base
- · Compacted crushed rock, well-graded and of low plasticity (without clay content), compacted by a plate vibrator;
- Cement-stabilized crushed rock, with an additional 5% by mass of cement thoroughly mixed, moistened and compacted by a plate vibrator; or
- Lean-mix concrete with a compressive strength of not less than 15 MPa.

## 4.

## **First Course**

Place the first course on the levelling pad and tap into place ensuring blocks are level, front to back and side to side (check with a spirit level). The use of a level and string line is recommended to ensure the first course is laid correctly. Ensure each block is also well filled with free-draining material (eg. crushed rock aggregate / blue metal). For walls up to 1 metre high, make sure at least 100mm of the first-course blocks are buried below the finished ground level. Allow 200mm for walls over 1 metre high and up to 3 metres high. These walls will need to be engineered.

## 5.

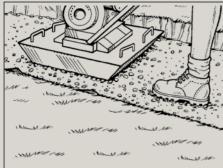
Place 100 mm diameter agricultural pipe with geotextile sock behind the wall, with a 1 in 100 fall. Backfill behind the courses of blocks to a width of 300 mm using 10-20 mm free draining material (eg. crushed rock aggregate / blue metal). Ensure each block is also well filled with free-draining material.

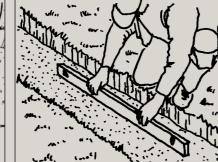
Backfill behind the drainage layer with selected backfill material in a maximum of 200mm layers. Compaction rate of 95% must be achieved (use only hand operated plate compactors within 1 metre from the back of the wall). Do not use expansive clays to backfill. Be careful not to mechanically compact too close to the wall.

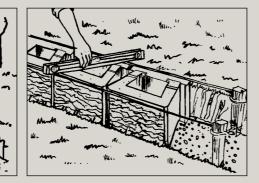
## 6.

### Drainage and Back Fill

## Clean any debris from the top of the wall to ensure the next block sits perfectly. Ensure each block is filled with free draining material, and place next course on top. Place the drainage material behind the blocks to 300mm. Stack units, placing drainage aggregate and compact backfill for each block layer until the wall is complete. For Sydneystone and Hastings walls it is recommended that you break 20–30% of the back 'wings' off to allow backfill material to lock into the block wall.









### Laying Additional Courses

(when using no fines concrete)

## 7.

## **Capping Units**

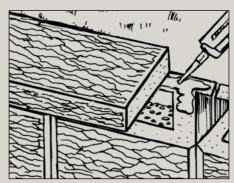
Once backfilling and cleaning is completed as per Step 5 and Step 6 fix the purpose made Capping Blocks with a flexible adhesive.

## 8.

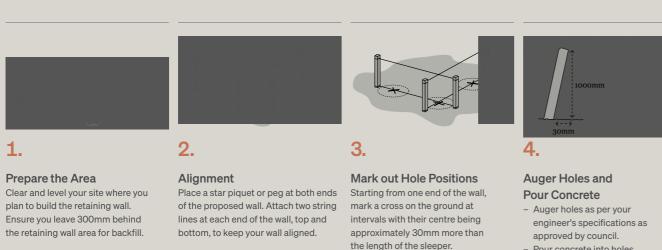
### Maximum Wall Height

This information should be viewed as a guide only. The particular circumstances of retaining wall projects vary significantly in ways that often dictate the use of particular materials and techniques to address challenges presented by those circumstances. Austral Masonry recommends you to ensure that you obtain appropriate professional advice tailored to your circumstances before commencing retaining wall projects.





# **Build Concrete Sleeper Retaining Walls**



For example: If you are using 1530mm sleepers the hole centres should be 1560mm apart – note, this will vary based on the length of sleeper used.

- Pour concrete into holes.
- one at a time. Make the concrete stiff. If using readymix concrete,
- order 20/20, 80 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.

| 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 Smooth                   | UC100          | 1560mm           | 2.75m       |
| 1.6m        | 1.53m Smooth                   | UC100          | 1560mm           | 3.15m       |
| 1.8m        | 1.53m Smooth                   | UC100          | 1560mm           | 3.55m       |
| 2.0m        | 1.53m Smooth                   | UC150          | 1560mm           | 3.95m       |
| 1.4m        | 1.58m Sandstone and Timberlook | UC100          | 1610mm           | 2.75m       |
| 1.6m        | 1.58m Sandstone and Timberlook | UC100          | 1610mm           | 3.15m       |
| 1.8m        | 1.58m Sandstone and Timberlook | UC100          | 1610mm           | 3.55m       |
| 2.0m        | 1.58m Sandstone and Timberlook | UC150          | 1610mm           | 3.95m       |

## 5.

1.

## 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 gravel to 200mm from the top. remaining distance to the top of your steel posts, to ensure the sleepers finish flush with the top of the posts.
- If required, lav 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



## 7.

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

Please note: The above table does not allow for the additional loading of Colorbond fences when they are clamped to the walls using fence brackets which will require additional design criteria to be considered.

## **Exclusion Zone**

**Design Details** 

Concrete sleeper walls for 5kPa walls

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. Backfill must be placed and compacted in layers to not exert pressure on the wall due to consolidation over time.

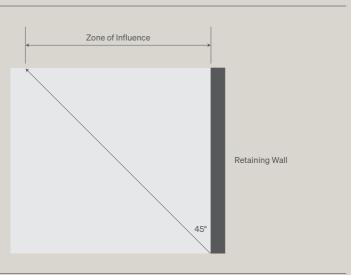
Global stability and tiered wall design is excluded and should be assessed by a qualified Geotechnical engineer.

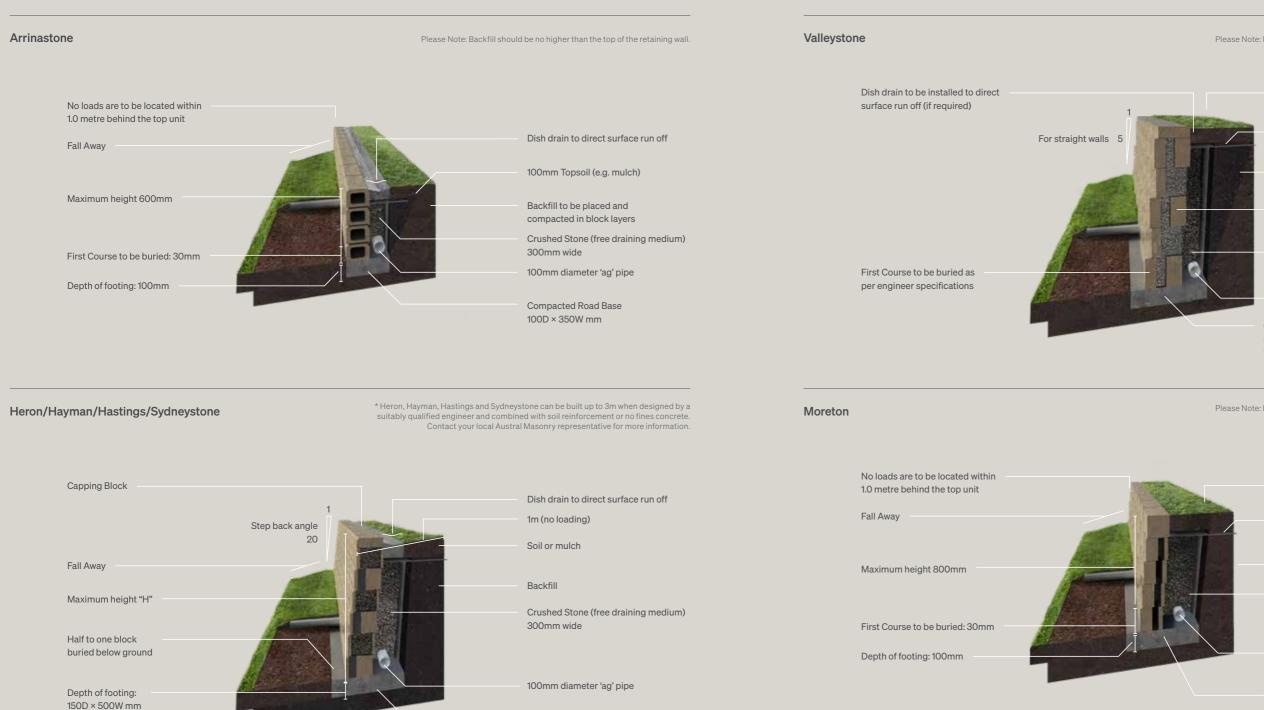
\* Retaining walls must be designed to AS4678.

\* Any retaining walls must be designed to 30-40 ro. \* Most councils require that any retaining walls over 0.8m 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. 36

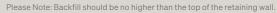
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The following Australian Standards should be consulted when designing a concrete sleeper retaining wall system: AS4678-2002 Earth Retaining Structures | AS4100-1998 Steel Structures | AS3600-2018 Concrete Structures | AS2159-2009 Piling-Design and Installation





Compacted road base



No loads to located within 1m behind wall

Filter fabric to keep dirt out of drainage layer

Backfill placed and compacted in 250mm layers

Drainage granular material, filling voids in and around units

300mm width of 12–20mm free drainage granular materials e.g. blue metal

100mm diameter 'ag' pipe

Compacted Road Base, crushed stone or gravel levelling pad: 100mm by 350mm wide

Please Note: Backfill should be no higher than the top of the retaining wall.

No loads to located within 1m behind wall

Filter fabric to keep dirt out of drainage layer

Backfill placed and compacted in 250mm layers

300mm width of 12–20mm free drainage granular materials e.g. blue metal

100mm diameter 'ag' pipe

Compacted Road Base, crushed stone or gravel levelling pad: 100mm by 350mm wide

# **Design Details**

Retaining Walls

| Product  | Range       | Description            | Max Wall<br>Height | Size (mm)          | Weight | Coverage                        | Applications                                       |
|--|-------------|------------------------|--------------------|--------------------|--------|---------------------------------|--|
|  | Arrinastone | Standard Unit          | 600mm              | 300L × 200W × 150H | 12.8kg | 22.2 Blocks per m <sup>2</sup>  | Straight Walls,<br>Corners, Steps                  |
|  | Arrinastone | Right Corner           |                    | 350L × 200W × 150H | 13kg   | N/A                             | Corners  |
|  | Arrinastone | Left Corner            | -                  | 350L × 200W × 150H | 13kg   | N/A                             | Corners  |
| 1  | Hastings    | Standard Unit          | 800mm*             | 390L × 245W × 200H | 21.5kg | 13 Blocks per m²                | Curved Walls,<br>Straight Walls,<br>Corners, Steps |
|  | Hastings    | Corner Block           | -                  | 340L × 140W × 200H | 20kg   | N/A                             | Corners  |
|  | Hastings    | Half Cap               | -                  | 195L × 245W × 90H  | 9kg    | 5.13 Blocks per<br>lineal metre | Capping  |
|  | Valleystone | Angled Unit            | 800mm*             | 295L × 203W × 125H | 13kg   | 27.1 Blocks per m <sup>2</sup>  | Curved Walls,<br>Straight Walls,<br>Steps          |
|  | Valleystone | Straight<br>Sided Unit | -                  | 295L × 203W × 125H | 14.9kg | 27.1 Blocks per m <sup>2</sup>  | Curved Walls,<br>Straight Walls,<br>Steps          |
| The second secon | Sydneystone | Wall Block             | 800mm*             | 390L × 245W × 200H | 21kg   | 13 Blocks per m²                | Curved Walls,<br>Straight Walls,<br>Corners, Steps |
| and the second s | Sydneystone | Corner Block           | -                  | 340L × 140W × 200H | 20kg   | N/A                             | Corners  |
|  | Sydneystone | Capping Block          | -                  | 390L × 245W × 90H  | 16kg   | 2.56 Blocks<br>per lineal metre | Capping  |
| 1  | Keystone    | Standard Unit          | 800mm*             | 455L x 315W x 200H | 39kg   | 11 Blocks per m <sup>2</sup>    | Curved Walls,<br>Straight Walls,<br>Corners, Steps |
|  | Keystone    | Flushface Unit         | 800mm*             | 455L x 315W x 200H | 42kg   | 11 Blocks per m <sup>2</sup>    | Curved Walls,<br>Straight Walls,<br>Corners, Steps |
|  | Keystone    | Capping Block          | -                  | 455L x 310W x 100H | 30kg   | 2.2 per lineal metre            | Capping  |

Max Wall Heights in good soils (gravels, sandy gravels, crushed sandstone). \* Hastings and Sydneystone can be built up to 3m when designed by a suitably qualified engineer and combined with soil reinforcement or No Fines concrete. ^ Max wall height noted applies when using interlocking pins in the front pin holes to secure units. Keystone can be built up to 15m high when designed by a suitably qualified engineer and combined with soil reinforcement.

## **Design Details**

Retaining Walls

| Product | Range                  | Description                   | Max Wall<br>Height                  | Size (mm)   | Weight  | Coverage  | Applications                                       |
|---------|------------------------|-------------------------------|-------------------------------------|---|---|---|--|
|         | Keystone               | Flushface Straigh<br>Side Cap | it -                                | 455L x 310W x 100H  | 31kg  | 2.2 per lineal metre  | Capping  |
|         | Keystone               | Corner Block                  | -                                   | 438L x 210W x 200H  | 29kg  |   | Corners  |
| P       | Hayman                 | Wall Block                    | 800mm*                              | 390L × 245W × 198H  | 24kg  | 13 Blocks per m²  | Curved Walls,<br>Straight Walls,<br>Corners, Steps |
| R.      | Hayman                 | Corner Block                  | -                                   | 160L × 360W × 198H  | 17.2kg  | N/A   | Corners  |
| ~       | Hayman                 | Capping Block                 | -                                   | 390L × 245W × 90H   | 16kg  | 2.56 Blocks<br>per lineal metre   | Capping  |
| P       | Heron                  | Standard Unit                 | 800mm^*                             | 390L x 245W x 198H  | 24kg  | 13 Blocks per m²  | Curved Walls,<br>Straight Walls,<br>Corners, Steps |
|         | Heron                  | Corner Block                  | -                                   | 160L x 360W x 198H  | 20kg  | N/A   | Corners  |
| -       | Heron                  | Capping Block                 | -                                   | 390L x 245W x 90H   | 16kg  | 2.56 Blocks<br>per lineal metre   | Corners  |
| Ø       | Moreton                | Capping Block                 | -                                   | 390L x 200W x 200H  | 22kg  | 2.56 Blocks<br>per lineal metre   | Capping  |
| 169     | Moreton                | Standard<br>Unit              | 800mm                               | 390L x 200W x 200H  | 18.5kg  | 13 Blocks per m²  | Curved Walls,<br>Straight Walls,<br>Steps          |
|         | Explorer<br>Smooth     | Standard Unit                 | 800 mm*<br>(3m with<br>engineering) | 1200L × 200H × 75T<br>1530L × 200H × 75T<br>2000L × 200H × 75T<br>2000L × 400H × 75T<br>2000L × 600H × 75T<br>2000L × 1000H × 75T | 41kg<br>53kg<br>67kg<br>145kg<br>218kg<br>362kg | 4.17 Units per m <sup>2</sup><br>3.27 Units per m <sup>2</sup><br>2.50 Units per m <sup>2</sup> | Straight Walls,<br>Corners, Steps                  |
|         | Explorer<br>Timberlook | Standard Unit                 | 800 mm*<br>(3m with<br>engineering) | 1580L × 200 H × 75T<br>2000L × 200 H × 75T  | 51kg<br>66kg                                    | 3.16 Units per m <sup>2</sup><br>2.50 Units per m <sup>2</sup>                                  | Straight Walls,<br>Corners, Steps                  |
|         | Explorer<br>Sandstone  | Standard Unit                 | 800 mm*<br>(3m with<br>engineering) | 1580L × 200H × 75T<br>2000L × 200H × 75T  | 58kg<br>72kg                                    | 3.16 Units per m²<br>2.50 Units per m²  | Straight Walls,<br>Corners, Steps                  |
|         | Explorer<br>Slate      | Standard Unit                 | 800 mm*<br>(3m with<br>engineering) | 1580L × 200H × 75T<br>2000L × 200H × 75T  | 58kg  | 3.16 Units per m²<br>2.50 Units per m²  | Straight Walls,<br>Corners, Steps                  |

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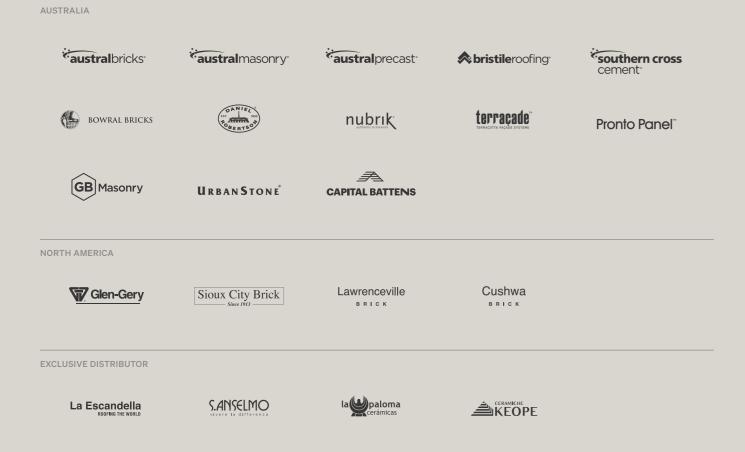


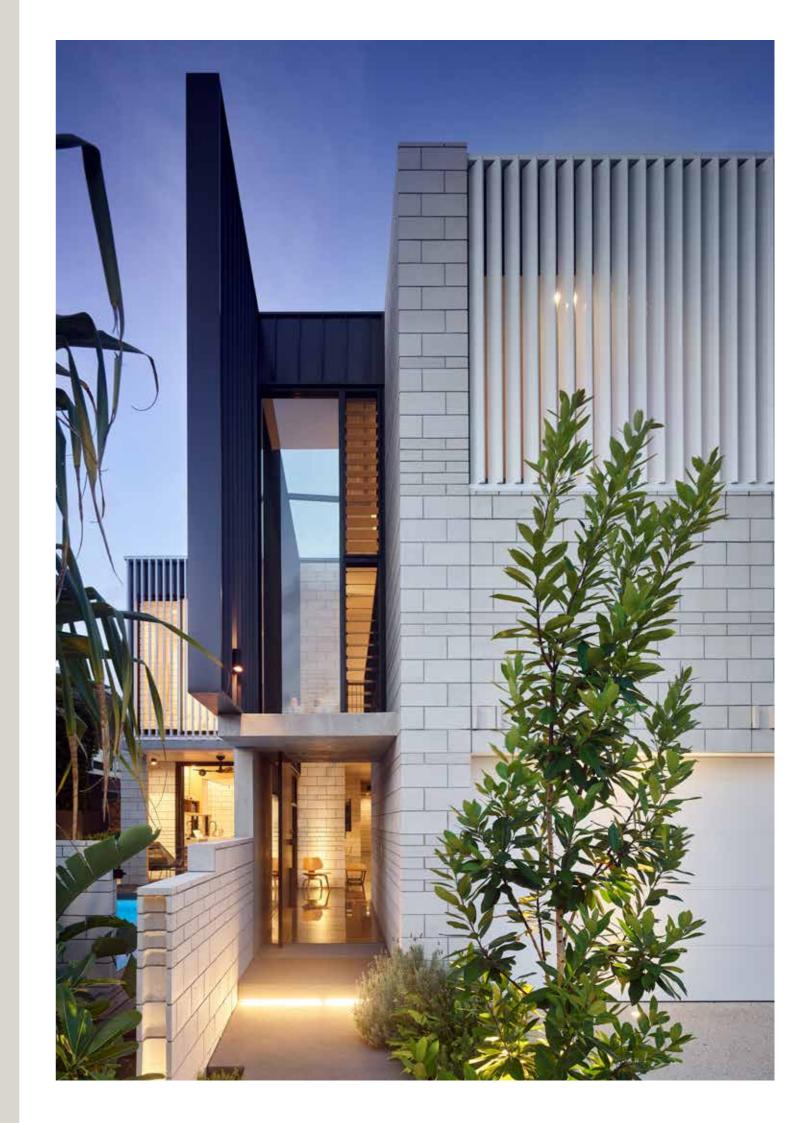


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