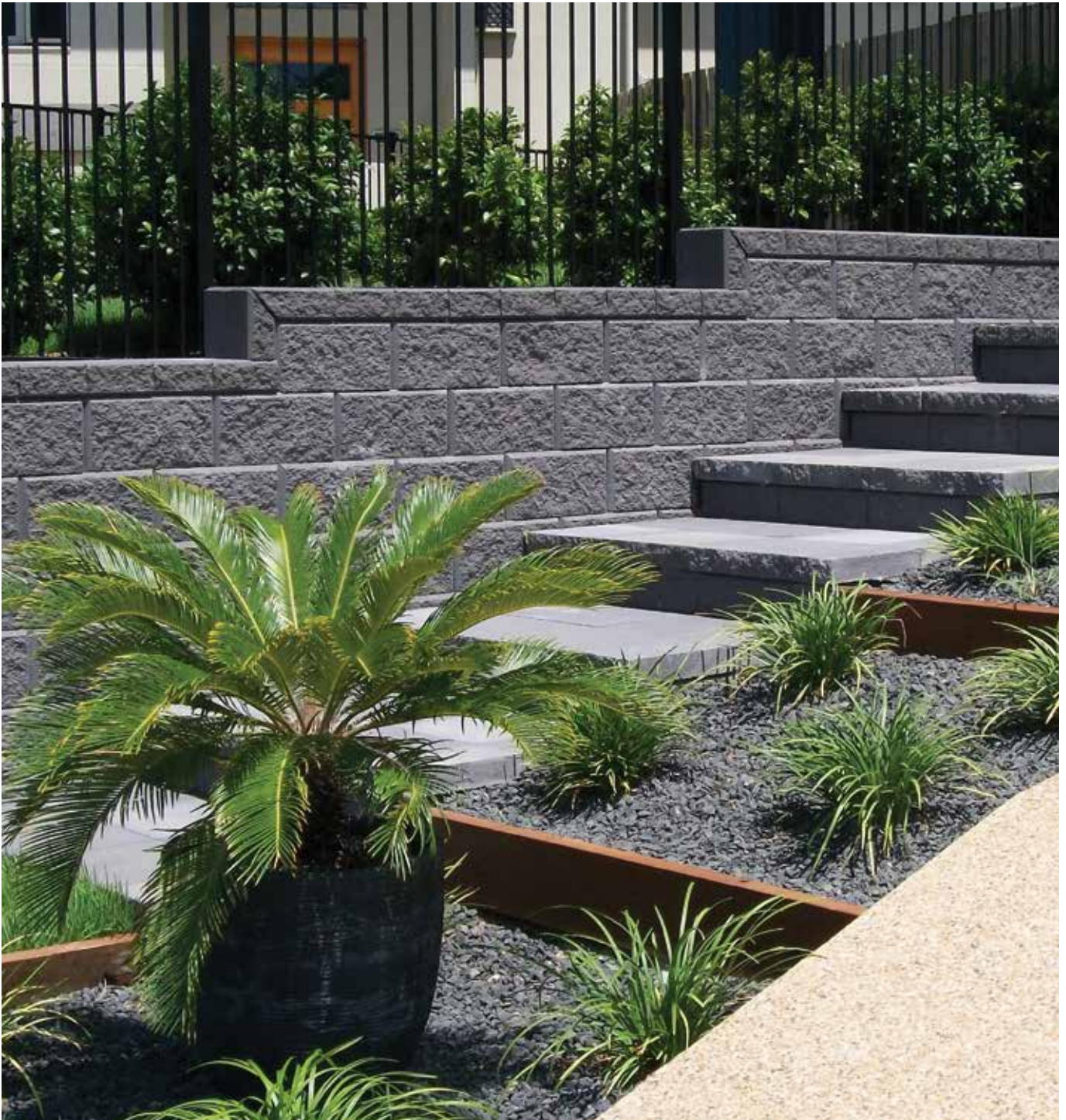


# RETAINING WALLS & PAVERS

*style and function*





# BEAUTIFUL PRODUCTS

*with enduring style*

Our range of coloured, standard and premium masonry products have set a new standard in quality and style.

By adding oxides and coloured sands to our mix of raw materials, we produce blocks with contemporary colours, textures and appeal. Ideal for a range of projects. from a modern beach residence to impressive commercial projects. Austral Masonry has an array of products to suit your style.

Austral Masonry blends fine sand, cement, aggregate and quality colouring agents to produce unique coloured masonry products. Having long been the workhorse of the construction industry, our products are frequently specified in cutting-edge residential and commercial designs due to their strength and versatility.

Part of the Brickworks Building Products Group, one of Australia's largest and most innovative building product manufacturers, Austral Masonry is part of a group of companies which includes other industry leading brands such as Austral Bricks, Bristle Roofing, Austral Precast and Auswest Timbers.

# CONTENTS

*style and function*

---

03	<i>Austral Masonry Landscaping Products</i>
----	---

## **RETAINING WALL RANGES**

06	<i>Arrinastone</i>
08	<i>Flinders</i>
10	<i>Hastings</i>
12	<i>Grandwall</i>
14	<i>How to Build Retaining Walls</i>

## **PAVER RANGES**

16	<i>Camino 50</i>
18	<i>Broadway 150, 300 &amp; 400</i>
20	<i>Harbourpave</i>
22	<i>How to Lay Pavers</i>
24	<i>Paver Information</i>
25	<i>Maintenance of Pavers</i>
26	<i>Retaining Wall Information</i>
27	<i>Retaining Wall Cross Sections</i>
28	<i>Create</i>
30	<i>We are Brickworks</i>
32	<i>Contact Information</i>

---

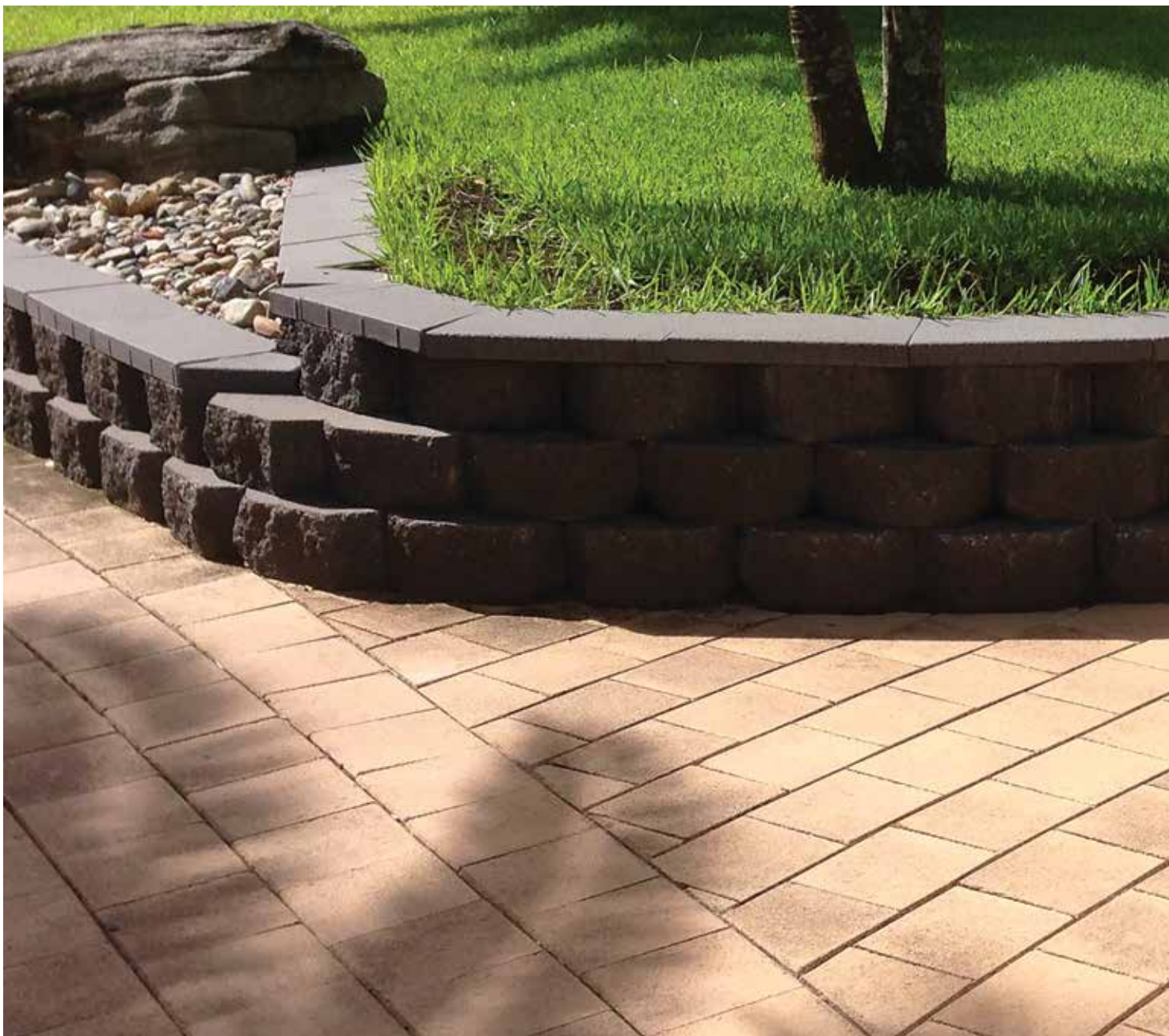
Cover Image: Hastings Charcoal

Top right: Hastings Charcoal  
Bottom: Harbourpave Tan

---

*Inspired by  
design*

---



# ARRINASTONE

*elegant style*

These light weight blocks provide an easy way to create a practical outdoor space in your garden. The clean sharp lines provide a contemporary finish that will be the envy of the street.

## **APPLICATIONS**

**Maximum wall height: 600mm**

**Straight walls**

**Corners**

**Steps**



Nougat



Hawkesbury Yellow



Charcoal



*Standard Unit*

Size: 300L x 200W x 150H mm  
Weight (each): 12.8kg  
Face Area: 22.2 units per m<sup>2</sup>



*Right Corner*

Size: 350L x 200W x 150H mm  
Weight (each): 13kg



*Left Corner*

Size: 350L x 200W x 150H mm  
Weight (each): 13kg

# FLINDERS

*outstanding appeal*

These blocks feature chamfered edges at each side and rustic split face finish in two of our most popular colours. Ideal for straight or curved walls, the Flinders range offers outstanding street appeal. They are virtually maintenance free and very easy to lay.

## APPLICATIONS

**Maximum wall height: 800mm**

**Straight walls**

**Curved walls**

**Minimum circle: 18 Blocks**

**Minimum radius to inside: 950mm**

**Corners**



Beach



Charcoal



*Capping Unit*

Size: 390L x 195W x 200H mm  
Weight (each): 23.5kg  
Face Area: 2.56 units  
per lineal metre



*Body Block*

Size: 390L x 195W x 200H mm  
Weight (each): 21.5kg  
Face Area: 13 units per m<sup>2</sup>

# HASTINGS

*rich, natural colours*

In hues of Charcoal, Alpine, Sepia and Beach, Hastings is available in a colour to suit your next landscaping project. Each product features natural tones to create a realistic and appealing finish to each block. Structurally sound and perfect for the 'do it yourself' weekend warrior, the Hastings Retaining Wall Blocks require no mortar, and are virtually maintenance free.

## APPLICATIONS

**Maximum wall height: 800mm  
3m when engineered.** (Please refer to  
Technical Manual)

**Straight walls**

**Curved walls**

**Corners**

**Steps**

**Min Radius: Approx 1200mm**



Sepia



Beach



Alpine



Charcoal



*Wall Block*

Size: 390L x 245W x 200H mm

Weight (each): 21.5kg

Blocks per m<sup>2</sup>: 13



*Corner Block*

Size: 340L x 140W x 200H mm

Weight (each): 20kg

Available in left or right  
(Right-hand corner block shown)



*Half Cap*

Size: 195L x 245W x 90H mm

Weight (each): 9kg

Half Caps per lineal metre: 5.13

# GRANDWALL

*beautifully bold*

The magnificent texture and natural tones of Grandwall create a realistic and appealing finish to each block. Light weight and easy to lay, these blocks require no mortar, and minimal maintenance.

## APPLICATIONS

**Maximum wall height: 810mm**

**Straight walls**

**Curved walls**

**Corners**

**Steps**

**Min Radius: Approx 1200mm**



*Wall Block*  
Size: 390L x 245W x 162H mm  
Weight (each): 17.5kg  
Blocks per m<sup>2</sup>: 16



Sand



Charcoal



*Corner Block*  
Size: 340L x 140W x 162H mm  
Weight (each): 20kg  
Available in left or right



*Capping Block*  
Size: 195L x 245W x 65H mm  
Weight (each): 6kg  
Blocks per lineal metre: 2.56

# HOW TO

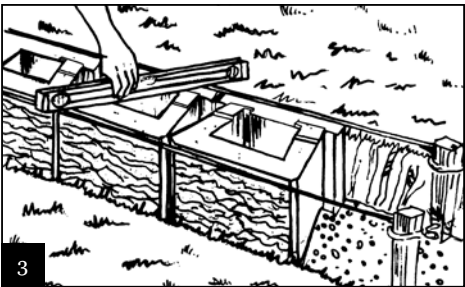
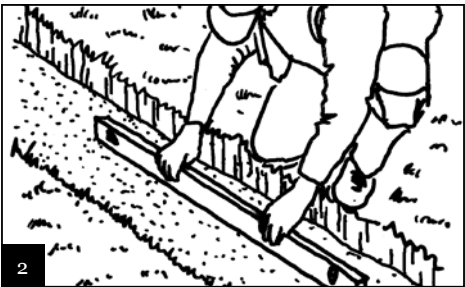
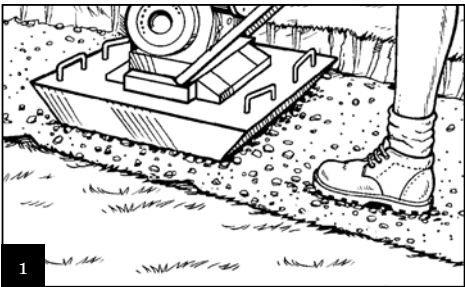
## *build retaining walls*

Austral Masonry retaining wall blocks are an ideal choice for retaining walls in gardens, other residential applications and commercial projects. The interlocking and dry stacked system, makes them easy to install for the “Do It Yourself” landscaper. No matter what the project, the result is always an attractive and low maintenance retaining wall. The flexibility of the system provides tremendous scope, from edging to terraces, straight walls to curves.

**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.

### *Your Checklist*

<input type="checkbox"/>	String line	<input type="checkbox"/>	Agriculture Drain Pipe
<input type="checkbox"/>	Tape measure	<input type="checkbox"/>	Pegs or stakes
<input type="checkbox"/>	Walling units	<input type="checkbox"/>	Broom
<input type="checkbox"/>	Compaction Tool	<input type="checkbox"/>	Gloves & eye protection
<input type="checkbox"/>	Shovel	<input type="checkbox"/>	Mitre saw (to cut blocks if required)
<input type="checkbox"/>	Spirit level	<input type="checkbox"/>	10-20mm Crushed stone
<input type="checkbox"/>	Wheel barrow	<input type="checkbox"/>	Crushed rock (for base)



**Step 1: Permits**

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

**Step 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.

**Step 3: Bearing Pad**

The facing shall be built on a bearing pad, not less than 150mm thick and 300 to 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.

**Step 4: First Course**

Spread 25mm of crusher dust with an additional 5% by mass of cement over the compacted base. The first course is now bedded into the crusher dust. 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.

**Step 5: Drainage and Back Fill**

Place 100mm 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 300mm using 10-20mm 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.

**Step 6: Laying Additional Courses**

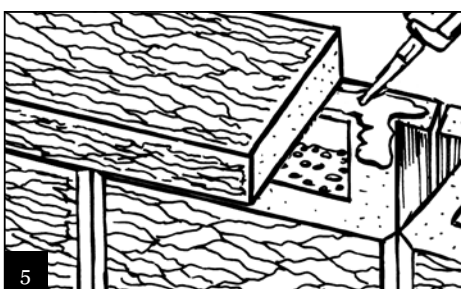
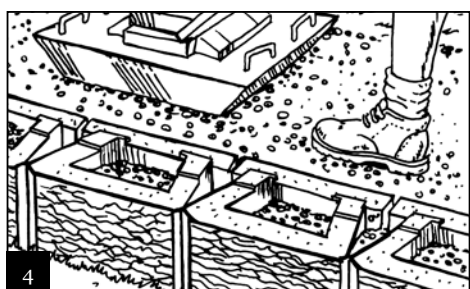
Clean any debris from the top of the wall to ensure the next block sits perfectly. Ensure each block is filled with free draining material, and place next course on top. Place the drainage material behind the blocks to 300mm. Stack units, placing drainage aggregate and compact backfill for each course until the wall is complete.

**Step 7: Capping Units**

Once backfilling and cleaning is completed as per Step 5 and Step 6 fix the purpose made Capping Blocks with External-use Liquid Nails / Maxbond.

**Step 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.



**Note:** Please consult with regulating council for local design requirements prior to the construction of any retaining wall. Councils in general require that retaining walls be designed and certified by a suitably qualified engineer where the wall is over 0.5m in height and/or where there is a surcharge loading, such as a driveway, house or other structure near the wall.

# CAMINO 50

*small format paver*

The Camino 50 offers a small format paver ideal for driveways, paths and pool surrounds. These versatile pavers offer easy installation with a contemporary finish.

## **APPLICATIONS**

**Pools**  
**Paths**  
**Patios**  
**Courtyards**  
**Driveways**

style and function

---



Sandune



Almond



Charcoal



*Camino 50*  
Size: 230L x 115W x 50H mm  
Weight: 2.8kg  
Units per m<sup>2</sup>: 37.8

# BROADWAY 150, 300 & 400

*style with impact*

For contemporary style with impact, the Broadway range of pavers offers sharp modern lines and colours, ideal for courtyards, paths and other outdoor spaces.

## **APPLICATIONS**

**Pools**

**Paths**

**Patios**

**Courtyards**

style and function

---



Sandune



Almond



Stone^



Charcoal



**Broadway 150\***

Size: 300L x 150W x 60H mm

Weight (each): 5.8 kg

Units per m<sup>2</sup>: 22.2

*\*Broadway 150 only available in Almond and Charcoal*



**Broadway 300**

Size: 300L x 300W x 50H mm

Weight (each): 9.8 kg

Units per m<sup>2</sup>: 11.11



**Broadway 400**

Size: 400L x 400W x 45H mm

Weight (each): 16 kg

Units per m<sup>2</sup>: 6.25

*^ Stone colour is only available in Broadway 400 size*

# HARBOURPAVE

*lightweight and easy to lay*

Ideal for pedestrian use, Harbourpave pavers are light, easy to use, and available in a variety of earthy colours.

## APPLICATIONS

**Pools**  
**Paths**  
**Patios**  
**Courtyards**

style and function

---



Beach



Flame



Tan



Charcoal



*Harbourpave Standard Paver*

Size: 190L x 190W x 40H mm

Weight: 3kg

Units per m<sup>2</sup>: 27.5

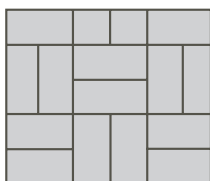
# HOW TO

## *lay pavers*

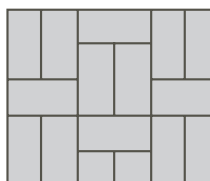
---

### *Paver Patterns*

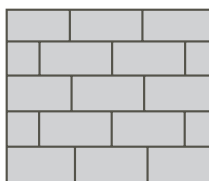
---



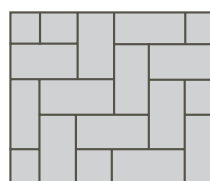
Basket



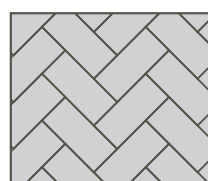
Weave Variation



Running Bond



Herringbone 90°



Herringbone 45°

---

### *Materials Required*

---

- Pavers
- Gravel Roadbase (1m<sup>3</sup> covers 10m<sup>2</sup> at a compacted depth of 100mm)
- Bedding Sand (1m<sup>3</sup> will cover 33m<sup>2</sup> at a depth of 30mm)
- String lines, tape measure and pegs
- Spirit level
- Two Screed Rails – two flat steel bars (Approx. 3m x 50mm x 2mm)
- 2-3m long concreter's screed
- Broom, rake and shovel
- Plate vibrator compactor
- Edge restraints (concrete, cement or timber)
- Cutting Equipment – Paver Splitter/ Masonry Brick Saw



1



2



3



7



8



9

**1. Excavating**

Remove all vegetation, rubble and surplus soil from the selected area. A metal headed rake is ideal for excavation. This will give you a formation on which to work. The sub base goes over the sub grade. If using sub base for domestic driveways, minimum 100mm of limestone or roadbase is recommended. For patio and pedestrian areas, cemented stabilised sand may be used. See Figure 1.

**2. Compacting**

Compact the sub base with a hand held / mechanical compactor to a maximum deviation of 10mm from true level. Though hand-held compactors will be adequate for small jobs, mechanical compactors should be hired for driveways and larger areas. After compaction, cover the sub base with 20 to 50mm of well graded coarse bedding sand. Ensure that the sand is relatively dry. With 3% clay the bedding sand provides a barrier and protects the pavers from harmful salt attacks. Concreting sand is suitable for this purpose. See Figure 2.

**3. Levelling**

Place the screeding board along the base of a wall or straight vertical structure. This will give you a level for the bottom of the paving. This level is called the benchmark. See Figure 3.

**4. Screeding**

Lay the screeding board at right angles to the benchmark to create a level for the screeding irons. For drainage purposes, always allow for a slight fall-away from the edge of the wall. This should be about 25mm over a distance of three metres. (Use your spirit level to measure fall-away. Bubble should reach outer line.) Repeat the above process at one screeding board length along the benchmark. These two indentations will be your height marks. See Figure 4.

**5. Screeding continued**

Continue to push the screeding board into the sand along the full length of the area to be paved, maintaining the level of the first height marks. Starting at the benchmark, place the screeding board on the screeding iron and drag it back and forth until the sand between the screeding irons is smooth and level. Move the screeding irons along the height marks, and continue to level the sand with the screeding board. See Figure 5.

**6. Screeding continued**

Further Screeding Repeat steps (3) and (5) to level the next section of sand. Allow one of the height marks to slightly overlap the area you have already levelled. When the entire area is level, you are ready to use your pavers. Look for any hollows or bumps in the levelled sand. This stage may be your last chance to smooth them out. See Figure 6.

**7. Selecting Patterns**

Austral Masonry pavers are available in a wide range of colours and shapes. However, for vehicular traffic, only herringbone patterns should be used.

**8. Gauging**

Determine the average length and width of pavers by measuring the cumulative dimensions of 20 pavers and dividing by 20. The laying gauge is then determined for the pattern selected by using the average dimensions determined together with a nominal joint width of 2.3mm. Before laying pavers, a grid of string lines not more than 1 metre apart should be set up covering the area to be paved. No contact should exist with adjacent pavers. See Figure 8.

**9. Trimming**

After whole pavers have been laid, the pavers are cut for use at the edges, corner, curves and obstructions if any. This can be effectively achieved when safely using a diamond blade brick saw or a masonry saw. See Figure 9.

**10. Edge Restraint**

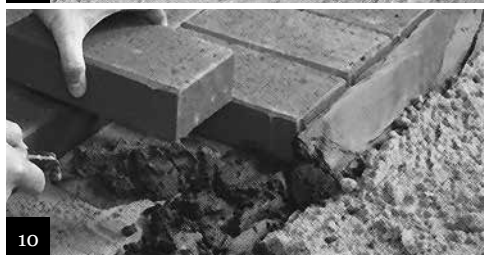
The most effective way to keep edge pavers in position is to set them in concrete or mortar. Take up the last row of pavers and drag away 20cm of sand to expose the sub base so that the mortar can be spread on the sub base. Level out the cement mortar and place the pavers in position by lightly tapping them. Do not use the paved area for at least 24 hours after the concrete or sand-cement is laid. A driveway should not be used for 48 hours. See Figure 10.

**11. Jointing Sand**

Concrete pavers are designed to function with sand completely filling the vertical joints. This is essential for effective lock-up and shear transfer. Spread dry sand over the paved area and brush it into the vertical joints with a stiff bristled broom.






**12. Final Compaction**

Use a rubber mallet and a straight length of timber to compact small areas (see figure 12). However for larger area and driveways, it is advisable to use a plate compactor and protect the pavement with a layer of excess jointing sand (approx 5 to 10mm) and plywood to prevent it from coming in direct contact with the paving. Top up the joints with jointing sand after compaction. See Figure 11.



# CONCRETE PAVER

*information*

Product	Range	Size	Coverage	Colours	Applications	Slip Rating
	Camino 50	230L x 115W x 50H	37.8 Units per m²	Sandune, Almond, Charcoal	Pools Pedestrian Driveways	P5
	Broadway 150	300L x 150W x 60H	22.2 Units per m²	Almond, Charcoal	Pools Pedestrian	P5
	Broadway 300	300L x 300W x 50H	11.11 Units per m²	Sandune, Almond, Charcoal	Pools Pedestrian	P5
	Broadway 400	400L x 400W x 45H	6.25 Units per m²	Sandune, Almond, Stone, Charcoal	Pools Pedestrian	P5
	Harbourpave	190L x 190W x 40H	27.5 Units per m²	Beach, Tan, Flame, Charcoal	Pools Pedestrian*	P5

# MAINTENANCE

## *of pavers*

---

Maintaining your paved area will guarantee that it holds its good looks and natural appeal forever, ensuring added resale value to your home.

All paved areas, over time, are subject to spillages and a build up of dirt and grime. By following certain guidelines and cleaning procedures, maintaining the good look of your pavers need not be a problem.

### *Efflorescence*

Efflorescence is a powdery deposit of salts (usually white or yellow) and is often found on the surface of concrete pavers after a period of rain. Efflorescence appears due to external sources from surrounding materials.

For example, salty soils or fertilisers draw up through the pavers by the drying effect.

Efflorescence can be removed by using either a dry brushing technique or wiping with a damp cloth making sure the salts are carried away from the pavers.

### *Organic Growths – Fungus, Mould and Moss*

Porous masonry may provide an environment for organic growth when it is continuously moist, especially in light but shady conditions and when there are plenty of nutrients available.

Clean off the growth as much as possible with a dry bristle brush. Organic growths should be treated with liquid chlorine, or common household chemicals such as Exitmould and White King or a proprietary weed killer.

The solution should be applied and then brushed off with hot water.

Repeat as necessary.

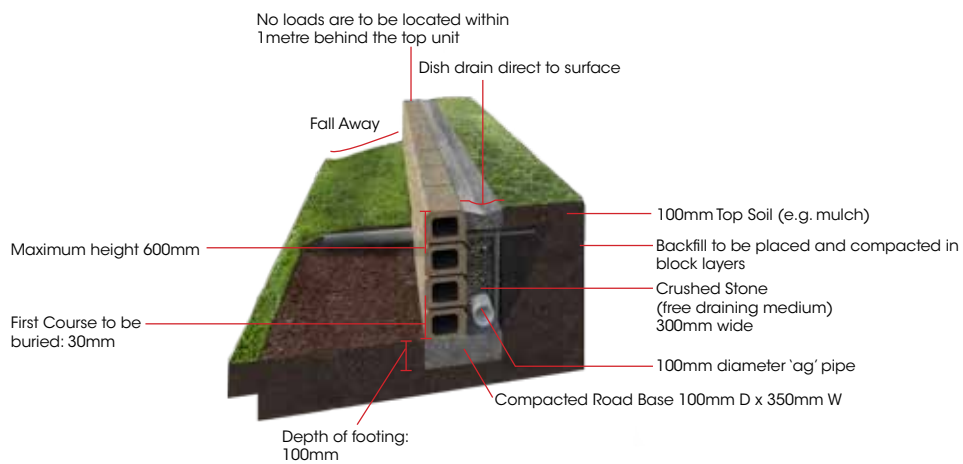
# RETAINING WALL

## *cross sections*

---

### *Arrinastone*

---

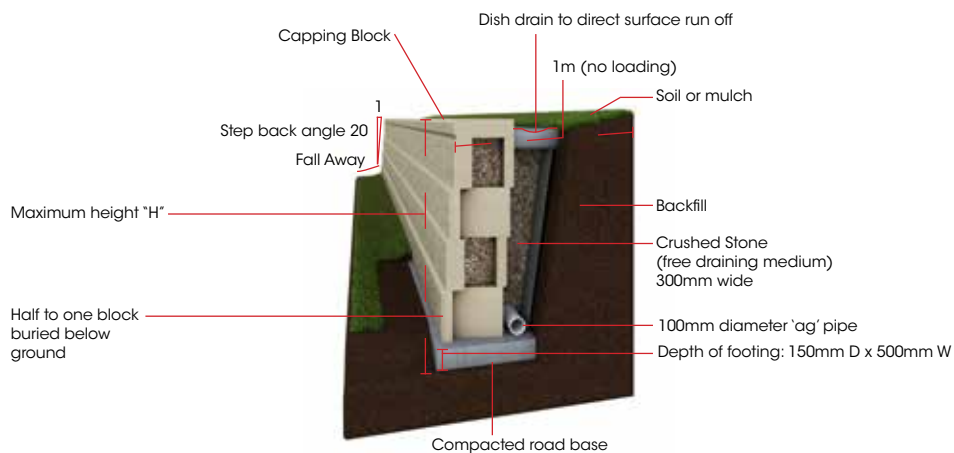


Please Note: Backfill should be no higher than the top of the retaining wall.

---

### *Hastings/Grandwall*

---



\* Hastings and Grandwall can be built up to 3m when designed by a suitably qualified engineer and combined with soil reinforcement or no fines concrete.

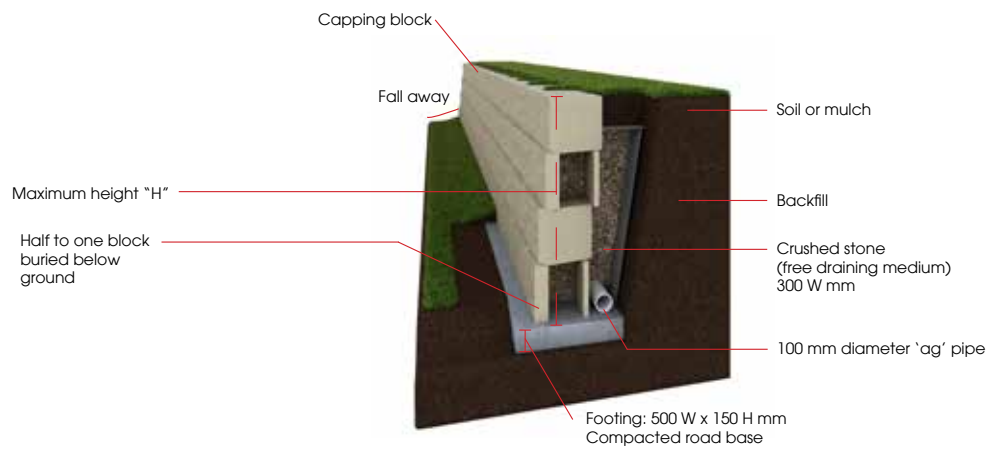
Contact your local Austral Masonry representative for more information.

Please note: Grandwall is 162mm high while the Hastings block is 200mm high.

---

## *Flinders*












---



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

# RETAINING WALL

## *information*

Product	Range	Description	Max Wall Height	Size	Weight	Coverage	Applications
	Arrinastone	Standard Unit	600mm	300L x 200W x 150H	12.8kg	22.2 Blocks per m <sup>2</sup>	Straight Walls, Corners, Steps
	Arrinastone	Right Corner	-	350L x 200W x 150H	13kg	N/A	Corners
	Arrinastone	Left Corner	-	350L x 200W x 150H	13kg	N/A	Corners
	Hastings	Standard Unit	800mm*	390L x 245W x 200H	21.5kg	13 Blocks per m <sup>2</sup>	Curved Walls, Straight Walls, Corners, Steps
	Hastings	Corner Block	-	340L x 140W x 200H	20kg	N/A	Corners
	Hastings	Half Cap	-	195L x 245W x 90H	9kg	5.13 per lineal metre	Capping
	Flinders	Body Block	800mm	390L x 195W x 200H	21.5kg	13 Blocks per m <sup>2</sup>	Curved Walls, Straight Walls, Corners
	Flinders	Capping Unit	-	390L x 195W x 200H	23.5kg	2.56 Blocks per lineal metre	Capping
	Grandwall	Wall Block	810mm*	390L x 245W x 162H	17.5kg	16 Blocks per m <sup>2</sup>	Curved Walls, Straight Walls, Corners, Steps
	Grandwall	Corner Block	-	340L x 140W x 162H	20kg	N/A	Corners
	Grandwall	Capping Unit	-	195L x 245W x 65H	6kg	2.56 Blocks per lineal metre	Capping

Maximum wall heights in good soils (gravels, sandy gravels, crushed sandstone).

\* Hastings and Grandwall can be built up to 3m when designed by a suitably qualified engineer and combined with soil reinforcement or No Fines concrete.

Please contact your Austral Masonry representative for more information.





# WE ARE

## *Brickworks*

Brickworks Building Products is one of Australia's largest and most diverse building material manufacturers. Under the Brickworks Building Products umbrella are some of Australia's best known building materials brands. Our products include bricks, pavers, masonry blocks, retaining wall systems, precast concrete panels, concrete and terracotta roof tiles, timber products and specialised façade systems.

With a broad product portfolio and manufacturing and sales facilities across Australia, Brickworks Building Products is uniquely placed to service the demands of the building industry.

With over 1200 staff across Australia and New Zealand, we pride ourselves on our commitment to product, service excellence and our leadership position.



Proud supporters





## STYLE AND FUNCTION

**[www.australmasonry.com.au](http://www.australmasonry.com.au)**  
**1300 masonry (1300 627 667)**

follow brickworks building products on



## NSW HEAD OFFICES

Coffs Harbour	Prospect
27 Lawson Crescent Coffs Harbour NSW 2450	44 Clunies Ross Street Prospect NSW 2148



Austral Masonry is part of the Brickworks Group

**1. Stock colours.** Colours other than stock colours are made to order. Contact your nearest Austral Masonry office for your area's stock colours. A surcharge applies to orders less than the set minimum quantity. **2. Colour and texture variation.** The supply of raw materials can vary over time. In addition, variation can occur between product types and production batches. **3.** We reserve the right to change the details in this publication without notice. **4.** For a full set of Terms & Conditions of Sale please contact your nearest Austral Masonry sales office. **5. Important Notice.** Please consult with your local council for design regulations prior to the construction of your wall. Councils in general require those walls over 0.5m in height and/or where there is loading such as a car or house near the wall be designed and certified by a suitably qualified engineer. **6. Max wall heights disclaimer.** The gravity wall heights are maximum heights calculated in accordance with CMAA MA-53 Appendix D guidelines and a qualified engineer should confirm the suitability of the product for each application. As such, due consideration must be given to but not limited to: Cohesion. Dry backfill, no ingress of any water into the soil behind the retaining wall. All retaining walls are designed for zero surcharge unless noted otherwise. These walls are intended for structure Classification A walls only as defined in AS4678 Earth Retaining Structures as being where failure would result in minimal damage and/or loss of access. The product images shown in this brochure give a general indication of product colour for your preliminary selection. Austral Masonry recommends all customers see actual product samples at a selection centre prior to making final selections.