



# Retaining Wall Systems

**Colinwell**   
Architectural Masonry since 1888



# A family of Retaining Wall Products

The versatile Allan Block product line allows easy design and construction of retaining walls to meet specific engineering and site requirements.

Walls built using Allan Block Retaining Wall systems are quickly constructed and offer the perfect blend of performance, texture, colour, quality and lasting value.

Constructing retaining walls using the Allan Block mortarless system is straightforward and easy.

For walls in height up to 1.2m (possibly up to 1.6m when soil conditions allow) use the blocks by themselves to build a basic gravity wall system.

For taller wall projects use Geogrid to reinforce the wall and the earth contained behind it, or consider techniques using no fines concrete, rock bolts or earth anchors.

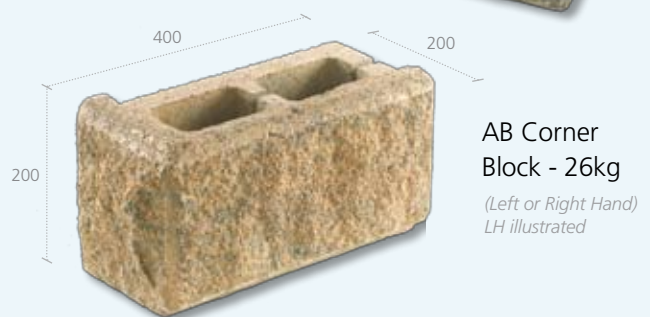


## Product Profile

Working with our strategic partner, **Allan Block** of Minneapolis, a leader in segmental retaining wall block technology, **Colinwell** manufactures the **Allan Block** Collection to the same exacting standards required of all **Allan Block** licensed producers around the world.



AB Stones,  
AB Classic,  
AB3 & AB1  
Block - 35kg



AB Corner  
Block - 26kg

(Left or Right Hand)  
LH illustrated



AB Capping  
Block - 27kg



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Roads  
and Bridges

Coverage: AB Stones, AB Classic, AB3 & AB1 - 11/m<sup>2</sup>

# The Allan Block Collection from Colinwell

The hollow core makes **Allan Blocks** easy to handle, promotes drainage and becomes rock solid when filled. The patented interlocking front lip creates a built in setback and eliminates the need for pins, clips or mortar.



▶ Product illustrated: AB Stones  
(12° from vertical batter)  
Colour illustrated: Abbey Blend  
Location: Holywood, County Down

▶ Product illustrated: AB Classic  
(6° from vertical batter)  
Colour illustrated: Limestone Blend  
Location: Lisburn, County Antrim



## Features

- Block setback, 1°, 3°, 6° and 12° delivers increasing factors of structural performance.
- Built in drainage, interlock and engineering.
- Cost effective and versatile.
- Mortarless dry-stacking system means walls can be constructed regardless of weather conditions.
- Durable and virtually maintenance free.



# The Allan Block Collection from Colinwell

## AB Stones

AB Stones are the best choice for basic gravity wall construction. The 12 degree setback delivers great leverage, performance and stability.

12°



Colours illustrated: ▶  
Pewter & Abbey Blend  
Location: Antrim



## AB Classic

For a perfect blend of performance and style, choose our most popular all-rounder, the AB Classic. With built-in 6 degree setback, the AB Classic stacks beautifully and creates a fluid finish for every wall.

6°



◀ Colour illustrated: Abbey Blend  
Location: Nuneaton

# The Allan Block Collection from Colinwell

## AB 3

AB 3 minimises wall footprint, while the 3° batter allows for good utilisation of land and the space above the wall.

3°

Colour illustrated: Limestone Blend  
Location: Galway



## AB 1

AB 1 with its 1 degree setback creates what appears to be a vertical face. As a result this block is the most land efficient in the Allan Block range.

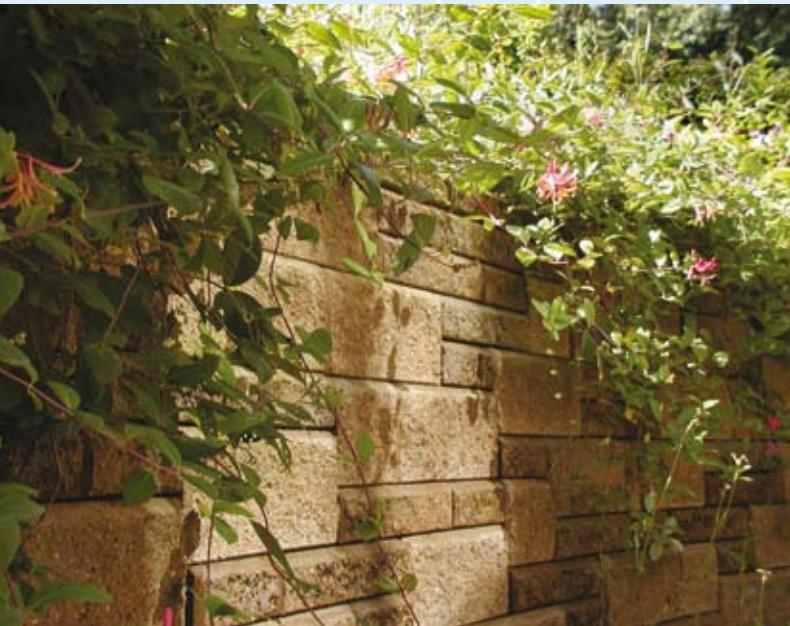
1°

Colour illustrated: Abbey Blend  
Location: Nottingham

New Allan Block product available...

# Ashlar Collection

Inspired by traditional cut-stone masonry, the strong lines and rough hewn texture of the **AB Ashlar Collection** will enhance any landscape.



AB Junior



AB Lite

The unique **AB Ashlar Collection** pattern is created by combining the **AB Classic** with two new blocks - the **AB Junior** and **AB Lite**.

**AB Junior** and **AB Lite** blocks are not restricted to use as components in the construction of **AB Ashlar Collection** walls.

They can also be used individually to create attractive walls or in the case of the **AB Junior** incorporated with the **AB Classic** to construct tight internal and external curves.



# The AB Colour Range from Colinwell

Cotswold



Pewter



Slate Blend



Abbey Blend



Cinder Blend



Limestone Blend



*The colours illustrated are reproduced as closely to the manufactured product as photography and printing processes will allow.  
Please request product samples before making your final colour choice.*



# Retaining Wall Systems

from Colinwell



## Engineered for Simplicity

Allan Block's built-in features make retaining walls easy to engineer and simple to build. These simple engineering features make the Allan Block Collections the most efficient and reliable products on the market.

## Built-in Engineering

### Built-In Interlock

Every Allan Block is firmly locked in place by the patented front lip. No pins, no mortar, no complicated connectors.

### Built-In Setback

The raised front lip automatically establishes the setback from vertical. Choose AB Stones (12°), AB Classic (6°), AB3 (3°) or AB1 (1°).

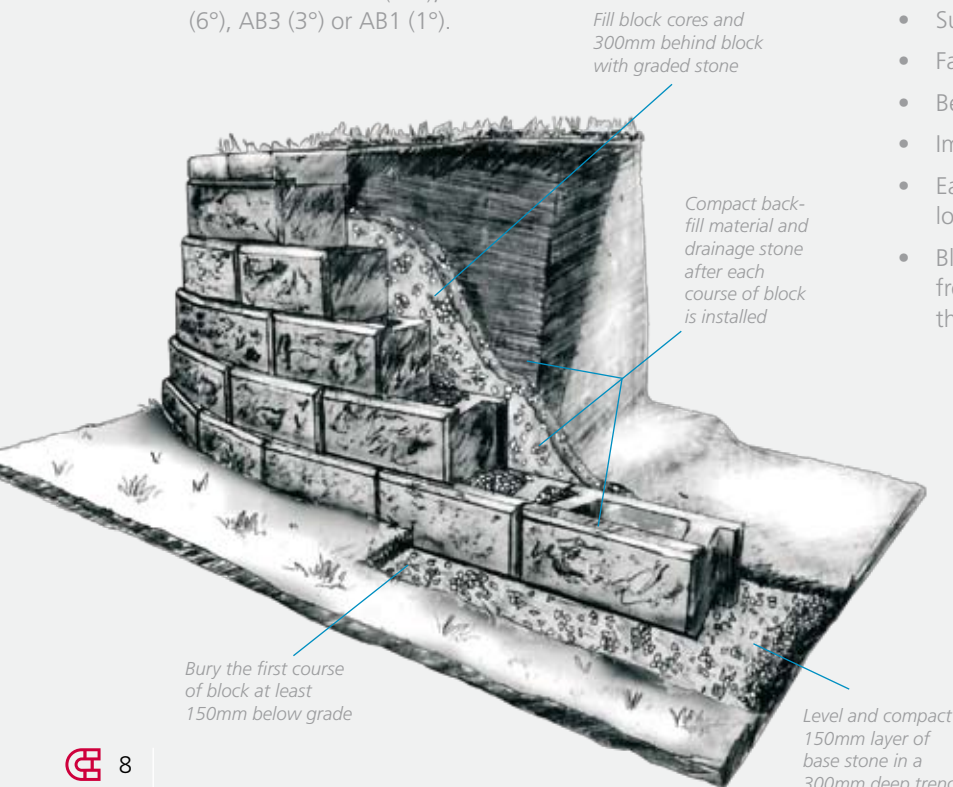
## Built-in Drainage

The hollow-core design combines with mortarless construction to allow water to drain freely from behind the wall. Incidental water moves easily through a vertical drain that is formed by the layer of stone placed behind the block and in the block cores. The dry-stack construction technique allows the water to escape by flowing around and through the blocks. This built-in drainage helps to eliminate water pressure. **However this property should not be used as a primary water management element.**

## Hollow-Core System

Allan Block's exclusive hollow-core product design provides many benefits over solid systems.

- Superior drainage.
- Faster drying in wet environments.
- Better resistance to freeze-thaw cycles.
- Improved efflorescence control.
- Easier handling, faster installation, lower labour costs.
- Block-to-block interlock created from the stone in-fill between the blocks.



### Physical Properties

Manufactured from selected dense aggregates, cement and pigments. Average density 2200kg/m<sup>3</sup>. Average compressive strength - standard block 30N/mm<sup>2</sup>, BBA specification block 40N/mm<sup>2</sup>.

*This information is provided to assist in the proper design and installation of Allan Block walls. For full information on design, refer to the Allan Block Design Manual or visit [www.allanblock.com](http://www.allanblock.com)*



# Gravity Wall Construction

## Building Gravity Walls

### Step 1: Site Prep and Excavation

- Remove surface vegetation and organic soils.
- Excavate base trench a minimum of 600mm wide and 300mm deep.
- Buried block should be a min of 150mm.
- Compact and level trench.

### Step 2: Install Base Material

- Place a minimum of 150mm of 6-38mm graded stone in the base trench and rake smooth.
- Compact and level base material.

### Step 3: Install Base Course

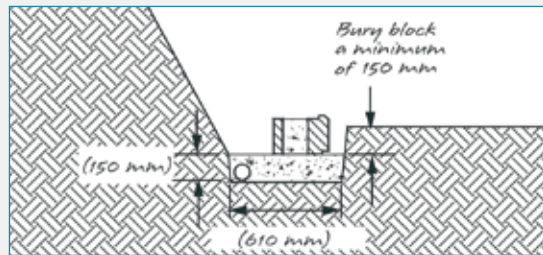
- Begin at the lowest wall elevation. Place AB units on base material, check and adjust for level and alignment of each unit.
- A drainage pipe is recommended for all walls regardless of height and particularly walls that are constructed in silty or clay soils.

### Step 4: Install Wall Rock and Backfill Materials

- Fill the AB hollow cores and a minimum of 300mm behind the wall with drainage stone.
- Use approved material to backfill behind the drainage stone and in front of the base course.
- Use a plate compactor to consolidate the area behind the block. Compact in lifts of 200mm.

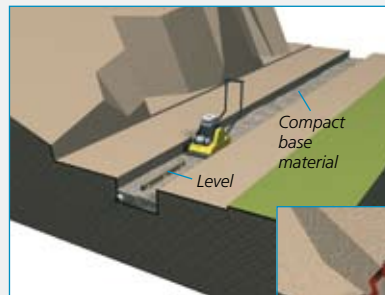
### Step 5: Install Additional Courses

- Remove all excess material from the top surface of AB units. This can be done when installing the next course of block, by sliding the block into place.
- Stack the next course of blocks so that the vertical seams are offset from the blocks below by at least 75mm or 1/4 the length of the block.
- Check and adjust for level and alignment of each unit and the wall batter as the wall stacks up.



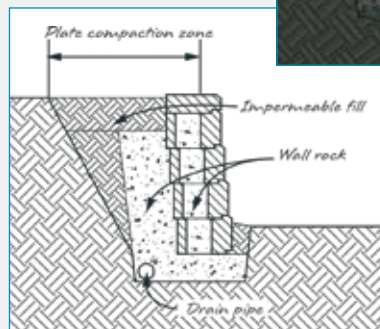
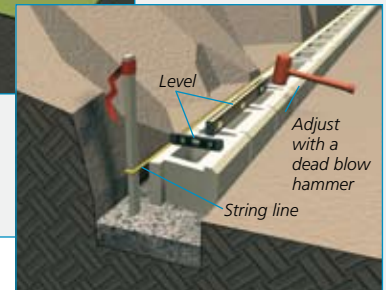
Gravity wall base course cross section

- Fill the block cores and behind with drainage stone and place approved soils as described in Step 4.
- From course 2 and above use a plate compactor to compact directly on the blocks as well as the area behind the block. Compact in lifts of 200mm or less.
- Complete wall to required height.
- Use 200mm of impermeable fill on the last lift to finish off wall.



Install base course, level and compact

Level blocks, adjust where needed



Gravity wall typical cross section



# Retaining Wall Systems

from Colinwell



## When the wall needs Reinforcement

Under certain conditions, the block weight and setback alone do not provide enough structural support. For residential walls up to 1.8m in height Allan Block Reinforcement Grid provides a simple solution by creating a solid structure with more resistance to soil pressure and surcharges. AB Reinforcement Grid is simple to install; just roll it out along the wall on every other course. AB Reinforcement Grid is available in a 1.2m x 15m roll.

**For all residential walls over 1.8m in height and all commercial walls regardless of height please consult with our Technical Department.**

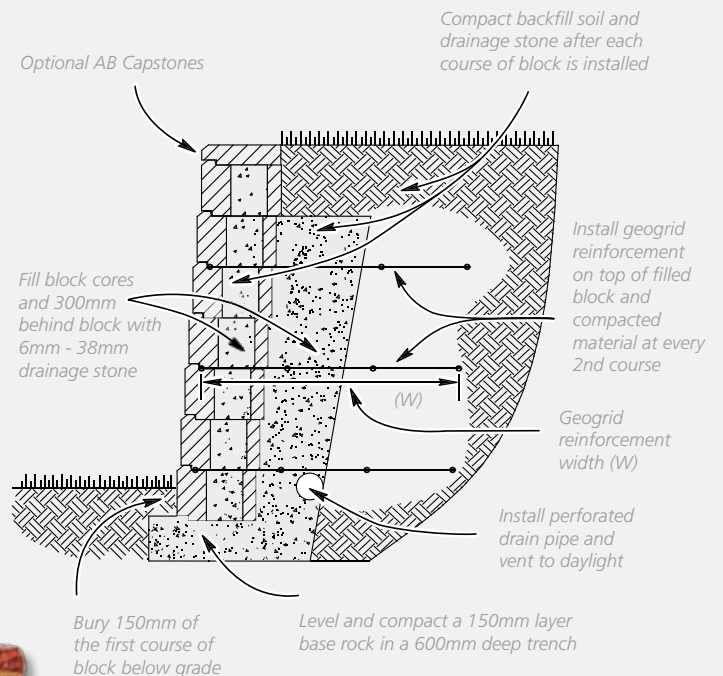
## Geogrid Installation

- Cut sections of Geogrid to specified lengths. Install by placing cut edge to the back of the raised front lip and roll out to the back of the excavation area. The excavation area must be fully compacted and level before this is done.
- Stack the next course of block on top of the Geogrid so that the blocks are offset from the units below. Each new course should be positioned so that the vertical joints are offset by at least 75mm and are tight against the front edge of the units below. Perfect running bond is not required.
- Remove slack and stake Geogrid in place.
- Fill the hollow cores and 300mm behind the block with drainage stone. Use approved infill to backfill behind the drainage stone.
- All drainage stone and infill soils within 0.9m of the wall must be properly compacted. Compact in maximum 200mm lifts, this time starting on the block and working in a path parallel to the block towards the back of the excavation area. **Never compact directly on Geogrid.**
- Install additional block courses to next Geogrid location.
- Repeat process to top of wall. Install cap blocks as required.
- Finish grade away from wall for water management.

## Materials

- For the base material, in the block cores and directly behind the block, use a well-graded compactible aggregate, ranging in size from 6-38mm and containing less than 10% fines.
- Geogrid.
- Perforated drainage pipe.
- Capstone adhesive.
- Allan Block.

## Typical Section Reinforced Wall



This information is provided to assist in the proper installation of Allan Block walls. For full information on installation, refer to the Allan Block Installation Guidelines or visit [www.allanblock.com](http://www.allanblock.com)

For walls up to 1.8m in height ask for AB Reinforcement Grid - Available 1.2m wide by 15m in length.



## Estimating Guide for AB Blocks

Number of AB Full Blocks required					
Approx Wall Height	Wall Length				
	3m	6m	9m	12m	15m
0.2m	7	14	20	27	34
0.4m	14	28	40	54	68
0.6m	21	42	60	81	102
0.8m	28	56	80	108	136
1.0m	35	70	100	135	170
1.2m	42	84	120	162	204
1.4m	49	98	140	189	238
1.7m	56	112	160	216	272
1.8m	63	126	180	248	306

AB 3  
AB Classic  
AB Stones  
AB Junior

AB Radius Chart for the Base Course				
Setback	Wall Height			
	1.2m	1.8m	2.4m	3.0m
Full Size Blocks				
3°	1.43m	1.52m	1.6m	1.7m
6°	1.6m	1.7m	1.8m	1.9m
12°	1.7m	1.8m	2.0m	2.1m
Half Length Blocks	0.9m	1.5m	2.1m	
6°	1.0m	1.3m	1.49m	

Information tables giving advice on the suitability of Allan Block for use in gravity walls and to assist in estimating Geogrid reinforcement are available from our technical department or alternatively visit [www.allanblock.com](http://www.allanblock.com)

Use this chart to find the minimum recommended radius at base of wall.



If a job's worth doing,  
it's worth doing ...

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[colinwell.com](http://colinwell.com)

Also available from Colinwell:



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