Signature by Brown's

Technical Guide

2017

MADE STRONG WITH THE FINEST GRANITE AGGREGATE

CELEBRATING 110 YEARS
110 Years
1907-2017

Brown's
CONCRETE PRODUCTS LIMITED

Pavers

Retaining Walls

PAVERS

Appian

Appian Stone is a large scale paver with a gently rolling texture reflective of natural cut flag.

Small Rectangle
Length: 330mm (13")
Width: 165mm (6.5")
Thickness: 70mm (2.76")

Square
Length: 330mm (13")
Width: 330mm (13")
Thickness: 70mm (2.76")

Large Rectangle
Length: 495mm (19.5")
Width: 330mm (13")
Thickness: 70mm (2.76")

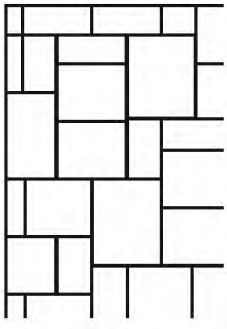
9 Layers / Bundle. Sold in full bundles only. Individual layers sold at Sudbury yard only.

	Full Cube	Small Rec.	Square	Large Rec.
Sq. Ft. / Bundle	95.6	21	42.1	32.5
Stones per Sq. Ft.	-	1.7	0.85	0.56
Stones per Bundle	90	36	36	18
Weight per Bundle	3250lb / 1477kg	-	-	-
Stones per Layer	-	4	4	2

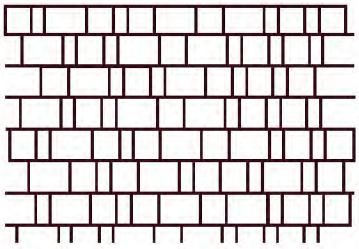
	Sq. Ft / Bundle	Sq. Ft / Layer	Soldier / Bundle	Sailor / Bundle	Weight / Bundle
Appian Soldier	95	10.56	87.75LF	175.5LF	3,250lbs

LAYING PATTERNS FOR APPIAN STONE

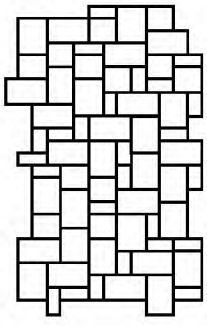
These are some examples of possible laying patterns for Appian Stone.
Other patterns are possible depending on quantities of product being used.



Random Pattern



Linear Pattern



Modular Pattern

PAVERS

Colonial

Brown's newest addition to the Signature Collection is a paver with classic style and timeless elegance. With a smooth surface and gently-textured sides, Colonial is a paver that will add an element of richness and class to any project. With a variety of sizes, it is even easier to create the perfect work of art. From a simple walkway to a complex backyard hideaway, Colonial does it best.

PACKAGING

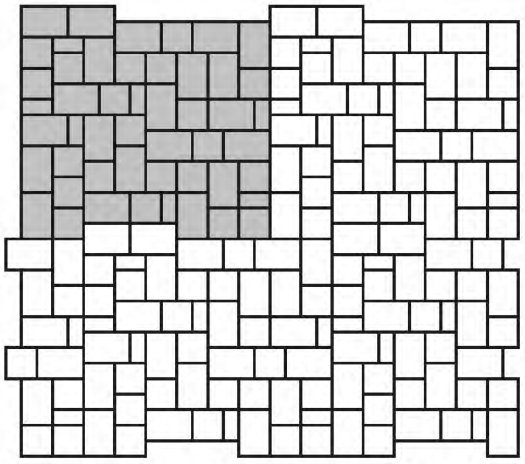
Length: 153mm (6")
Width: 153mm (6")
Thickness: 60mm (2.36")

Length: 229mm (9")
Width: 153mm (6")
Thickness: 60mm (2.36")

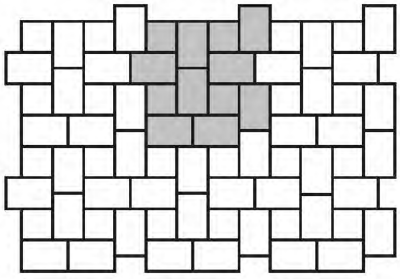
Length: 229mm (9")
Width: 229mm (9")
Thickness: 60mm (2.36")

	6 x 6 Full Bundle	6 x 9 Full Bundle	9 x 9 Full Bundle
Sq. Ft. per Bundle	122	105	113
Stones per Sq. Ft.	4.18	2.67	1.78
Stones per Bundle	480 (20 pcs of 3 x 6 per skid)	280	200
Sections per Bundle	-	7	5
Stones per Section	70 (60 in one section)	40	40
Sq. Ft. per Section	16.7	15	22.5
Ln. Ft. per Bdl (Soldier)	236	165.2	148
Ln. Ft. per Sec (Soldier)	33.7 (29.5 in one section)	23.6	29.6
Weight per Bundle	3,371 lb / 1,529 kg	2,889 lb / 1,310 kg	3,108 lb / 1,410 kg

LAYING PATTERNS FOR COLONIAL STONE



#13-6%3x6, 38%6x6,56%6x9**



#17-25%6x6, 75%6x9

** *3"x6" stones must be cut on site to achieve this pattern design. Other Patterns available.*

PAVERS

Nordic / Nordic Classic

**** Nordic Classic and Nordic 80mm are Special Orders ****

Nordic / Nordic Classic
Length: 200mm (7.9")
Width: 100mm (3.9")
Thickness: 60mm (2.36")

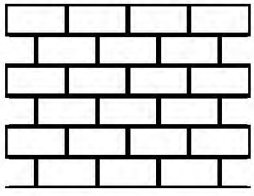
Nordic 80mm
Length: 200mm (7.9")
Width: 100mm (3.9")
Thickness: 80mm (3.15")

	Nordic / Nordic Classic	Nordic 80mm
Sq. Ft. per Bundle	106	93
Full Stones per Sq. Ft.	4.57	4.57
Total Stones per Bundle	495	432
Half Stones per Bundle	18	16
Full Stones per Bundle	477	416
Sections per Bundle	6	-
Stones per Bundle	81 (90 with half stones)	-
Sq. Ft. per Section	17.67	-
Ln. Ft. per Bdl (Soldier Course)	156 (full stones only)	139 (full stones only)
Weight per Bundle	2915 lb / 1322 kg	3460 lb / 1566 kg

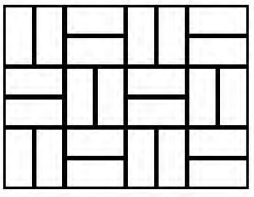
All pavers shipped in full bundles only. Individual Nordic Stones available when picked up at the plant.

For Nordic Classic and Nordic 80mm, minimum quantity required for production. Call office for availability.

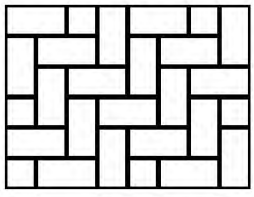
LAYING PATTERNS FOR NORDIC STONE



Runner Bond



Parquet



90° Herringbone

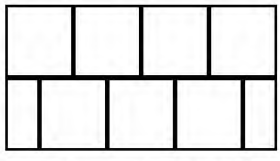
Nordic Square

Nordic Square
Length: 200mm (7.9")
Width: 200mm (7.9")
Thickness: 60mm (2.36")

	Nordic Square
Sq. Ft. per Bundle	109
Stones per Sq. Ft.	2.29
Stones per Bundle	250
Ln. Ft. per Bdl (Soldier Course)	164
Weight per Bundle	3052 lb / 1384 kg

** Nordic Square is Special Order **
Minimum quantity required for production. Call office for possible availability. Product sold in full bundles only.

LAYING PATTERN FOR NORDIC SQUARE



Runner Bond

other patterns available when combining Nordic Stone and Nordic Square.

PAVERS

Belgium

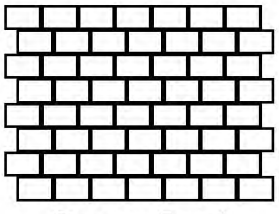
Belgium 6 x 6
Length: 150mm (5.9")
Width: 150mm (5.9")
Thickness: 60mm (2.36")

Belgium 6 x 3
Length: 75mm (2.95")
Width: 150mm (5.9")
Thickness: 60mm (2.36")

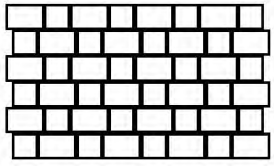
Belgium 6 x 6 shipped in full bundles only. Individual sections available at plant only.
Belgium 6 x 6 Classic sold in full bundles only.

		Break up of Bundle	
	Full Bundle	6 x 6 pcs.	3 x 6 pcs.
Sq. Ft. per Bundle	122	114.8	2.5
Stones per Sq. Ft.	4.26 (bundle average)	4.18	8.3
Stones per Bundle	500	480	20
Sections per Bundle	7	-	-
Stones per Section	70 (80 in one section)	70 (60 in one section)	All 20 in one section
Sq. Ft. per Section	16.7	14.2	2.5 in one section
Ln. Ft. per Bundle	236 (full stones only)	236	NA
Ln. Ft. per Section	33.7 (29.5 in one section)	33.7 (29.5 in one section)	NA
Weight per Bundle	3,371 lb / 1,529 kg	-	-

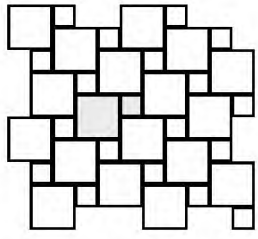
LAYING PATTERNS FOR BELGIUM STONE



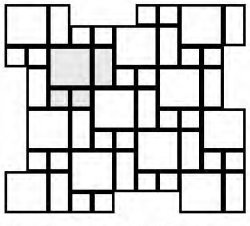
Runner Bond



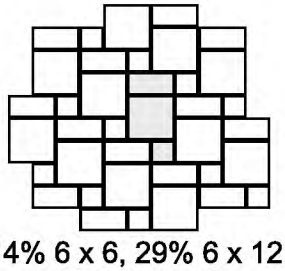
Combined Runner Bond
40% 6 x 6, 60% 6 x 9



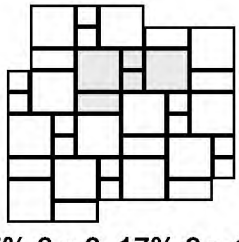
20% 6 x 6, 80% 12 x 12



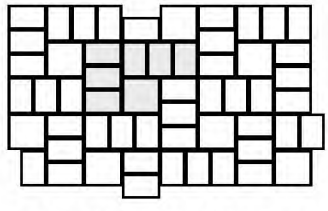
25% 6 x 6, 25% 6 x 12,
50% 12 x 12



14% 6 x 6, 29% 6 x 12,
57% 12 x 12



17% 6 x 6, 17% 6 x 12,
66% 12 x 12



80% 6 x 9, 20% 9 x 9

PAVERS

Belgium

Belgium 6 x 9
Length: 225mm (8.9")
Width: 150mm (5.9")
Thickness: 60mm (2.36")

Belgium 9 x 9
Length: 225mm (8.9")
Width: 225mm (8.9")
Thickness: 60mm (2.36")

Belgium 6 x 12
Length: 300mm (11.8")
Width: 150mm (5.9")
Thickness: 60mm (2.36")

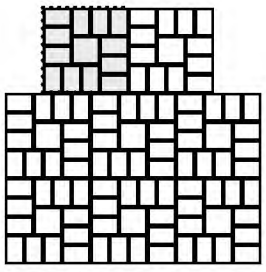
Belgium 12 x 12
Length: 300mm (11.8")
Width: 300mm (11.8")
Thickness: 60mm (2.36")

Belgium shipped in full bundles only. Individual sections available at plant only. Belgium Classic sold in full bundles only. Belgium 6 x 12 and 12 x 12 not recommended for heavy vehicle applications.
Photos above are Belgium, Belgium Classic is not shown.

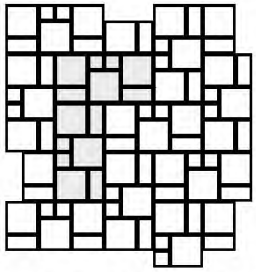
6x6, 6x9, 9x9 available as Belguim Classic

	6 x 9 Full Bundle	9 x 9 Full Bundle	6 x 12 Full Bundle	12 x 12 Full Bundle
Sq. Ft. per Bundle	105	113	124	117
Stones per Sq. Ft.	2.67	1.78	2.04	1.03
Stones per Bundle	280	200	252	120
Sections per Bundle	7	5	4	4
Stones per Section	40	40	63	30
Sq. Ft. per Section	15	22.5	31	29.3
Ln. Ft. per Bdl (Soldier)	165.2	148	123.9	118.5
Ln. Ft. per Sec (Soldier)	23.6	29.6	31	29.6
Weight per Bundle	2,889 lb / 1,310 kg	3,108 lb / 1,410 kg	3,410 lb / 1,546 kg	3,218 lb / 1,459 kg

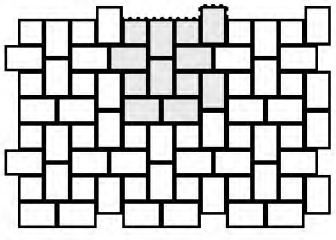
LAYING PATTERNS FOR BELGIUM CLASSIC



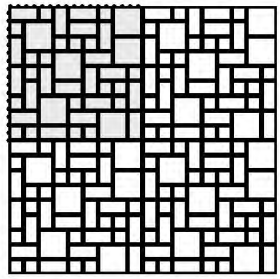
89% 6 x 9, 11% 9 x 9



11% 6 x 6, 22% 6 x 12, 67% 12 x 12



25% 6 x 6, 75% 6 x 9



23% 6 x 6, 47% 6 x 12, 30% 12 x 12

PAVERS

Venetian / Venetian Classic

Square
Length: 120mm (4.8")
Width: 120mm (4.8")
Thickness: 60mm (2.36")

Venetian Random (Bundle contains these three sizes)

Small Rectangle
Length: 60mm (2.36")
Width: 120mm (4.8")
Thickness: 60mm (2.36")

Large Rectangle
Length: 180mm (7.1")
Width: 120mm (4.8")
Thickness: 60mm (2.36")

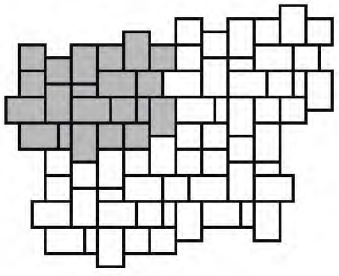
Venetian Solider
Length: 240mm (9.5")
Width: 120mm (4.8")
Thickness: 60mm (2.36")

Venetian Square
Length: 240mm (9.5")
Width: 240mm (9.5")
Thickness: 60mm (2.36")

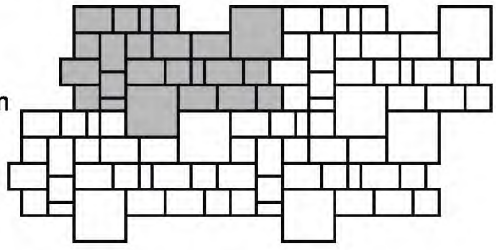
	Full Cube	Square	Sm Rectangle	Lg Rectangle	Venetian Soldier	Venetian Square
Sq. Ft. per Bundle	112	42.2	7	62.8	88	99
Stones per Sq. Ft.	-	6.4	12.9	4.3	3.18	1.62
Stones per Bundle	630	270	90	270	280	160
Sections per Bundle	9	-	-	-	4	4
Stones per Section	70	30	10	30	70	40
Sq. Ft. per Section	12.45	4.68	0.8	6.97	22	24.8
Ln. Ft. per bdl (Soldier)	-	-	-	-	110	126
Ln. Ft. per Sec (Soldier)	-	-	-	-	27.5	31.5
Weight per Bundle	3,136lb/1,422kg	-	-	-	2,464lb/1,118kg	2,772lb/1,257kg

LAYING PATTERNS FOR VENETIAN STONE

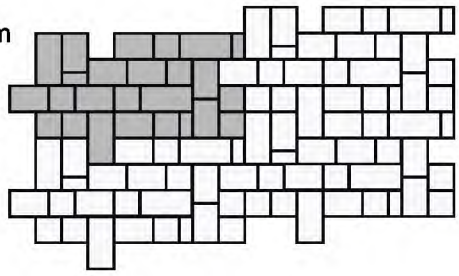
Venetian Random



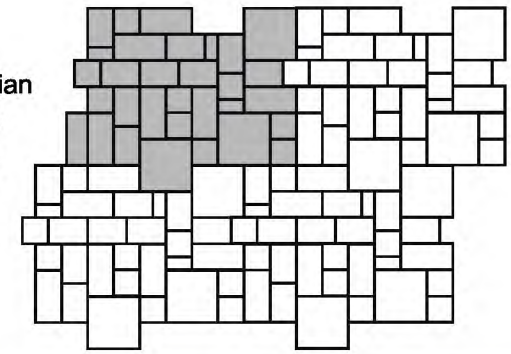
Venetian Random and Square
Random - 75%
Square - 25%



Venetian Random and Solider
Random - 75%
Soldier - 25%

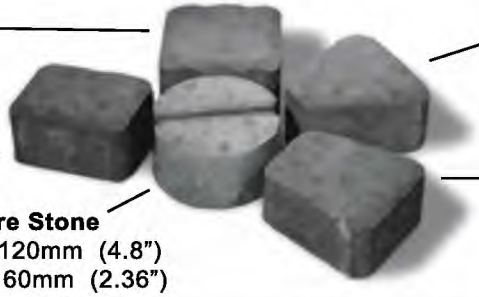


All Sizes of Venetian
Random - 50%
Soldier - 25%
Square - 25%



PAVERS

Venetian Circle / Venetian Classic Circle



Square Stone
Length: 120mm (4.8")
Width: 120mm (4.8")
Thickness: 60mm (2.36")

Rectangular Stone
Length: 90mm (3.6")
Width: 120mm (4.8")
Thickness: 60mm (2.36")

Centre Stone
Diameter: 120mm (4.8")
Thickness: 60mm (2.36")

Small Wedge
Length: 90mm (3.6")
Width: 120mm (4.8")
Thickness: 60mm (2.36")

Large Wedge
Length: 130mm (5.1")
Width: 120mm (4.8")
Thickness: 60mm (2.36")

Bundle contains all five sizes.

	Full Cube	Centre Stone	Large Wedge	Small Wedge	Rectangular	Square
Sq. Ft. per Bundle	61	-	-	-	-	-
Stones per Bundle	480	8 (16 1/2's)	32	192	144	104
Weight per Bundle	1,677lb / 760kg	-	-	-	-	-

HELPFUL HINTS - The following hints are to be used with the Paver Installation Instructions provided on pages 6 & 7.

1. Circle packs should always be installed starting from the inside (centre stone) and working outwards.
2. When spreading bedding sand for the centre of the circle, only spread sand over large enough area to allow placement of stones without disturbing material. Spread additional bedding sand as circle progresses outward.
3. When circle is completed, lay remaining area of projects as per normal, taking extra care around circle to ensure lines are maintained. Leave cutting of final filler pieces directly around the perimeter of the circle to the end.
4. To prevent stones from spreading, do not compact circle into bedding sand until previous step is complete.

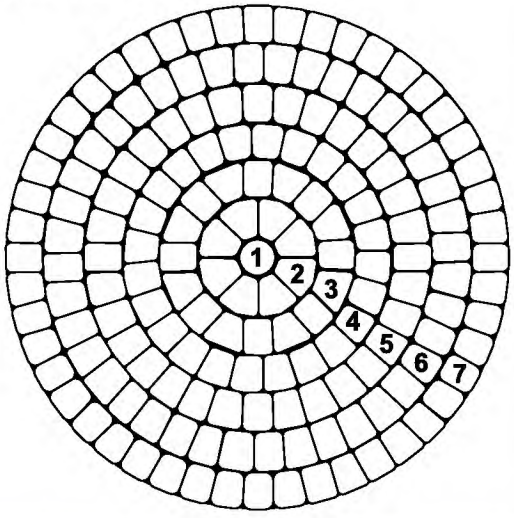
Note: There will be some gaps between stones because the circumference of each ring is different.

All Venetian materials shipped in full bundles only. Individual straps available only when picked up at the plant.
All Venetian Classic materials sold in full bundles only. Photos above are Venetian. Venetian Classic not shown.

CIRCLE DESIGN CHART

The Venetian Circle bundle can make up to one 2.51m (8 feet 3 inches) diameter circle or up to two 1.55m (5 feet 1 inch) diameter circles.

*****The Venetian Classic Circle kits are special order items.*****



For each 1.55m (5 feet 1 inch) diameter circle, follow this laying pattern.

	Number of pieces in ring					
Ring	CS	LW	SW	R	SQ	DETAILS
1	2					
2		8				
3		8		7	1	Alternate LW and R, finish with SQ
4			20		3	Place SQ after every 7 SW
5			20	7	4	SW, SW, SW, R, SW, SW, SW, R, SQ - repeat
6			24	17		SW, SW, R, SW, SW, R - repeat
7			24	24	1	Alternate SW and R, finish with SQ
Total	2	16	88	55	9	
TOTAL x 2	4	32	176	110	18	

For a 2.51m (8 feet 3 inches) circle, add rings 8 through 11 as follows.

Ring	CS	LW	SW	R	SQ	DETAILS
8			24	31	2	SW, R, SW, R, SW, R, R - repeat
						Place SQ at top & bottom of circle (180° apart)
9			24	40		R, R, SW, R, R, SW, R, SW - repeat
10			32		31	Alternate SW and SQ stones
11			22		45	SQ, SQ, SW, SQ, SQ, SW - repeat
TOTAL	2	16	190	126	87	

PAVERS

Athenian

Length: 409mm (16.10")
Width: 163mm (6.42")
Thickness: 70mm (2.76")

Length: 327mm (12.87")
Width: 163mm (6.42")
Thickness: 70mm (2.76")

Length: 245mm (9.65")
Width: 163mm (6.42")
Thickness: 70mm (2.76")

Length: 163mm (6.42")
Width: 163mm (6.42")
Thickness: 70mm (2.76")

Laying patterns available.

	Sq. Ft / Bundle	Sq. Ft / Layer	Layers / Bundle	Weight / Bundle
Athenian	96	12	8	3,068lbs

PAVERS

Avennio

Length: 355mm (14”)
Width: 115mm (4.53”)
Thickness: 80mm (3.15”)

Length: 315mm (12.4”)
Width: 115mm (4.53”)
Thickness: 80mm (3.15”)

Length: 275mm (10.83”)
Width: 115mm (4.53”)
Thickness: 80mm (3.15”)

Length: 235mm (9.25”)
Width: 115mm (4.53”)
Thickness: 80mm (3.15”)

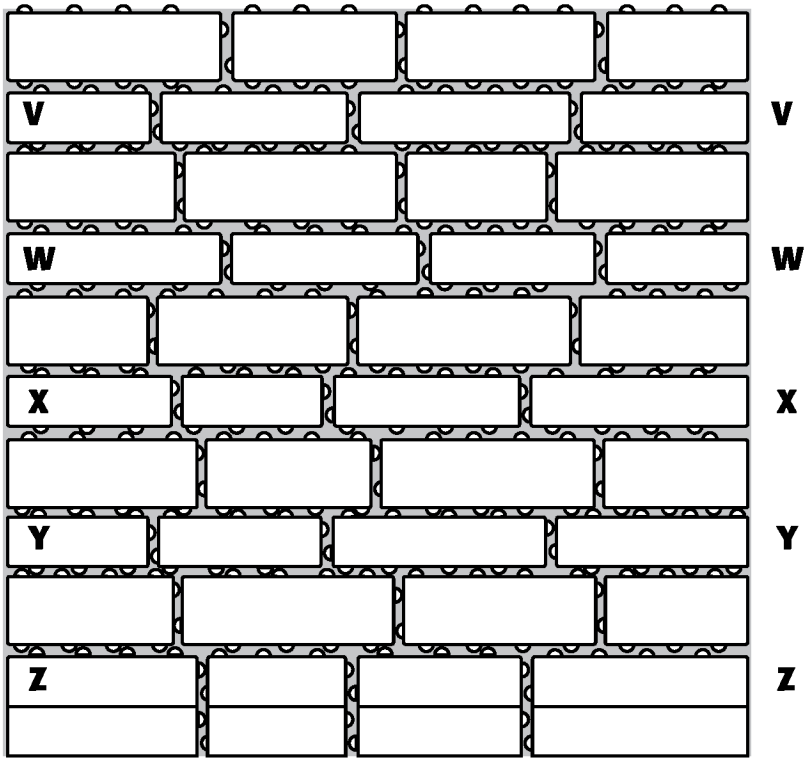
Length: 235mm (9.25”)
Width: 85mm (3.35”)
Thickness: 80mm (3.15”)

Length: 275mm (10.83”)
Width: 85mm (3.35”)
Thickness: 80mm (3.15”)

Length: 315mm (12.4”)
Width: 85mm (3.353”)
Thickness: 80mm (3.15”)

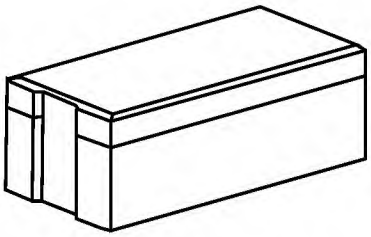
Length: 355mm (14”)
Width: 85mm (3.35”)
Thickness: 80mm (3.15”)

	Sq. Ft / Bundle	Sq. Ft / Layer	Layers / Bundle	Weight / Bundle
Avennio	95.2	13.6	7	3,497lbs



PERMEABLE PAVERS

AquaPave®
Permeable Paver System

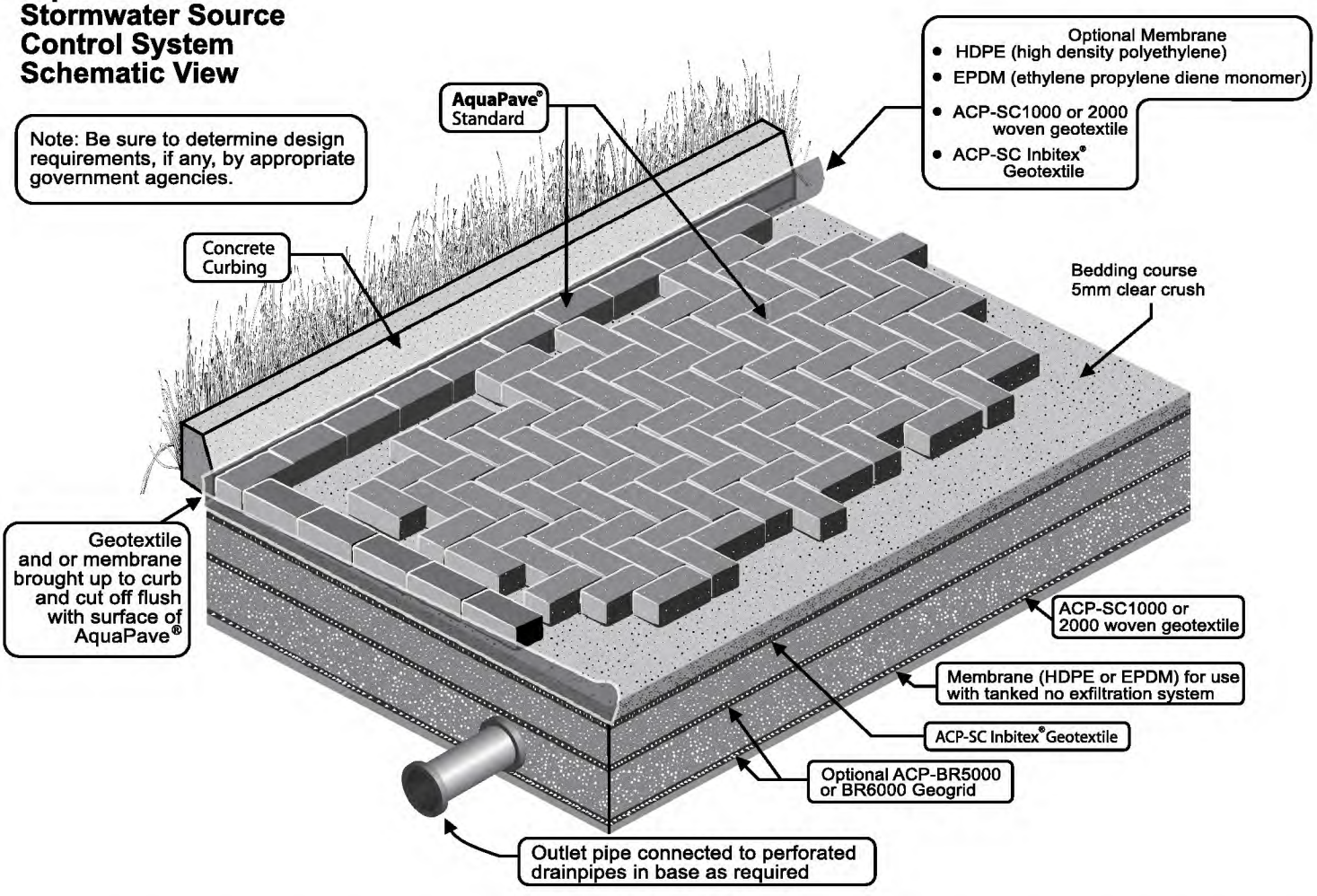


AquaPave®
Length: 200mm (7.9")
Width: 100mm (3.9")
Thickness: 80mm (3.15")

	Full Bundle
Sq. Ft. per Bundle	73.5
Stones per Sq. Ft.	4.57
Stones per Bundle	336 (8 rows)
Weight per Bundle	2,735 lbs / 1,085 kg

Permeable pavement systems couple the aesthetics and structural benefits of interlock with a specifically designed subgrade that provides for onsite stormwater management. Depending on the type of native soil, the water is either temporarily stored within the subgrade to reduce downstream erosion, or allowed to infiltrate back into the ground. Permeable pavers are specifically designed to allow surface water to drain down between them and into the subgrade.

AquaPave® On-Site Stormwater Source Control System Schematic View



PAVERS

Custom Pavers

Pave Lok
* Special Order *

Length: 226mm (8.9")
Width: 112mm (4.4")
Thickness: 60mm (2.36")

Duo Stone
* Special Order *

Length: 226mm (8.9")
Width: 137mm (5.4")
Thickness: 60mm (2.36")

Tango
* Special Order *

Length: 178mm (7")
Width: 229mm (9")
Thickness: 60mm (2.36")

Vintage Lite
* Special Order *

Length: 215mm (8.5")
Width: 108mm (4.3")
Thickness: 45mm (1.77")

Laying patterns available.

	Pave Lok	Duo Stone	Tango	Vintage
Sq. Ft. per Bundle	95	100	100	145
Stones per Sq. Ft.	3.67	3.5	3.6	4
Stones per Bundle	350	350	360	130
Ln. Ft./Bdl (as edging)	130	-	-	187
Weight per Bundle	2,660 lb / 1,207 kg	2,800 lb / 1,270 kg	2,750 lb / 1,247 kg	2,929 lb / 1,328 kg

Minimum quantity required for productions, call office for possible availability. Product sold in full bundles only.

Signature Curb Collection

3 Foot Curb
Length: 900mm (35.5")
Width: 83mm (3.25")
Height: 150mm (6")

Three foot curbs can be installed flush with paving stones to eliminate raised curb, or can be set above paving grade for a more pronounced accent.

Metre Curb
Length: 1000mm (39")
Width: 150mm (6")
Height: 150mm (6")

Metre curb stones are large sized curbs with broad features for a pronounce edge.

Bullnose Curb
Length: 570mm (22.5")
Width: 115mm (4.5")
Height: 90mm (3.5")

With curved ends, bullnose curbs can be used to form a straight border or a curved effect, lending itself to any landscaping contour.

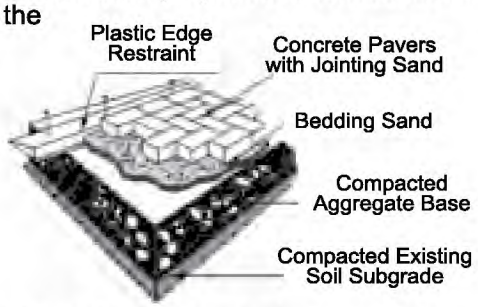
	3 ft Curb	Metre Curb	Bullnose Curb
Pieces per Bundle	36	24	80
Linear Feet per Bundle	108	78	150
Weight of Bundle	2,016 lb / 914 kg	2,712 lb / 1,230 kg	2,400 lb / 1,088 kg

PAVER INSTALLATION INSTRUCTIONS

STEP 1 - DESIGN & LAYOUT

The starting point of any project is the preliminary design drawing. The drawing show be done on graph paper to a convenient scale so that it is easy to read and estimate quantities from.

POINTER: Before finalizing the design, it is recommended that you stake out the proposed are of construction and then park vehicles (for driveways) / place furniture (for patios) in the staked out area to ensure that the final product is adequately sized.



STEP 2 - ESTIMATE QUANTITIES

Include in Estimate:
1. Volume of excavated material.
2. Volume of aggregate base material.
3. Volume of bedding sand.
4. Square footage of pavers.
5. Linear length of edging.
6. Volume of jointing sand.

PAVERS - The required square footage for the pavers is measured from within the staked out area. It is important to remember that some products are sold in full bundle quantities only, so careful planning will minimize wastage. However, it is also recommended that an additional amount of pavers be ordered to account for some degree of wastage, especially if there are a lot of cut required.

JOINTING SAND - Jointing sand is used to fill the spaces between the pavers after installed to ensure the proper interlock. It typically comes in a 30 kg (66 lb) bag, which is sufficient for approximately 10m² (100ft²).

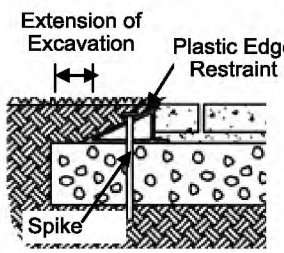
EDGING - Some form of edge restraint is required along all outside edges. Measure the perimeter of the staked out area, with the exception of areas against existing building, walks or pavement. If plastic edging is used, remember to include sufficient spikes to secure the edging in place.

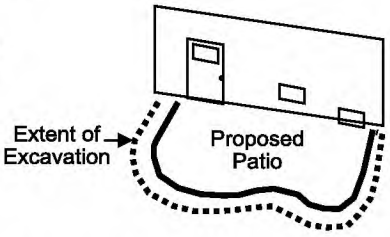
BEDDING SAND - Bedding sand is used as a bedding material into which the pavers are installed. Provide for 25 mm (1") of loosely spread bedding sand over the total area of the pavers. When the pavers are compacted into place, some of the sand fills the spaces (joints) between the stones, and the total thickness reduces to approximately 17 mm (5/8").

The Volume Chart on the inside front cover of this Spec Manual can be used to assist in the volume calculation (using the surface area and total depth).

AGGREGATE BASE - To provide a secure base in which to install the edge restraints, the area of excavation needs to be larger than the area being paved. The rule of thumb is to extend the excavation outwards in all directions equal to the total depth of the excavation. For example, if the total excavation is 300mm (12") deep, the excavated area should extend an additional 300mm (12") on all sides beyond edging.

The minimum recommended depths for the aggregate base are listed in the side table. Please note that these depths can increase significantly based on the type of native soil, the local climate, and heavy traffic loads. It is highly recommended that a civil engineer be consulted to verify local conditions.





POINTER: All soils take up approximately 20-30% more space in a dump truck than after it is compacted into place. In other words, if you need to fill 100m³ with base material, you will need to haul up to 130m³ of loose material to the site. Remember to account for this in your estimate.

EXCAVATED MATERIAL - The following table provides examples of how the total depth of the necessary excavation is calculate based on the aggregate depth.

POINTER: As with the aggregate base, remember to allow for the bulking up of the excavated material in the dump truck.

	Walkways & Patios	Driveways
Pavers	60mm (2 3/8")	60mm (2 3/8")
Bedding Sand (compacted)	17mm (5/8")	17mm (5/8")
Aggregate Base	200-250mm (8-10")	300-500mm (12-20")
TOTAL DEPTH	277-327mm (11-13")	377-577mm (15-23")

PAVER INSTALLATION INSTRUCTIONS

STEP 3 - EXCAVATION

POINTER: Remember to complete your locates prior to starting the work. When completed, the base of the excavation should be graded to provide proper drainage to a suitable water discharge point (eg. storm drain or ditch). Ensure the surface is free of debris such as large stones, roots, etc. Run a compactor over the base to evaluate the stability of the native material.

POINTER: If the stability of the soil is of question (eg. soft, wet, loose), it is advisable to utilize a geotextile to act as a seperation barrier (will prevent the base material from sinking into the existing soil.

STEP 4 - BASE BACKFILL

The recommended material for base backfill is the same as that used for local road construction. When selecting the compactor, tell the supplier you want to reach 98% Proctor density for that type of material - a 7.000 lbf vibratory plate tamper is the recommended minimum compacting 4" lifts. A reversible compactor allows for 6" lifts.

Spread the material in loose layers of no greater than 150mm (6"), spray the necessary amount of water over the soil to lubricate it, but not create mud, and compact the material in place. As a rule of thumb, if the dumptruck leaves a depression in the complete area (when it backs up to dump the next load), additional compaction is required.

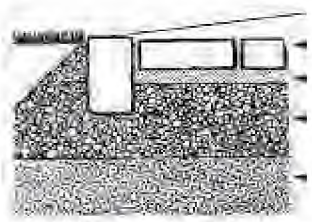
To check the final surface grades, place stakes around the perimeter of the project and at any crests or valleys, run string lines between the stakes, and check the depth off the lines using a measuring tape. Note that the final grades should maintain at a 2% slope (drop of 1/4" every foot).

Once the general grades are verified, use a 3m long straight edge to ensure the subbase is level - acceptable tolerances are ±10mm (± 3/8"). As a guide, a pencil should not be able to slide under the straight edge at any point.

STEP 5 - CURB INSTALLATION

For concrete curbs (adjacent), a trench needs to be excavated into the aggregate base - the depth of the trench is based on the desired stickup of the curb.

For plastic curbing, the sections are placed directly on top of the aggregate base and staked down using 250mm (10") spikes.



STEP 6 - BEDDING SAND

The key to this step is to ensure a consistent thickness for the loose sand. The easiest way to do this is to use 19mm (3/4") diameter Schedule 80 PVC pipe for guide rails (the outside diameter is 25mm). Spread the sand loosely between a pair of pipes, then pull a straight edge along the top to level the sand out (photo). Avoid disturbing the sand once in place.

STEP 7 - LAYING THE PAVERS

The laying pattern used in subject to personal preference; however, herringbone patterns are recommended for traffic areas. Place chalk lines on sand at 2m (6') intervals to provide straight line guides during installation. Always start laying at the lowest point so that stones cannot seperate; place hand tight. Use rubber mallet as required to adjust stones.

POINTER: Mix pavers from at least 4 different cubes at a time so that any colour variation between cubes are blended in. Cut pavers to fill gaps along edges and around obstacles as required using cantilever splitters or masonry saws. For curves, place pavers beyond the final edge, mark off the desired curve, and then using a masonry saw cut the pavers in place (photo). Washed down area after cutting as the residue can create stains.

STEP 8 - COMPACTION & FINISH

After all pavers are in position (or the end of each day), sweep off the surface completely and then compact the pavers into the bedding sand using 5000lbf plate tamper.

Spread dry jointing sand and sweep into joints until full. Clean off surface and vibrate jointing sand into spaces using tamper. Repeat until joints are completely full.

RETAINING WALLS

Parkwall®

Standard Unit
Length: 200mm (7.87")
Height: 150mm (5.9")
Depth: 295mm (11.61")

Taper Unit
Length: 200mm (7.87")
175mm (6.89") at back
Height: 150mm (5.9")
Depth: 295mm (11.61")

Corner Units (sold in pairs)
Length: 295mm (11.61")
Height: 150mm (5.9")
Depth: 193mm (7.59")

12" Coping
Length: 600mm (23.6")
Height: 75mm (2.95")
Depth: 300mm (11.81")

PILLAR CAP - see catalogue
Length: 610mm (24")
Width: 610mm (24")
Height: 75mm (3")

Wedge Coping
Length: 200mm (7.87")
175mm (6.89") at back
Height: 75mm (2.95")
Depth: 325mm (12.79")

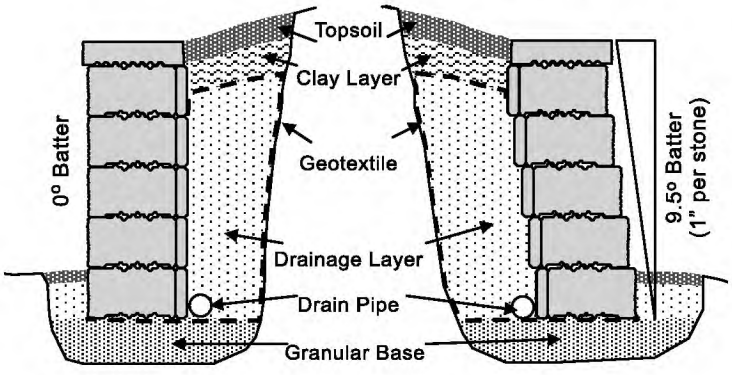
INSTALLATION DETAILS
The maximum exposed (above grade) height for a gravity wall with stand 9.50 batter is 975mm (38.4"). This includes a 75mm (2.95") cap and 6 exposed courses, and requires one additional buried course. With geogrid, the maximum wall height is 3.375m (11.1ft).

The maximum exposed (above grade) height for a gravity wall with no batter is 675mm (26.6"). This includes a 75mm (2.95") cap and 4 exposed courses, and requires one additional buried course. With geogrid, the maximum vertical wall height is 2.175m (7.1ft). The minimum radius for curves is 2.4m (8ft). The Parkwall line can also be used to create pillars.

ORDERING INFORMATION - Standard, Taper, 12" Cap and Wedge Cap units sold individually. Corners sold in pairs. For delivery, part cubes will be shrink wrapped.

	Standard Unit	Taper Unit	Corner Unit	12" Coping	Wedge Coping
Sq. Ft. per Bundle	19.3	19.3	22	13.5	19
Pieces per Bundle	60	60	28	28	126
Pieces per Sq. Ft.	3.1	3.1	1.27	2.07	6.6
Pieces per Ln. Ft.	1.52	1.52	0.625	0.51	1.63
Ln. Ft. per Bundle	39.35	39.35	44.8	55.1	77.5
Weight per Bundle	2,580lb / 1,173kg	2,460lb / 1,119kg	1,204lb / 548kg	1,932lb / 878kg	2,898lb / 1,318kg

RETAINING WALL FACING OPTIONS

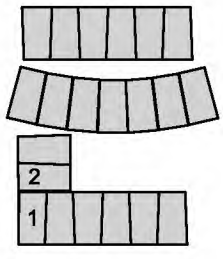


Note: with the Parkwall system, both the split face and/or the smooth face can be used on the exposed side.

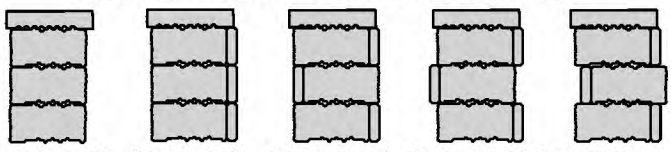
WEDGE CAP INSTALLATION

Placing the units in an alternating pattern creates a straight section. By placing units with the wide face positioned the same way, curves can be easily laid out. The minimum curve is 2.4m (8'). Radii of greater than or less than 2.4m (8') will require cutting to achieve a tight fitting cap.

90° corners can easily be breated using two closed end Wedge Caps (there is one closed end unit per layer of Wedge Cap units). To allow Unit 2 to sit flat, the interlocking ridges on the underlying Standard Unit (directly below the closed end portion of the Wedge Cap) need to be knocked off.



STRAIGHT STACK WALL FACING OPTIONS



Double Split | Single Split | Alternating Split | Inset / Outset Options

RETAINING WALLS

Parkwall Classic®

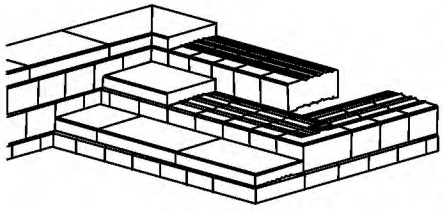
Standard Unit
Length: 200mm (7.87")
Height: 150mm (5.9")
Depth: 295mm (11.61")

Taper Unit
Length: 200mm (7.87")
175mm (6.89") at back
Height: 150mm (5.9")
Depth: 295mm (11.61")

Corner Units (sold in pairs)
Length: 295mm (11.61")
Height: 150mm (5.9")
Depth: 193mm (7.59")

BUILDING STEPS WITH PARKWALL / PARKWALL CLASSIC

When constructing steps, Parkwall / Parkwall Classic Standard units used for the risers and side walls, while 12" Cap Stone are used for the treads. Standard Units are recommended in lieu of backfill below risers. Using Pisa Light® for steps is not recommended.



PERPENDICULAR STEPS

This is simply a series of inside and outside covers, with the cross wall (riser) being stepped back 300m (12") per course.

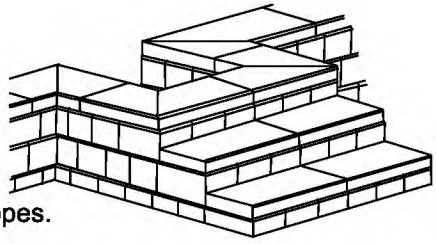
For each course, construct the inside and outside corners and then place the necessary units in between. Position the coping units and secure with adhesive.

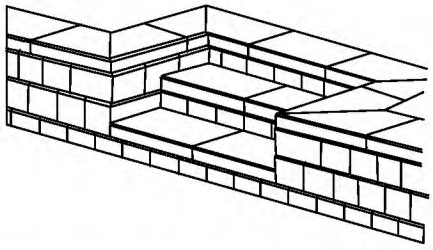
The next course is placed with the front face of the riser units touching the back of the coping stone on the lower step. Some trimming of the interlock ridges on the outside corner will be necessary.

OUTSIDE STEPS

First, assemble two outside corners and two inside cover for the bottom course. At the outside corners, chop part of the interlock ridges off the corner units and position / secure the coping. Fill in with aggregate or additional standard units.

Place the next riser in contact with the back of the coping unit for the previous riser. Some chopping will again be necessary on the corner units. When constructing vertical side wall steps against a setback retaining wall, remember to adjust the layout of the inside (back) corners to account for the difference in wall slopes.





INSET STEPS

First, assemble the two outside corners and sidewalls, with a distance of one riser length in between. For setback retaining walls, see previous instructions. Place the first riser and associated filler units on the same foundation elevation as the side walls. Position and secure the coping. The next course is placed with the front face of the riser units touching the back of the coping stone on the lower step.

RETAINING WALLS

Wedgestone™ / Wedgestone™ Classic

WEDGESTONE™

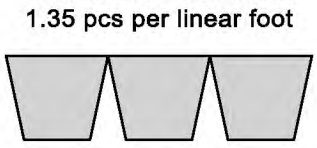
Length: 225mm
tapered to 150mm
(8.9" tapered to 5.9")
Height: 100mm (3.93")
Depth: 200mm (7.87")
Note: all pieces have
texture on both sides.

WEDGESTONE™ CLASSIC

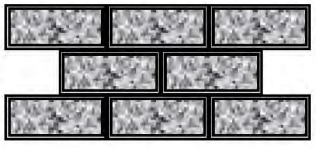
	Resulting Batter	Maximum Exposed Wall Height	Maximum Total Courses
Vertical Wall	0^0	400mm (15.75")	4 exposed, 1 buried
One Groove Set Back	14^0	600mm (23.6")	6 exposed, 1 buried

FACE VIEW OPTIONS - There are two options, depending on how the stones are placed.

Method A - Uniform
1.35 pcs per linear foot

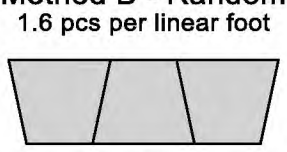


Top View



Front Face

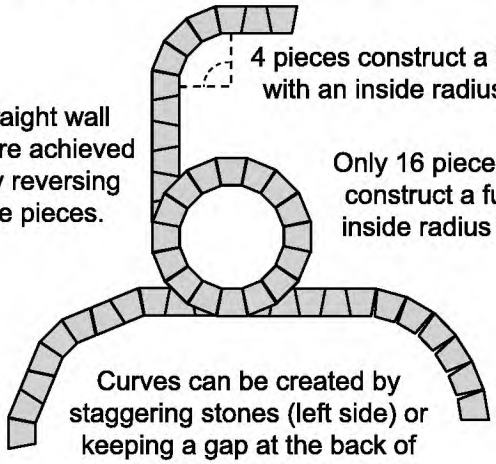
Method B - Random
1.6 pcs per linear foot



Top View

Front Face

CURVED WALL INSTALLATION DETAILS



ORDER INFORMATION

Sq. Ft. per Bundle	30 to 36.5
Pieces per Bundle	150
Pieces per Sq. Ft.	4.1 to 5
Linear Feet per Bundle	94
Weight of Bundle	2,850 lb / 1,293 kg

All units sold individually.
For delivery, part cubes will be shrink wrapped.
Note: Ranges based on face view options.

STEP INSTALLATION DETAILS

Curved or half round steps can be created using Wedgestone™ and Wedgestone™ Classic. However, it is recommended that the stones be glued together, that 1.5 courses be buried, and that geo grid be incorporated, to prevent any movement.

RETAINING WALLS

Pisa Light®

Pisa Light® Corner Units
(sold in pairs)
Length: 290mm (11.4")
Height: 150mm (5.9")
Depth: 200mm (7.9")

Standard Unit
Length: 200mm (7.9")
Height: 150mm (5.9")
Depth: 216mm (8.5")

Taper Unit
Length: 200mm (7.9")
Tapered to 188mm (7.4") at back
Height: 150mm (5.9")
Depth: 216mm (8.5")

9" Coping
Length: 600mm (23.6")
Height: 75mm (2.95")
Depth: 225mm (8.9")
Although best suited for straight walls, 9" Cap stones can accommodate curves with some cutting.

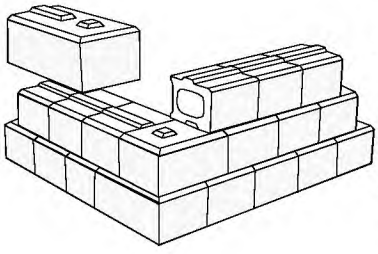
INSTALLATION DETAILS
The maximum exposed (above grade) height for a gravity wall is 675mm (26.6"). This includes a 75mm (3") cap, 4 exposed courses and requires one additional full buried course.

ORDERING INFORMATION
All system units sold individually. For delivery, part cubes will be shrink wrapped.

	Standard Unit	Taper Unit	Corner Unit	9" Cap Stone
Sq. Ft. per Bundle	42.6	42.6	22.1	16.9
Pieces per Bundle	132	132	28	35
Pieces per Sq. Ft.	3.1	3.1	1.27	2.07
Pieces per Ln. Ft.	1.52	1.52	0.62	0.51
Ln. Ft. per Bundle	86.6	86.6	45	68.8
Weight per Bundle	3,168lb/1,440kg	3,036lb/1,380kg	1,288lb/586kg	1,890lb/859kg

BUILDING 90° CORNERS WITH PISA LIGHT®

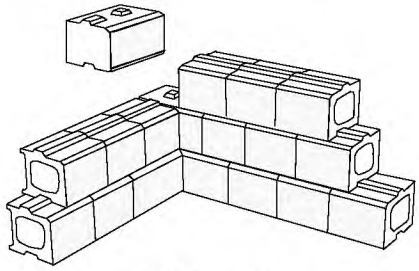
(Note: Same methods apply to Parkwall and Parkwall Classic)



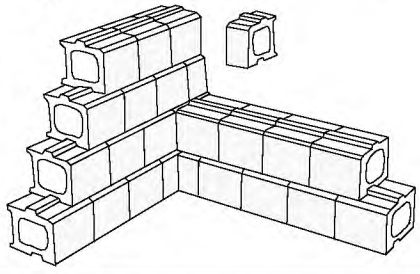
OUTSIDE CORNERS

1st Course - Position corner unit so both rough faces will be exposed in the final construction.
2nd Course - Place a corner unit that faces the other direction on the next course to interlock the corner.
3rd Course - Repeat 1st course. Continue pattern until desired height is achieved.

INSIDE CORNERS



Corner Unit Method
Place first corner unit so small face will be hidden behind the final construction.
Place a corner unit from the other direction on the next course to interlock the corners.
Repeat the first course. Continue pattern until desired height is achieved.



Half Unit Method
Complete three or four courses on one side of the corner.

End the wall using half units on every other course. For Pisa Light, each course should extend 19mm (3/4") beyond the first course to match the batter of the adjacent wall.

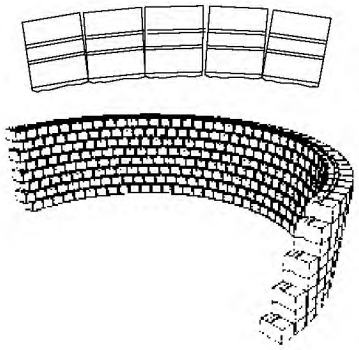
For Parkwall and Parkwall Classic, each course should extend 25mm (1") beyond the first course.

Place units along the second wall using half units on alternate courses.

RETAINING WALLS

BUILDING CURVES WITH PISA LIGHT®

(Note: Same methods apply to Parkwall and Parkwall Classic)



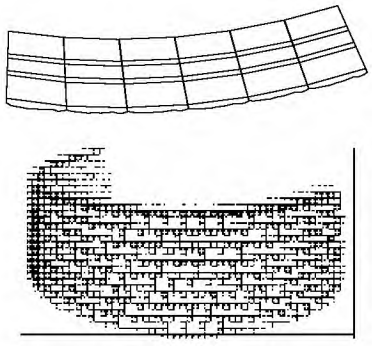
INSIDE (Concave) CURVES

Standard units are typically used to construct inside curves. The front faces of the units are placed tightly together while small spaces are left between the back of the units.

The minimum inside radius is 2.4m (8'). Smaller inside radii would require cutting.

The minimum radii would occur at the bottom row. For Pisa Light, the radius will increase 19mm (3/4") for each course added due to the walls natural batter. For Parkwall, the increase is 25mm (1") per course.

With curves, the joints begin to line up because of the natural batter: a cut (half) unit can be used to re-establish the running bond.



OUTSIDE (Convex) CURVES

Taper units are used to construct outside curves. For smooth flowing curves, place all units tapered on the left side on one course, and all units tapered on the right side on the next course. The minimum outside radius is 2.4m (8'). Smaller outside radii would require cutting.

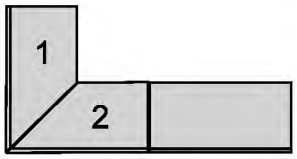
Because the radius decreases with each course, the minimum radius would occur at the top row. The radius of the bottom row needs to be adjusted 19mm (3/4") for each additional row with Pisa Light, or 25mm (1") for each additional row with Parkwall.

When laying all but the top row (if at the minimum radii), the front faces are placed tightly together while small spaces are left between the back of the units. The top row would then be placed flush from front to back of the unit.

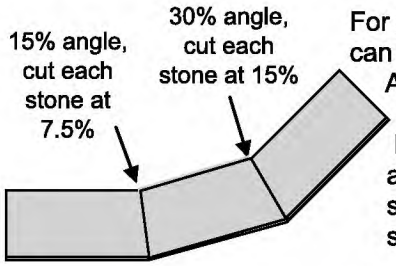
COPING INSTALLATION WITH PISA LIGHT® 9" CAP STONE

(Note: Same methods apply to Parkwall 12")

Place units tight against one another for straight walls.



For 90° corners, it recommended that both units 1 and 2 be mitred at 4° so that the split front face is continuous, and the tongue and groove is hidden.



For gradual curves, units can be cut as required. Again, it is recommended that both units be mitred at 1/2 the total angle so that the units sit flush together.

PILLARS USING PISA LIGHT® CORNERS

(Note: Same methods apply to Parkwall Corner Units)

For smaller pillars, start by placing 4 corner units together (all same type) to create a square. For larger pillars, place Pisa Light Straight (Parkwall Straight) units between the corners.

For the second row, alternate the corner units (i.e. if the base course was composed of right corner units, left corner units are used for the second row.

Continue this method of alternating corner units per course until the desired pillar height is achieved. For added stability, sheets of biaxial Geogrid can be placed between layers.

The pillar cap can either be made using 9" Cap Stones (Parkwall 12" Caps) cut to fit, or a pre-manufactured capstone.

RETAINING WALLS

NORTHFACE by Brown's

Full Size Unit
Length: 1829mm (72")
Height: 457mm (18")
Depth: 610mm (24")

9 Sq Ft / Unit
Weight: 2300lbs
(1045kg) solid
1800lbs (828kg) cored

Half Size Unit
Length: 914mm (36")
Height: 457mm (18")
Depth: 610mm (24")

4.5 Sq Ft / Unit
Weight: 1150lbs
(523kg) solid
900lbs (409kg) cored

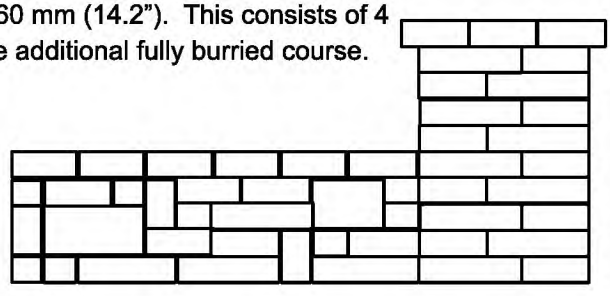
These units come with two integral and inset lifting hooks for ease of installation. Also available without hooks for a finished top. (Special Order as shown in picture).

Note: The 6' Dimensional Step is used for the coping on this wall system along with a 3' coping unit. Engineered 3 courses high.

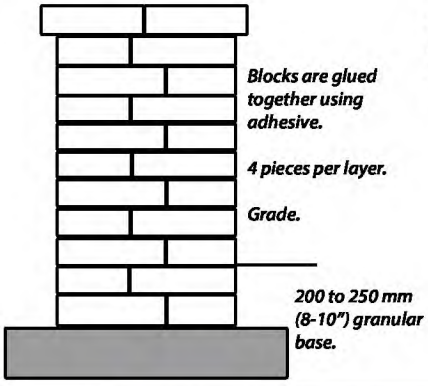
Retaining Walls - Dimensional Classic

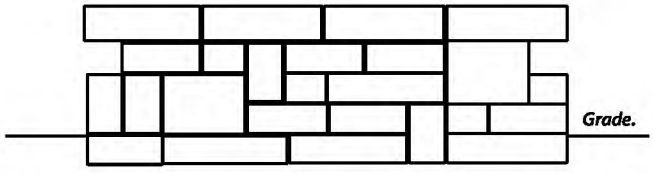
Length: 270 mm (10.63")
Height: 90 mm (3.54")
Depth: 180 mm (7.09")

With Dimensional Classic, you can duplicate the rustic stone walls of ancient times. This versatile block is ideal for planter walls, light standards, BBQ enclosures, outdoor bars, driveway entrance pillars, or any other unique feature.
GENERAL DETAILS The maximum exposed (above grade) height for a Classic Dimensional wall is 360 mm (14.2"). This consists of 4 exposed courses, and requires one additional fully burried course.



ORDER INFORMATION
Dimensional Classic units are sold individually. For delivery, part cubes will be shrink wrapped. Details are provided in the following table.



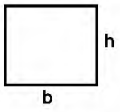


Offset vertical joints for added strength. Adhere top course with adhesive. To achieve a random pattern, cut some pieces and lay randomly. Pieces that are stood up vertically must be backed with another piece of equal dimensions.

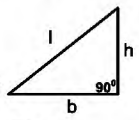
AREA CALCULATIONS

π = 3.1416, C = Circumference (perimeter of circle), r = Radius, d = Diameter, c = length of arc, θ = angle

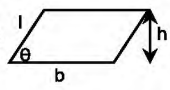
Square or Rectangle
A = bh
P = 2(b + h)



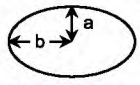
Triangle
A = ½ bh
P = b + h + l
where $l = \sqrt{b^2 + h^2}$



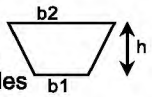
Parallelogram
A = bh = blsin θ
P = 2(b + l)



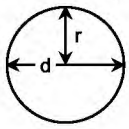
Ellipse
$A = \pi ab$
$P = \pi[1.5 (a+b) - \sqrt{ab}]$



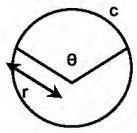
Trapezoid
A = ½ (b1+b2)h
P = sum of all sides



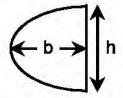
Circle
$A = \pi r^2$
$C = 2\pi r = \pi d$



Sector
A = ½cr
$c = 2\pi r * \frac{\theta}{360}$



Parabola
$A = \frac{2}{3}$ bh



Volume Chart - Cubic Metres (Cubic Yards)

Use the following table to estimate the volume of an excavation or backfill based on the surface area and total depth.

Surface Area square metres (square feet)	Excavation Depth			
	100mm (4")	200mm (8")	300mm (12")	400mm (16")
1m² (10ft²)	0.1m³ (0.12yd³)	0.2m³ (0.25yd³)	0.3m³ (0.37yd³)	0.4m³ (0.50yd³)
5m² (50ft²)	0.5m³ (0.62yd³)	1.0m³ (1.23yd³)	1.5m³ (1.85yd³)	2.0m³ (2.47yd³)
10m² (100ft²)	1.0m³ (1.23yd³)	2.0m³ (2.47yd³)	3.0m³ (3.70yd³)	4.0m³ (4.94yd³)
25m² (250ft²)	2.5m³ (3.09yd³)	5.0m³ (6.17yd³)	7.5m³ (9.26yd³)	10m³ (12.3yd³)
50m² (500ft²)	5.0m³ (6.17yd³)	10m³ (12.3yd³)	15m³ (18.5yd³)	20m³ (24.7yd³)
100m² (1000ft²)	10m³ (12.3yd³)	20m³ (24.7yd³)	30m³ (37.0yd³)	40m³ (49.4yd³)
250m² (2500ft²)	25m³ (30.9yd³)	50m³ (61.7yd³)	75m³ (92.6yd³)	100m³ (123yd³)
500m² (5000ft²)	50m³ (61.7yd³)	100m³ (123yd³)	150m³ (185yd³)	200m³ (247yd³)

Measurement Equivalents

Length Equivalents

Units	Centimeters	Metres	Inches	Feet	Yards
1 Centimeter	1	0.01	0.3937	0.03281	0.01094
1 Meter	100	1	39.3701	3.28084	1.0936
1 Kilometer	100,000	1000	39,370	3280.84	1093.6
1 Inch	2.540	0.0254	1	0.08333	0.0278
1 Foot	30.48	0.3408	12	1	0.33333
1 Yard	91.44	0.9144	36	3	1
1 Mile	160,934	1609.34	63,360	5,280	1,760

Surface Equivalents

Units	Square Feet	Square Yards	Acre	Square Metres
1 Square Foot	1	0.1111	2.2957×10^{-5}	0.0929
1 Square Yard	9	1	0.000207	0.8361
1 Acre	43,560	4,840	1	4046.86
1 Square Metre	10.7639	1.19599	0.000247	1
1 Hectare	107,639	11,960	2.471	10,000

Volume Equivalents

Units	Cubic Inches	Cubic Feet	Cubic Yards	Cubic Metres
1 Cubic Foot	1,728	1	0.03704	0.02832
1 Cubic Yard	46,656	27	1	0.76455
1 Cubic Metre	61,024	35.3147	1.30795	1

Weight Equivalents

Units	Ounces (avdp)	Pounds (avdp)	Tons	Kilograms	Tonnes
1 Ounce (avdp)	1	0.0625	3.125×10^{-5}	0.02835	2.835×10^{-5}
1 Pound (avdp)	16	1	0.0004464	0.4536	0.0004536
1 Ton	32,000	2000	1	907.185	0.907185
1 Gram	0.03527	0.002205	1.102×10^{-6}	0.001	1×10^{-6}
1 Kilogram	35.27	2.205	0.001102	1	1,000
1 Tonne	1×10^{-6}	2,205	1.1023	1,000	1

RETAINING WALL INSTALLATION

STEP 1 - DESIGN & LAYOUT

The starting point of any project is the preliminary design drawing. The drawing should include an overview of the project (site plan) and one or more cross sections through the wall (profiles), and should be done on graph paper to a convenient scale so that it is easy to read and estimate quantities from.

POINTER: Remember to incorporate the layout of the drainage system, specifically the outlet(s), in the design.

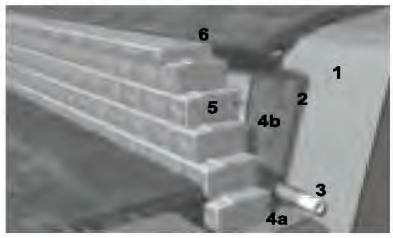
NOTE: The Ontario Building Code requires that a building permit be obtained for walls in excess of 1 metre that are adjacent to: (A) public property; (B) access to a building; or (C) private property to which the public is admitted. To assist with building permit applications, typical cross sections are available for most walls (and at various heights) for reference, or arrangements can be made for a complete engineered design to be conducted.

It is recommended that an engineered design be prepared for walls that: include geogrid; are being installed on questionable soil; have steep slopes at the top or bottom; are waterfront applications; or include railings / barriers.

STEP 2 - ESTIMATE QUANTITIES

Include in Estimate:
1. Volume of excavated material.
2. Area of geotextile.
3. Length of drain pipe.
4. Volume of granular.
5. Number of wall units.
6. Number of coping units.

OPTIONAL ITEMS TO ESTIMATE
- Area of geogrid
- Amount of adhesive



VOLUME OF EXCAVATION - To calculate the total excavation volume, you need to know the depth and width of the base trench, and the angle of repose of the native soils. These items are discussed in greater below.

Area of Geotextile - Geotextile should line the entire drainage layer behind the wall from top to bottom. Ensure there is adequate extra material at the top of the slope to be able to fold the geotextile back towards the wall once all the drainage material is in place. Also remember to provide extra material for overlap of lengths.

Length of Drain Pipe - A drain pipe is required behind all retaining walls to provide a route for water to escape. The drain pipe should run the full length of the wall.

Volume of Granular - Granular fill is required for the granular base (4a) and the drainage layer behind the retaining wall (4b). The granular base material should be well graded, free drainage material suitable for the given application. (eg. Granular A). The drainage material should be clear stone (no sharps) or pea gravel. To calculate the respective volumes, measure the cross sectional area of each of the materials from each of the cross sectional drawings and multiply these by the length of the applicable wall sections.

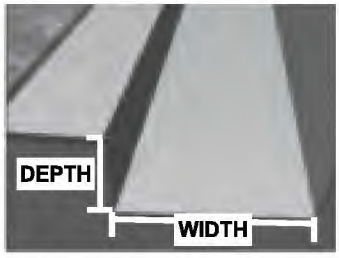
POINTER: If the native soil is a compactable material, it may be possible to use it for part of the backfill behind the retaining wall (clear stone of gravel would still be required for at a minimum a 300mm (12") thick drainage layer directly behind the wall). The geotextile would be placed between the replaced native material and the drainage layer.

Number of Wall Units - Remember to provide enough wall units for the exposed and buried portions of the wall. The rule of thumb is to at a minimum full bury one course (row) or 10% of the total wall height, whichever is greater. The Easy Wall Estimator on page 11 has been developed to assist with this calculation.

Number of Coping (Wall Cap Units) - The Easy Wall Estimator on page 11 also includes a table to assist with this calculation. Provide some extras if there are corners or curves in the wall where coping units may need to be cut.

STEP 3 - EXCAVATION

POINTER: Complete your locates prior to starting the work. The excavation depth is the sum of the depth of the buried course(s) plus a minimum of 150mm (6") for the granular base. The offset between the front of the excavation and the front of the wall is typically 100-150mm (4-6"), which is the minimum width that can be properly compacted using standard tools of the trade. The offset between the back of the wall and the back of the excavation is at a minimum 150mm (6") for low walls (<27") and 300mm (12") for higher walls. The total width of the excavation is the sum of the front offset, the depth of the unit and the back offset.

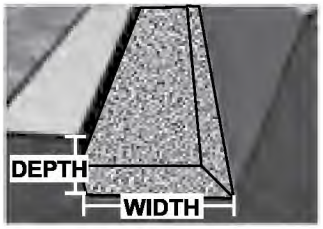


The angle of repose for the native soils is the angle at which the soil can be left without collapsing. This can range from near vertical 90° from the horizontal for dense clay to 27° from the horizontal for loose sand. The higher the angle, the smaller the excavator. When completed, the bottom of the excavation should be slightly sloped towards the Drain Pipe discharge point(s), and should be free of debris such as large stones, roots, etc. Run a compactor over the bottom to level it out and to evaluate the stability of the native material.

RETAINING WALL INSTALLATION

STEP 4 - PREPARE FOUNDATION

POINTER: A solid and flat granular base will simplify the remainder of the installation process. Take the time to make sure this step is done correctly.



Backfill base of trench in 75mm (3") lifts to desired grade, compacting the material to a minimum 98% Standard Proctor density. Leave a v-notch at the back of the excavation for the drain pipe. Set a string level to verify final grade. Ensure base is level front to back and side to side as this will minimize the leveling of individual blocks and will ensure straight lines and smooth arcs. As an option, a skim coat (2") thick layer of unreinforced concrete can be used to create a durable leveling surface.

Lay the geotextile starting just under the back of the wall and up the back slope of the trench. Remember to leave adequate material at the top of the slop for the fold back, and to overlap the separate pieces a minimum of 150mm (6"). Use sand bags or similar item to keep the geotextile in place as required. Place the drain pipe in the v-notch at the back of the foundation, surround with drain rock.

STEP 5 - LAYING FIRST COURSE

Select the starting point for the wall. If the base of the wall is stepped up, start at the lowest point and work up; remember to adjust for the natural batter in the wall between steps. If there is an outside corner, start with the corner unit (to potentially avoid having to cut stones later on to fit. Set a string level to mark the back of the first course. Use a level to ensure blocks are level front to back and side to side.

POINTER: For a non-battered wall, level the blocks, side to side, but tilt the back down slightly (approx. 2%) so the entire wall, when constructed leans slightly toward the soil being retained.

Backfill on both sides of the wall simultaneously to prevent the blocks from moving. Place material in 3" lifts and compact to 95% Standard Proctor density. Compacted backfill to be level with the back of the course.

STEP 6 - REMAINING COURSES

Sweep the top of each course prior to proceeding. Place next course of units in a running bond pattern so that the middle of the unit is approximately above the joint between the underlying blocks. NEVER ALIGN BLOCKS VERTICALLY. After laying a course, backfill behind the wall to the same elevation as the top of the just placed units.

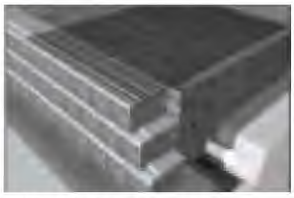
POINTER: Ensure compaction equipment is adequately sized to provide proper compaction but not so large as to push the wall out. Check levelness of wall after each layer of backfill; re-align wall if required.

STEP 7 - COPING AND GRADING

Where coping is required, sweep the top of the underlying course prior to proceeding. Place a line of butyl tape or Bond Loc adhesive near the front and back of the underlying course. Place the coping unit on top and apply some pressure to secure. Prior to backfilling behind the coping and last wall unit, pull the filter cloth towards the back of the wall and tuck in place. Fill to final grade using a layer of clay and then topsoil to suit desired conditions, and ensure final slopes allow for proper drainage away from, or over the top of the wall.

ADDITIONAL TIPS - GEOGRID REINFORCED WALLS

In simple terms, a retaining wall uses its total weight to hold back the soil located behind it. With a gravity wall, the total weight is the sum of the blocks being used. With a reinforced wall, the total weight is the sum of the blocks and the backfill within which the geogrid is located.



For geogrid walls, the following changes are made to the Installation Instructions.

Step 2 - The offset between front and back of the wall of the excavation equals the specified length of the geogrid.

Step 6 - Precut the geogrid from the roll to the specified length and perpendicular to the direction of primary strength. Continue wall and backfill placement as outlined above up to elevation of first layer of geogrid. The compacted backfill material should be level with the back of the wall unit to allow the geogrid to be laid out flat. Lay the geogrid starting within 25mm (1") of the face. Lay the next row of wall units to secure the geogrid in place. Pull the geogrid taught to its full length and stake in place at back to maintain tension. Backfill and compact next lift.

Signature Fire Pit Kits

OXFORD FIRE PIT KIT

The Oxford Fire Pit Kit is a great fire pit for a smaller space. With its smaller design and low profile it is perfect for a small yard or patio. The gentle features of a round fire pit allow it to blend in with a wide variety of architectural styles.

Packaging Details: Stone and Ring Included on one pallet. Weight: 1037 lbs.

KENT FIRE PIT KIT

The Kent Fire pit Kit is a larger unit with grand proportions. This square fire pit kit comes complete with the stone and steel insert. The refined dimensional look of this unit is well suited to that yard with modern, clean-cut lines where angles and depth are important.

Packaging Details: Stone and Ring Included on one pallet. Weight: 922 lbs.

Accessories

Surefoot Landscaping Gloves

Protect hands with a work glove that features a breathable fabric with a durable rubber dipped palm that provides improved grip and is impervious to water.

Landscapers Mallet (STH-412)

*Available in single or double head
*5 lbs

10" Spiral Spikes

*Used to spike paver edge restraints into place. Sold individually or by the carton.

Economy Rubber Mallet(STH-415)

*32 oz. mallet, perfect for small and do-it-yourself jobs
*Wooden Handle

Xtreme Bond Landscaping Adhesive

*Works on dry, wet, or frozen surfaces.
*Available in 313ml and 858ml tubes.

Masonry Chisel

*Available in 3" and 4" widths

ACCESSORIES

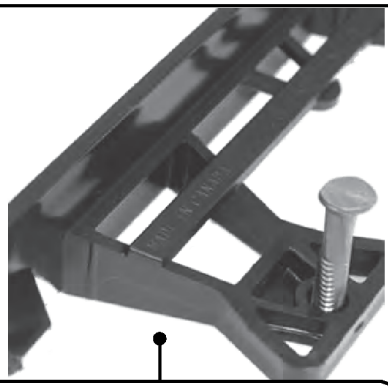
DYNA®
ADVANCED BUILDING SYSTEMS

Dynamatrix RJ Polymeric Sand
(available in Grey or Brown)
*Binds thoroughly
*New Haze-Free EZ Sweep Technology
*Also available WJ Polymeric Sand (for wide joints)

Snap Edge Paver Edge Restraint
*One-piece system that does it all.
*Straight, Curved, and Radius.
*Secure, built-in connector
*8 foot lengths

Dynamatrix Efflorescence Cleaner
*Brightens and evens out surface colour
*Removes dirt and rust
*Promotes better adherence of protective sealant

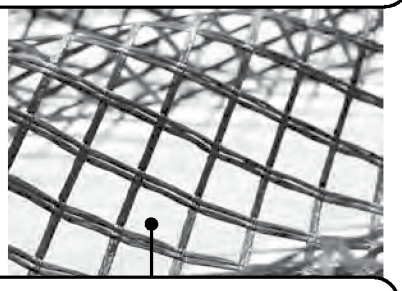
Dynamatrix Grease & Grime Remover
*Extremely powerful and versatile
*Dissolves and eliminates grease
*Readily Biodegradable



Surefoot Paver Edge Restraint
*Built-in connector
*Comes in Straight 8 foot form
*Works with curved applications
*"Lobster Tail" design allows double spiking.

Dynamatrix Gum, Paint, Tar Stripper
*Removes chewing gum, tire marks
*Cleans tar and bitumen
*Strips paint, sealant, and wax
*Non-Corrosive

Dynamatrix Graffiti Remover
*Removes paint, overspray, permanent markers.
*Non-Corrosive, even on metals
*Evaporates Slowly - better workability



Geogrid, Landscape Fabrics
*Brown's Concrete carries a complete assortment of Geogrids and Landscape Fabrics. Please visit your Local Dealer.

Dynamatrix HB-1 Paving Stone Sealer
*Glossy, wet-look finish, Solvent-Based
*Beautifies and enhances colours
*Protects against oil & dirt, resists UV, salts, frost & heat.

Dynamatrix WB-1 Paving Stone Sealer
*Glossy, wet-look finish,Water-Based
*Beautifies and enhances colours
*Protects against oil & dirt, resists UV, salts, frost & heat.

made *strong* with the *finest* granite aggregate

Brown's
CONCRETE PRODUCTS LIMITED

3075 Herold Drive
Sudbury, ON P3E 6K9
705.522.8220 (phone)
800.461.4888 (toll free)
705.522.2732 (fax)

CELEBRATING 110 YEARS
110 Years
1907-2017

Northern Ontario:
Chris Whitman (705)690-0372
cwhitman@brownsconcrete.com

SW Ontario & Michigan:
Rick Stinchcombe (705)690-7496
rstinchcombe@brownsconcrete.com

GTA & Eastern Ontario:
Nick Lang (705)929-3809
nlang@brownsconcrete.com

www.brownsconcrete.com

PROUD MEMBER
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Interlocking Concrete Pavement Institute

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