

paver

installation guide



Congratulations on purchasing the finest concrete paving system available. Ideal for any landscape setting, barkman pavers have been designed to provide you with years of trouble free service and enjoyment. Handsome and extremely durable, they offer a number of important advantages over conventional concrete or asphalt. These include:

- High resistance to salt corrosion and the weathering effects of the sun, rain and ice.
- The ability to flex during frost heave without becoming damaged.
- Easier installation and repair (thanks to the use of individual pavers).
- Easier removal (when gaining access to underground services).
- Safer because their rough surfaces make them slip and skid resistant.
- Greater design possibilities thanks to the wide variety of styles, shapes and colors available.
- More environmentally-friendly because they can be reused and reset.

Step-by-Step Installation

The directions in this guide are for the installation of a typical barkman driveway, patio or sidewalk. Before you start, it is important to have your project fully designed on paper. If you require assistance with creating your design, or have any questions regarding installation, please consult your knowledgeable barkman dealer or contractor.

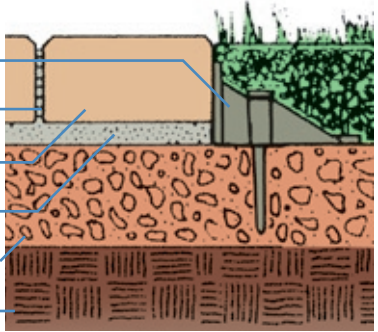
Equipment Needed

- An 8' to 10' long 2x4 board for screeding
- Two 10' long, 1" diameter sand screeding guides (example: water pipe, electrical conduit, wood strips, etc.)
- Standard carpenter's level, gloves, knee pads, trowel, rake, shovels, wheelbarrow, broom, a 2 to 3 lb. hammer, tape measure and safety glasses
- Wooden stakes or metal pegs
- Plate compactor (3 HP to 5 HP) and hand tamper
- Concrete saw with a diamond blade (available at rental stores)
- Spray paint, string, string level and a carpenter's pencil

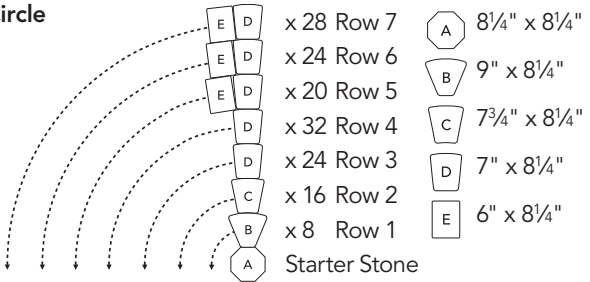
construction details

Typical Cross Section

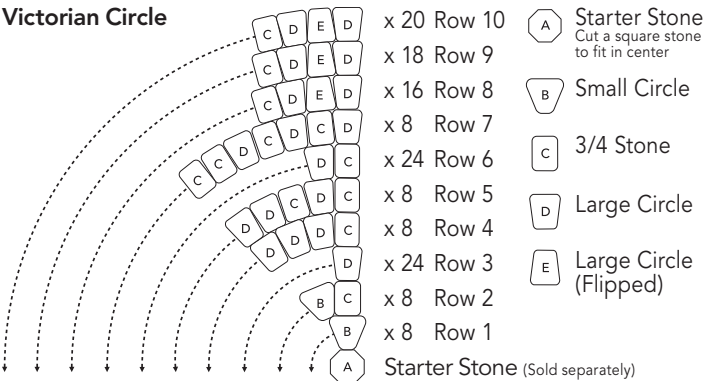
- Edge Restraint
- Jointing Sand
- Pavers (2³/₈")
- Bedding Course (1")
- Course Granular Base (6"-12")
- Existing Subgrade



Roman Circle



Victorian Circle



Do not use the Large Rectangle stones until the 17th course to minimize joint sizes. Note: 1 circle bundle will make 3 circles with a diameter of 61 1/2" each. Formula to calculate area of a circle: $D^2 \times 0.7854$ (Example for a 6' diameter circle: $6' \times 6' \times 0.7854 = 28.3$ sq. ft.)

Excavation Depth Estimation

	pedestrian traffic	light vehicular traffic
pavers	2 ³ / ₈ "	2 ³ / ₈ "
sand	1"	1"
gravel base (compacted)	4" – 6"	8" – 12"
total excavation depth	7" – 9"*	11" – 15"*

Gravel Base: Use minimum depths in a well-drained area or undisturbed soil. Use maximum depths in poorly drained area or disturbed soil. ½" less is required to compensate compacting of pavers. If soil is saturated more than 50% of the time, filter fabric and extra base should be used.

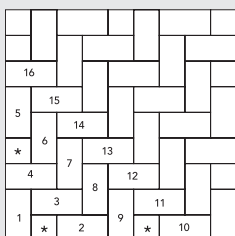
*When installing thicker pavers (Broadway 4" and Navarro 3.15"), add ¾" to 1 5/8" total excavation depth.

Base Material Estimation

granular base			
square footage of pavers	$\times \left(\frac{\text{depth of base}}{12} \right) \div 27 =$		cubic yards of base needed
bedding sand			1" depth
square footage of pavers	$\times .0031 =$		cubic yards of sand needed
optional polymeric sand			
square footage of pavers	$\div \begin{matrix} 60 \text{ or } 75 \\ \text{(for narrow joints)} \end{matrix} =$		number of 50 lb. bags needed
square footage of pavers	$\div \begin{matrix} 25 \text{ or } 40 \\ \text{(for wide joints)} \end{matrix} =$		number of 50 lb. bags needed

Pattern Layouts

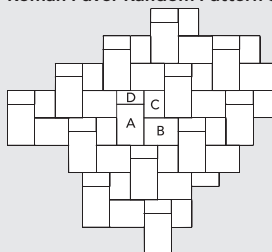
Holland Paver



4¹/₈" x 8¹/₄"

*Cut Paver

Roman Paver Random Pattern 3



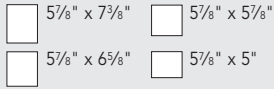
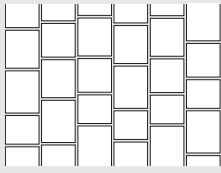
A 12³/₈" x 8¹/₄" = 38%

B 10⁵/₁₆" x 8¹/₄" = 31%

C 6³/₁₆" x 8¹/₄" = 19%

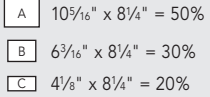
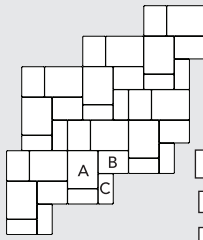
D 4¹/₈" x 8¹/₄" = 12%

Tuscan and Madrid

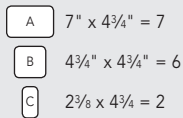
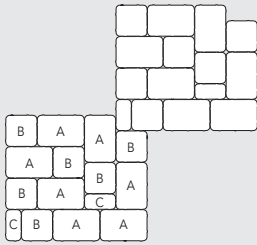


Installed randomly taking from several bundles at a time.

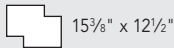
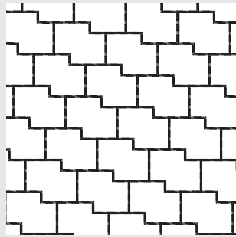
Roman Paver Random Pattern 1



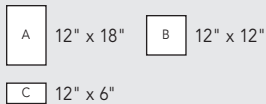
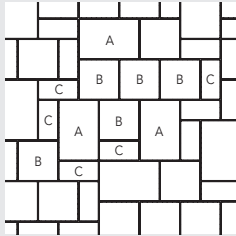
Victorian Random Pattern



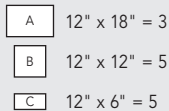
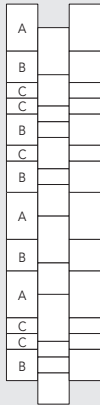
Heartland Paver



Navarro Paver



Running Bond



Note: For a complete range of shapes and pattern ideas, ask your dealer or contractor for the "Barkman Design Helps".



1

Create Outline

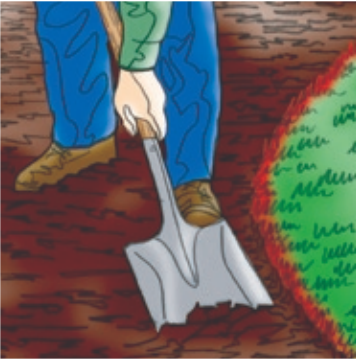
The first step is to take your completed design and transfer it onto the ground where you will be installing your patio. You can use spray paint to mark the outline, using a garden hose for guidance on the curved areas and long boards for the straight areas.



2

Set Elevations

Next, use a 2x4, stakes and a level to set the slope of your patio (a slope of approximately 1" to every 8 ft. is usually ideal). Now, set your stakes and string lines to mark the top of finished patio. Please refer to the Depth Estimation Chart.



3

Excavate

Using your grid work of stakes and guide strings, excavate material below the string lines to the depth needed. To determine depth, refer to the Depth Estimation Chart. Note: Before any digging, contact your local utility companies for the location and depth of pipes, cables and conduits.



4

Spread Granular Base

You are now ready to spread and compact the coarse granular base. Please refer to the Base Material Estimation Chart to estimate the base material you will require.



5

Compact Base

The granular base should be leveled and compacted (use a plate compactor) in layers of not more than 4". Wet, but do not soak the gravel base while compacting. Level the base to approximately 3" below the desired surface level. Make sure the base is level and conforms to the shape and elevation of the finished job by measuring down from the string lines you have established on the stakes.



6

Install Edge Restraint

To prevent lateral movement of the pavers, edge restraints should be installed on compacted base along all edges which would otherwise be unrestrained. If possible, install edging only on one or two sides of the paving area. After pavers have been placed, install remainder of edging so as to avoid unnecessary cutting.



7

Spread Bedding Sand

Begin screeding (spreading) a 1" layer of large grained sand (such as concrete sand). Lay your screed guides (1" pipe, electrical conduit or wood strips) onto compacted base. Set the proper height of these guides by pulling a string across the area to be paved at the finished grade level. The top of screed guides should be 1/2" down from the string. Pack sand around the guides to set them in place. Fill with sand and slide the 8' to 10' screed board along the guides to smooth and level. Once complete, pull out the screed guides and fill any voids with sand using a trowel or small board. Do not walk on or work from the screeded sand.



8

Lay Pavers

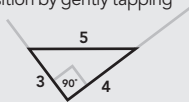
After screeding the sand begin laying your pavers, using the area's straightest edge as your starting point. Pick a starting point where you can make the pavers fit against the longest straight edge or the longest combination of straight edges as long as they are at right angles to each other.



9

Keep Pavers Square

To keep the pavers straight and square as you work, use a string line running in both directions as your guide. This is easily done by measuring out lines in multiples of 3, 4 and 5 with the line marked "three" remaining stationary during the squaring process. (See diagram below.) Line "four" should be moved until "four" and "five" intersect, causing a right angle in the "three-four" corner. If your pavers start to get off square, you can get them into proper position by gently tapping them towards the string line.



10

Cut to Fit

Many of the pavers that butt into the soldier course (strip of pavers all facing in the same direction) will need to be cut to fit properly. Using a concrete saw or guillotine splitter, cut each paver separately – marking it, removing it, cutting it and placing it – before proceeding to the next one. Always wear safety glasses when cutting pavers. Install the soldier course as you go along.



11

Compact

Sweep off the surface completely and use the plate compactor to tamp the pavers to a uniform level. Run the compactor in a parallel direction across the pavers, overlapping on each pass. Make a second series of passes in a perpendicular direction.



12

Spread Coarse Sand

Sweep sand into all spaces between the finished pavers, repeating the process until all joints between the pavers are filled. Repeat this process with more dry sand in a few days. ● **INSTALL COMPLETE**

OR

Spread Polymeric Sand

Sweep polymeric sand into all spaces between the finished pavers (surface must be completely dry). ● **GO TO STEP 13**



13

Compact

Sweep off the surface completely and use the plate compactor to tamp the pavers to a uniform level. Run the compactor in a parallel direction across the pavers, overlapping on each pass. Make a second series of passes in a perpendicular direction. Well-compacted joints help reduce risk of washing away polymers and significantly reduces drying time. Repeat this process (steps 12 and 13) until sand reaches $\frac{1}{8}$ " below the top of the pavers. Do not apply the polymeric sand if there is a chance of rain within the next 6 hours.



14

Remove Excess Polymeric Sand

Using a fine bristle broom or leaf blower, remove any excess polymeric sand from paver's surface (without displacing the polymeric sand between the pavers).



15

Activate Polymeric Sand

Define the entire surface into 200 sq. ft. areas. Using the shower setting on garden hose sprayer, wet the first 200 sq. ft. area for 30 seconds (without displacing polymeric sand). Repeat spraying process immediately on the same defined area. In very hot conditions, wet for a third time. Without interruption, move to the next defined 200 sq. ft. area and continue the process until the entire surface has been completed.



16

Drying

As soon as wetting process is completed, use a leaf blower to remove any excess water. The polymeric sand will set in 90 minutes. Avoid using or exposing the area to water for 24 hours.

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Caution: Before any digging, always consult your local utility companies for the location and depth of pipes, cables and conduits. Dry sawing or grinding of concrete products may result in the release of respirable crystalline quartz. Prolonged exposure to respirable crystalline quartz may cause delayed (chronic) lung injury (silicosis). The use of a NIOSH-approved respirator and tight fitting goggles is recommended when sawing or grinding operations are in progress.

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