

General Installation Guidelines

●●● Paving Stone Installation

Basic tools required to do a paving stone project:

Flat and pointed shovels	Wheelbarrow and a rake
Hose with spray nozzle	Hand tamper
Paver splitter and/or saw	Chisel and 3 lb hammer
String line and metal stakes	Broom, tape measure
A line level and a 4 ft carpenter's level	1 inch diameter pipes
Screed board (straight piece of lumber)	Ear plugs (when compacting)
Gloves and safety goggles (for cutting)	Plate compactor (min. 5000 lbf)

Most paving stone projects can be broken down into these basic steps...

- Step 1 - Excavate the area
 - Step 2 - Install the base material
 - Step 3 - Install the edge restraints
 - Step 4 - Install the bedding sand
 - Step 5 - Place the concrete pavers
 - Step 6 - Clean up and enjoy!
- A general explanation of each step is as follows...

Before you do any digging, call the local utility location company and have them mark all underground utilities in the area of the installation.

Excavate the area...

The ground to receive the base and concrete pavers should drain away from any structures. Allow at least a 1/4 in. drop for every foot away from structures. Excavate at least 8" beyond the boundaries of your project. Remove the existing sod and soil. Example: 4 in. base (compacted) + 1 in. thick sand + 2 3/8 in. thick pavers = 7 in. depth for excavation since there will be slight settlement of the sand when pavers are compacted into it.

The slope of the soil excavation will be the slope of the pavement, so check the slope of the bottom of the excavation by pulling level string lines and checking depth from them with the soil with a measuring tape. Once the area is excavated, use a hand tamper and compact the soil, recheck slope with a level and adjust as needed. There should be at least a 1/4 in. drop per foot.

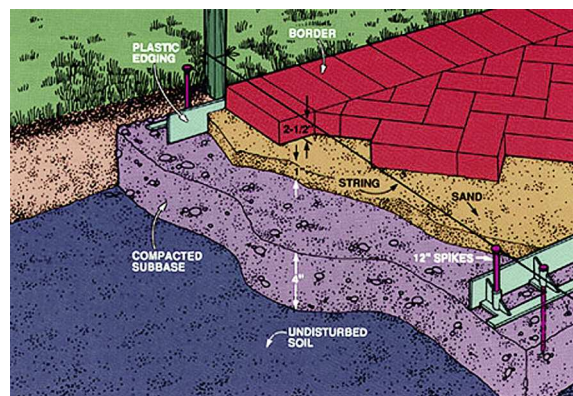
Install the base material...

Place about 2 inches of base material (Class 5 crushed limestone, or equivalent) into the excavated area. Make sure the base material is moist, but not soaked with water. rake it smooth, and compact it with a plate compactor. Place another 2 inch layer and rake it smooth. Pull string lines over the base set at the final surface elevation and slope of the surface. Compact the loose base layer so that about a 3 inch space is between the string line and the top of the compacted base. Check the space with a measuring tape. Do this checking on the base with at least two string lines spaced over the base. This will leave enough space for the bedding sand and pavers.

Install the edge restraints...

Place the edging without staking it around the perimeter. Stake one section in place, then cut the edging to enclose the area of the pavement. You can always lay a course of pavers to determine the location of the edging. Anchor the edging with metal stakes, hammering in one stake every foot into the holes in the edging. Popular plastic and metal restraints should have instructions that provide further guidance and tips on installation. Paveloc does not recommend using pressure-treated wooded edge restraints. They warp and eventually deteriorate.

Tackling a paving stone or retaining wall project by yourself requires construction skill, muscle, and a few weekends. The following provides guidelines for installing a small patio. If you take on construction of a large project, hiring a contractor is highly recommended. They have the equipment and experience to get the job done quickly.



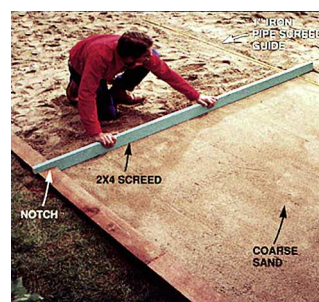
Cutaway detail of a basic patio installation



Compact the base material using a plate vibrator. Work in a circular motion and compact the area twice.



Install the edging on the compacted base material using 12" spikes. Cut the webbing on the back side to allow it to flex for curves.



Install the bedding sand...

Place at least two, 1 inch outside diameter pipes directly on the base. Place them several feet apart and parallel to each other. Spread the sand between the pipes. Use a shovel and rake to smooth it out. The sand should be moist but not saturated. Use a straight piece of wood to screed the sand smooth. This involves pulling the wood across the pipes several times until an area of sand is perfectly smooth. Do this for the entire area. Remove the pipes and fill the indentations with sand. Level these areas with a square trowel. Don't walk or disturb the screeded and leveled sand.



Start installing the pavers at a corner, or along the longest, straightest edge. Border pavers provide a finished edge.



Mark pavers that run "wild" into the border area, remove and cut to size, and place back into position. Install border pavers as you go along.



Tamp the area with a plate compactor after all pavers are installed. Tamp entire outside edge first, then circle inwards.

Caution: When compacting textured surface paving stones (*Colonial series, Antiqued Colonial series, Flagstone and Maduro™ Stone*), the use of a scuff plate or rubber roller attachments on the compactor is recommended to reduce the occurrence of scuffs and burns on the raised edges of the textured pavers. Another option is to place thin plywood over the areas to be compacted.

Place the concrete pavers...

Start at a corner. It should be square, i.e., 90 degrees, or along the longest, straightest edge. Place a border course around the entire edge, then place the pavers in the desired pattern. Continue to place pavers on the sand while maintaining consistent joint widths. Don't drag the pavers into the sand. Just place them by using the pavers on the sand as means to locate the one you're placing. Cut pavers as needed. Cut pavers to fill in at the edges next to the border course. The cutter allows a minimum length for cutting, so keep that in mind as you cut and fill gaps.

Compact the pavers using a plate compactor. Make at least four passes over all the pavers, starting at the outside of the pavement and working around the edges toward the inside. Then compact back and forth like mowing the grass. Remove and replace any pavers that crack or chip from the compaction equipment. Adjust joints so they are consistent. A large screwdriver is effective in aligning paver joints.

Spread dry joint sand over the surface and sweep some into the joints. Vibrate and compact the sand into the joints, sweeping and compacting as you go. Filling the joints with sand will take several passes with the plate compactor. After compaction, the sand in the joints might settle, especially after a few rainstorms. Apply some extra sand to fill these joints as needed.

Clean up and enjoy..

Sweep up excess sand, Place the furniture, plants, grills, etc., and enjoy!

There are many products to clean, seal, remove efflorescence, and stabilize the joint sand. Paveloc recommends TechniSeal™ products for just this purpose. Sealers will help keep out weeds and ants, make stains easier to remove, and enhance the look and color of your project.

