



# Permeable Pavers

Are you environmentally conscientious or concerned about the pollutants in stormwater? Then our family of permeable pavers might be the right choice for you. They create strong, beautiful pavements that reduce runoff and infiltrate stormwater, while providing a firm, stable walking and driving surface. Permeable pavers are not porous - they are solid units! They work by allowing rain to drain through openings and joints, which are filled with aggregate, and infiltrate into the ground below.

**Installation** - The installation method is similar to our regular pavers, with a few important differences. On page 4, we talked about using gravel for the base under our regular concrete pavers. While processed gravel can be used as a base under permeable pavers, we recommend open-graded stone for peak performance. The voids between the stones provide space to collect and store water for a short period, allowing it time to filter into the earth below. A 1<sup>1/2</sup>" open-graded crushed stone is pre-ferred. If this is not available in your area, try for a 3/4" open-graded stone. Most quarries will have a stone close to either size.

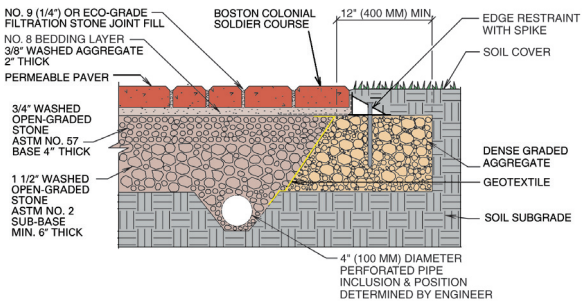
**Excavation** - You'll need to dig deeper when using permeable pavers, so consider this when excavating. The thickness of the base should be at least 6" - 8" thick for patios and walkways and a minimum of 8" - 12" for drive-ways. The setting bed also is thicker - 2". When you add in the paver thickness, here's what you are looking at:

Project	Excavation Depth	Base Thickness
Walkway/Patio	10-12"	6-8"
Driveway	12-16"	8-12"

*(Note: If you will not be using a plate compactor to set the pavers, reduce the thickness of the setting bed to 1" and depth of excavation by 1".)*

**Base** - Once the area has been excavated, cover it with a layer of woven geotextile fabric. Overlap the seams 6" or more and wrap it up the sides of the excavated area. Place and compact the graded stone in lifts no greater than 3" thick. Continue to add stone and compact until you have reached the desired depth. For every 100 sf you will need:

- 6" thick - approx. 3 tons
- 8" thick - approx. 4 tons
- 12" thick - approx. 6 tons



**Edge Restraint** - Holding permeable pavers in place is as important as it is for our regular pavers. You will need to install edging along the perimeter wherever there is an unrestrained edge. Driving spikes into a graded stone base can be difficult, so we suggest using one of two options.

### Berm Method

If you prefer to use SnapEdge®, or Pave Edge®, we suggest the “Berm Method” of edge installation.

### Curbstone Edging

CurbStone™ can be placed in sand or set in “wet-mixed” concrete. Dig a trench 8-12" deep and set the Curb-Stone™ into the sand or concrete mix. Adjust the height so the top is flush to the pavers when set. Pack some of the material up the sides to firmly seat the CurbStone™ in place. How much will you need?

- CurbStone™: 1 pc/lf
- 1 bag Concrete Sand for every 6 pcs of CurbStone set in sand
- 1 bag Concrete Mix for every 4 pcs of CurbStone set in wet mixed concrete (base and toe)

*Note: If you are using a “wet” mix, be sure to allow it to cure thoroughly before proceeding.*

### Setting Bed, Drainage Opening and Joints

- The next big difference between permeable and regular pavers is the type of sand used for the setting bed and joints. Stone is best - use 3/8" crushed stone for the setting bed and 1/4" chip stone to fill the joints and openings. Your **Ideal Authorized Dealer** may have these aggregates, so check with them. Otherwise, to achieve maximum infiltration, you must use a coarse stone sand. How coarse? At least one or two grades coarser than concrete sand. Emphasize the word “coarse” when ordering this and never, ever use stone dust as a setting bed for permeable pavers. Follow the same steps outlined earlier in Section 6. For every square foot you will need approximately 12-15lbs coarse stone sand for the bedding layer, drainage openings, and joints.

**Laying Pavers** - Aqua-Bric®, Eco-Stone® and Andover 5511™ can be laid in a herringbone (preferred for drive-ways), running bond, or basket weave patterns. With our Aqua-Bric®1V, you can follow the pattern of the layer within the cube as shipped or install in a modified herringbone pattern. Refer to Sections 7 and 8 in this pamphlet for guidance on placing and cutting.

**Filling the Openings** - Once the pavers are compacted into the setting bed, spread the ¼" chip stone or stone sand across the pavement surface and with a stiff bristle broom, sweep the chip stone into the joints and openings using a slight pounding motion. Compact and sweep until the pavers are firmly seated and the joints and openings are full. Add more chip stone to completely fill the joints and openings.

**Maintenance** - Our permeable pavers have the same strength and physical properties as our other concrete pavers. They have the durability to withstand New England's harsh winters and when properly installed, are snow-plow safe and resistant to deicing salts. Snow removal is the same as for conventional pavement - shovel, snow blower or plow! They can even be sealed using one of our water-based sealers applied in a light coat with a roller.

**Keep it Draining** - To maintain infiltration, a permeable pavement requires more care and consideration than an impervious pavement. Use sand sparingly in the winter. Keep the pavement free of leaves and debris as much as possible. Remove weeds promptly and periodically sweep the openings with a stiff bristle broom to remove any crust that may have formed on the surface of the drainage openings. If clogged, removed the sediment in the openings with a wet/dry vacuum and replenish with fresh ¼" chip stone.

For oil stains, clean the pavers with products described under cleaning and sealing. If any oil has spilled into the ¼" chip stone in the drainage openings, remove and discard it, then replace it with fresh material. You might wish to keep some chip stone, as well as a few extra pavers, for future repairs. Don't fret over oil drippings that may have seeped into the sand below the pavers. Microbes naturally occurring in the soil will degrade oil into CO<sub>2</sub> and H<sub>2</sub>O over time.

We hope our instructions have given you the confidence to undertake that paver walkway, patio, pool deck or even small driveway project that you will enjoy for years to come. We've tried to cover all the bases to guide you for beautiful do-it-yourself results. Concrete pavers have become so popular that many landscape shows feature installations on a regular basis.