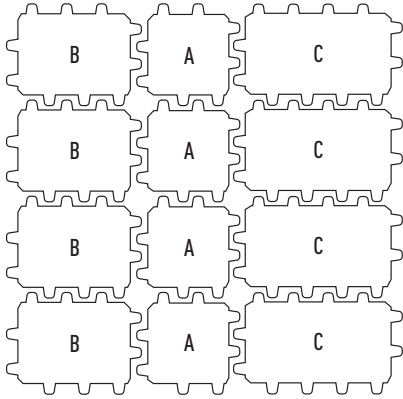







## Pallet Overview



## Specifications per pallet

	Imperial	Metric
Cubing	72 ft <sup>2</sup>	(6.7 m <sup>2</sup> )
Weight	2 460 lb	(1 116 kg)
Number of rows = 8	9 ft <sup>2</sup> / row	(0.84 m <sup>2</sup> ) / row

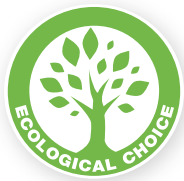


	Units dimensions	in	(mm)	Units / pallet
<b>A</b>	 Thickness Width Length	3.15 8.97 8.97	(80) (228) (228)	32 units
<b>B</b>	 Thickness Width Length	3.15 8.97 12	(80) (228) (305)	32 units
<b>C</b>	 Thickness Width Length	3.15 8.97 14.96	(80) (228) (380)	32 units

## Notes

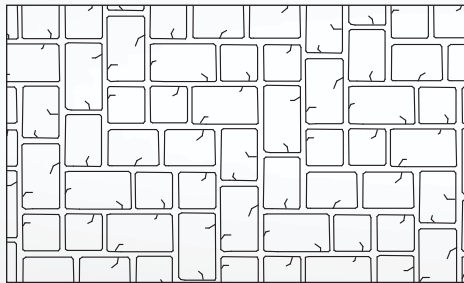
See page 34 for the Permea Paver Installation guide.

It is preferable to lay the paving stones in a linear configuration.

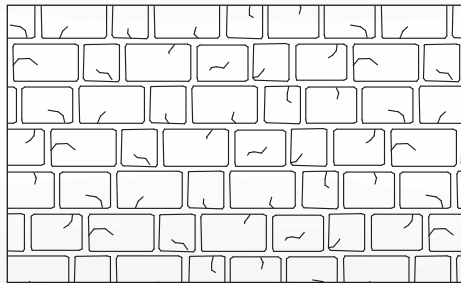


## Pattern design (See www.techo-bloc.com for more hatch patterns.)

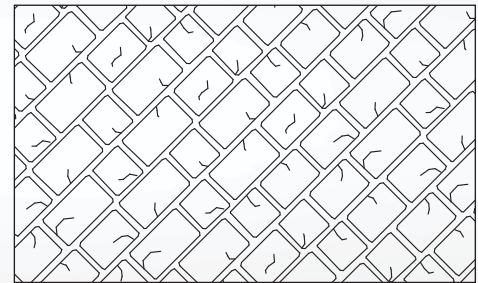
Random



Linear



Linear at 45°



24

00 shale grey  
181008

16 mojave beige  
181016

21 champlain grey  
181021

PAVERS

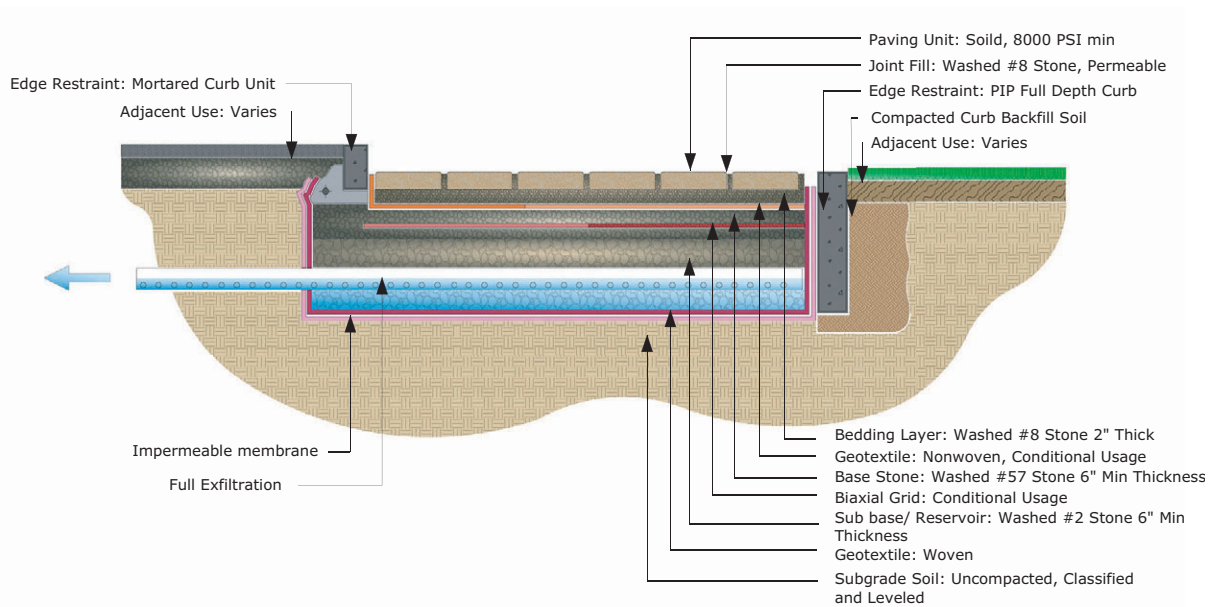


# Permea Installation guide

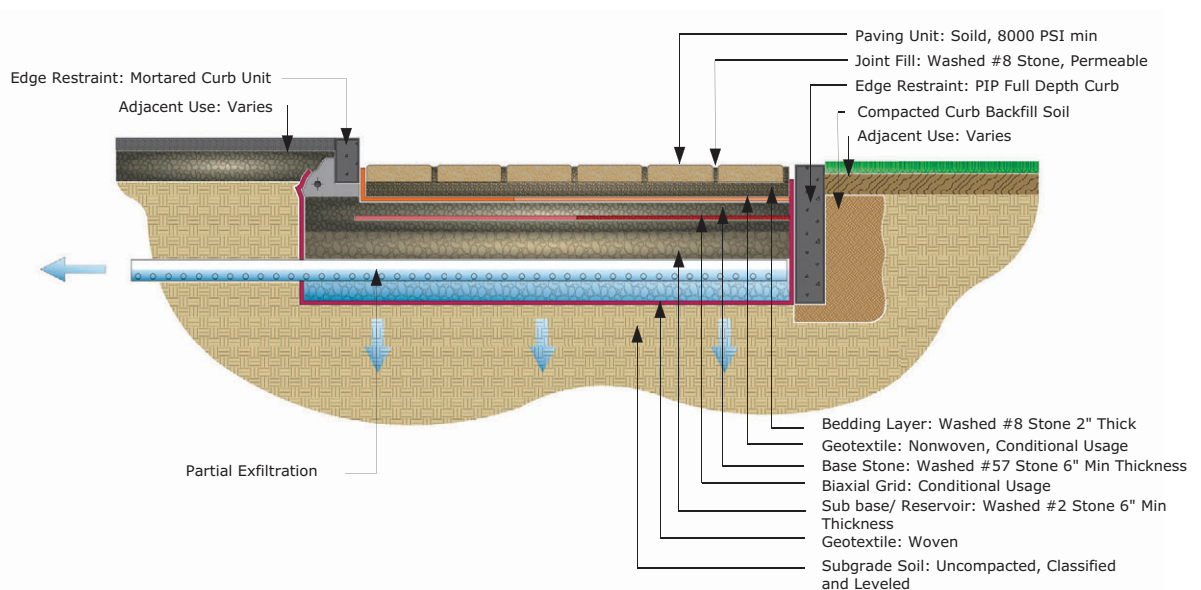
THE USE OF POROUS (PERMEABLE) PAVEMENT SYSTEMS THROUGHOUT THE WORLD HAVE PROVEN EFFECTIVE IN REDUCING STORM WATER RUNOFF, INCREASING INFILTRATION RATES, AS WELL AS PROVIDING OTHER ECONOMIC, ENVIRONMENTAL, AND CULTURAL BENEFITS.

BECAUSE OF THE IMPORTANCE OF THESE SYSTEMS, TECO-BLOC RECOMMENDS THAT A CIVIL ENGINEER OR LANDSCAPE ARCHITECT WHO UNDERSTANDS THE SYSTEM AT HAND BE CONSULTED TO ENSURE IT MEETS THE DESIGN INTENDED BENEFITS. HE OR SHE SHOULD BE CAPABLE OF CONSULTING ON STORM WATER MANAGEMENT, RUNOFF AND INFILTRATION, SOILS CLASSIFICATION, BEARING CAPACITY, ETC. SPECIAL CONSIDERATION SHOULD BE GIVEN TO PERMEABLE PAVEMENT SYSTEMS LOCATED ADJACENT TO FOUNDATIONS, OTHER SUBTERRANEAN STRUCTURES, SUCH AS WELLS AND SEPTIC, AND LAND TOPOGRAPHY.

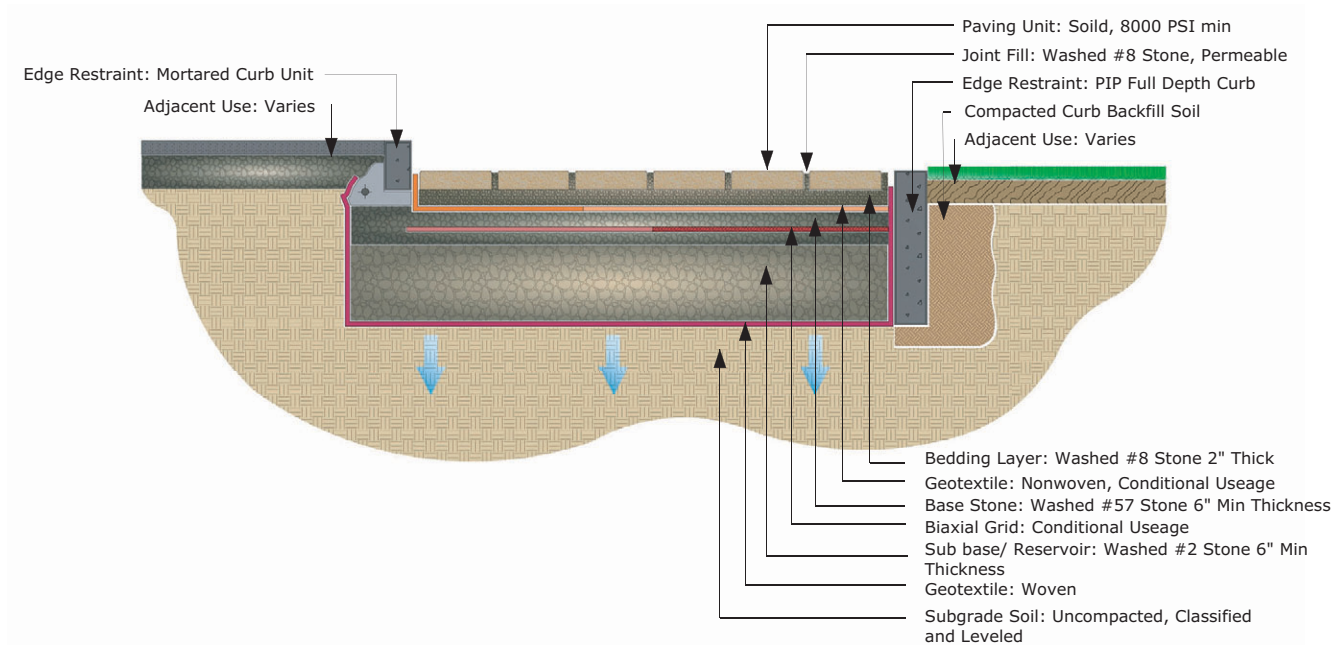
## PERMEA PAVING SYSTEM - Full exfiltration condition



## PERMEA PAVING SYSTEM - Partial exfiltration condition



## PERMEA PAVING SYSTEM - Full infiltration condition



## INSTALLATION OUTLINE

### 01 DATA COLLECTION

- Determine size, shape, and intended use of finished areas (i.e. residential driveways, secondary commercial parking, etc.).
- Classify sub-grade soils.
- Document all existing conditions (i.e. fixed points, existing grades, site contours, etc).
- Document type, location, and elevation of below grade and overhead utilities both public and private.
- Public utilities are marked through the use of a locating service.



### 02 PROJECT DESIGN

- Determine cross section design of system based on soil type and application.
- Determine proposed sub-grade and finished grade elevations.
- Establish the type, location, and elevation of relief structures if required (i.e. overflow pipe discharging to rain garden, etc.).
- Minimum 2% grade on swales for emergency run-off.
- Determine curb or edge restraint type, elevation, and location.
- Pattern will be running bond, laid on a 45 degree angle.

## 03 EXCAVATION

- Notify Utility Locating Service in advance of digging (usually two weeks).
- Establish Erosion & Sedimentation (E&S) Control measures (i.e. silt fencing, etc).
- Stake out work site using offsets where applicable.
- Remove soils to sub-grade per design.
- Excavated footprint should include the area for curbing and edge restraint (typically 1 to 1.5 times beyond).
- Care should be taken to not “over traffic or over work” sub-grade soils causing compaction and poor infiltration especially with the use of rubber tired equipment on cohesive soils such as clays.

## 04 GEOTEXTILE (1)

- Use woven geotextile that meets design criteria (Mirafi HP 370 minimum or equivalent).
- Use right sized (width) rolls for project.
- Install geotextile over uncompacted sub-grade soil and return up the sides of the excavated area.
- Subsequent passes should be overlapped 24” to 36” (60 cm to 1 meter). Overlapping should be “shingle” style with respect to any slope direction and base stone distribution direction.
- Keep properly tensioned, eliminate wrinkles, avoid damaging fabric (no spikes).
- Keep equipment from direct contact during base placement.

## 05 EDGE RESTRAINT (CURB TYPE)

- Curbs can be flush with top of finished pavements or raised.
- Curbs can be poured in place (PIP) concrete or pre-cast units such as Belgik or Pietra.
- Installed on sub-grade or base per design.
- When placing pre-cast units, redi-mix concrete is required to maintain alignment and integrity.

## 06 BASE

- AASHTO\* #57 or #67 3/4” (20 mm) clean stone. (\*American Association of State Highway and Transportation Officials)
- Prevent contamination from fines and debris.
- Base depth relative to soil type, rain volume and infiltration rate (of sub-grade), and desired holding capacity. Minimum thickness of 6” (15 cm), over 12” (30 cm) consult engineer.
- Install without distorting or damaging geotextile fabric.
- Install in 4” to 6” (10 to 15 cm) lifts and compact with a 10 ton static roller (do not vibrate) using a minimum of 4 passes.
- Bearing capacity of base can be increased with internal layering of Mirafi HP 370 fabric or equivalent (consult your engineer).
- Maintain uniform thickness in lift placements with an allowable maximum tolerance of + 3/4” to 1/2” (1 to 2 cm) deviation from the intended elevation.
- Top of base elevation should not deviate from intended design plan by more than 3/8” (1 cm) over a 10’ (3 m) distance. Verify prior to setting bed installation.

## 07 GEOTEXTILE (2) – SEE STEP #4

- Install on top of base prior to setting bed installation. Use same type as specified between sub-grade and base.
- Prevents migration of setting bed material into the open graded base stone, aids in filtration, and stabilizes.
- Keep fabric tensioned and prevent damage and distortion (again, no holes).

## 08 SETTING BED

- AASHTO #8 1/4" (7 mm) clean stone.
- Prevent contamination from fines and debris.
- Install to a 2" (5 cm) thickness. Can be installed using screeds and rails. If so remove rails and fill in voids prior to paving.
- Compact using the 10 ton static roller minimum 4 passes.

## 09 PAVING

- Lay units hand tight to designated laying patterns. Units have lugs to maintain consistent joint width.
- In sloped applications, lay uphill.
- If level, start where most production can be achieved.
- In vehicular applications, pattern strength will increase if laying pattern is at 45 degrees to traffic flow (avoid horizontal joints as much as possible).
- When using cut pieces, maintain joint.
- Avoid using pieces smaller than 3/4" (2 cm) wide.

### 09.1 BORDER

- Use a 3-1/8 (8cm) product such a Olympia, Santorini, Blue 80 mm, Victorien 80 mmlaid hand tight.

## 10 EDGE RESTRAINT

- Pour concrete curb to bottom of excavation or top of base, not on setting bed (per design criteria).
- Place Belgik or Pietra to desired grade on wet concrete.
- Reinforce concrete behind curb to a minimum 6" (15 cm) taper.

## 11 JOINT FILL

- AASHTO #8 1/4" (7 mm) clean stone.
- Prevent contamination from fines and debris.
- Sweep stone to fill joints.
- Vibrate with a 5000 lb (2268 kg) centrifugal force rated machine to ensure jointing stone consolidation.
- Sweep and vibrate again as needed to establish completely filled joints.
- Use "Putty Knife" test to ensure joints are full.
- Avoid damage to paving units from compactor by use of rubber roller kits plate pads, etc.

## 12 POST INSTALLATION PROTECTION

- Prevent contamination of your porous (permeable) pavement system from fines and debris by maintaining Erosion & Sedimentation (E&S) measures at the perimeter.
- Remove clogged joints and replace (when necessary).