



The installer...

...how to choose it?

Choosing a qualified installer is as important as choosing the materials themselves. The quality and durability of your landscape project depends on a job well done—and that means a job undertaken by specialists. To make an informed decision as to the choice of installer, it's an excellent idea to ask a few simple questions, and get satisfactory answers.

Though it's not rocket science, installing retaining walls does require a certain amount of technique. The do-it-yourselfer with minimal experience in excavation, levelling and compacting will find a description of the steps to take for a professional job on the following pages. Novices will probably want to contact a qualified installer with experience in similar projects. To read more about how to select a reputable installer, **complete the form available in our web site at www.permacon.ca.**

Even if you have a third party do the job, keep this installation guide on hand. It will help you understand the different steps involved in your paving project.



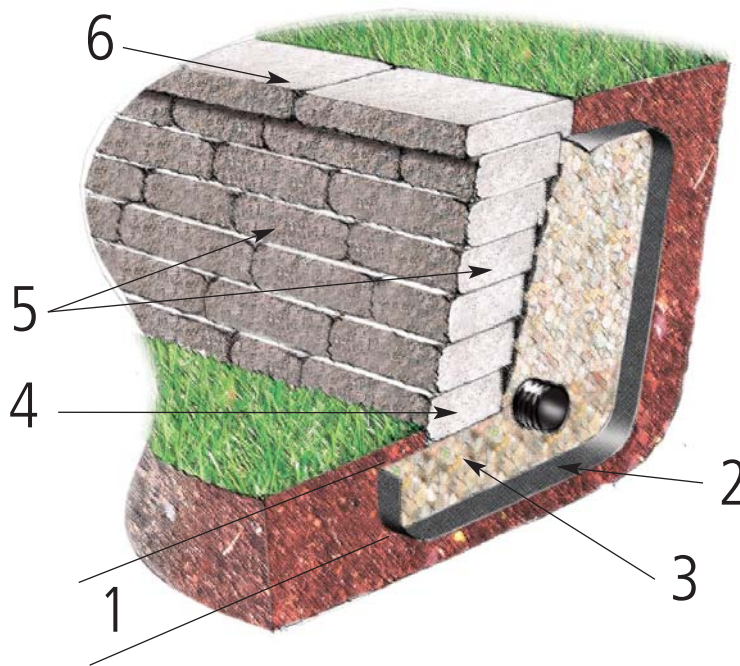
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Installation Guide

Retaining walls



Tools required

- 1 wheelbarrow
- a few pegs
- 1 plumb line
- 1 level
- 1 15 m long (50 ft.) bricklayer's line
- 1 shovel
- 1 chalk line
- 1 measuring tape
- 1 broom
- 1 rake
- 1 guillotine or concrete saw (available from rental stores)
- 1 vibrating plate or jumping jack (compacting tool available from tool rental stores)

1 Excavation

Dig a trench. The excavation depth must take into account the 150 mm (6") depth of the foundation as well as the buried depth of the modules or of the first row of modules. Take into consideration that 10% of the height of the wall should be buried. The width of the trench will depend on the type of block selected. However, you must allow for a trench of at least 300 mm (12") in width to construct a drainage system with clean stone behind the wall.

2 Preparation of the base

Cover the back and the bottom of the trench with a geotextile membrane to prevent the soil from obstructing the drainage system. This geotextile membrane should project about 300 mm (12') beyond the top of the slope.

3 Foundation

Prepare a 150 mm (6") foundation of 20-0 mm (0-3/4") crushed stone (in the case of clay soils, it is strongly recommended to increase the depth of the excavated areas) and compact using a jumping jack or a vibrating plate. Then install a 102 mm (4") diameter perforated drain on the foundation and connect it to the existing drainage system. This drain will be covered with 20 mm (3/4") crushed stone in step 5.

4 Installing the first row

Lay the blocks level on top of the foundation according to the layout chosen.

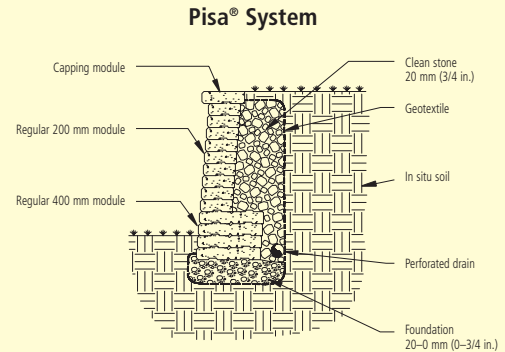
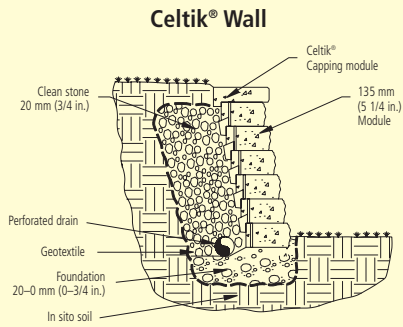
5 Backfilling the wall

Fill the space behind the blocks with clean stone of 20 mm (3/4"). Pack down lightly.

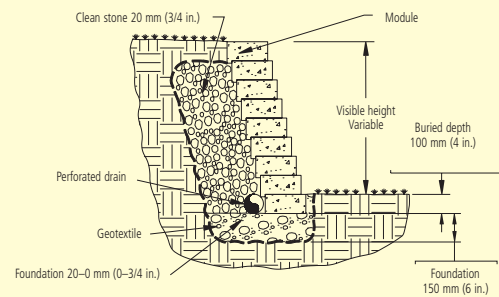
6 Installing additional rows

Install additional rows. Backfill the wall (step 5) approximately every 200 mm (8"). Use capping modules to top off your wall (if available for the type of retaining wall chosen). We recommend the use of a concrete glue to secure them. Finishing: Cover the clean stone with the excess geotextile membrane in order to avoid contamination of the drainage system with soil. Fill and level the soil behind the last row of blocks to complete the job.

Typical section Installations



Country wall, Keystone® Garden wall, Old Forge®, Universal® slope block and Split-face Universal® slope block



Wall characteristics

Type of blocks	Installation method	Maximum possible height ⁽¹⁾ without overload at the top of slope		Minimum possible radius		Wall angle Degrees	Amount of blocks required	
		Feet	Metres	Feet	Metres		/m ²	/ft ²
Universal® Slope Block	Without joints	5.0	1.5	5.0	1.5	15	35	3.2
	50 mm (2 in.) joints	4.25	1.3	5.0	1.5	15	28	2.6
	100 mm (4 in.) joints	3.7	1.1	5.0	1.5	15	24	2.2
Split Face Universal® Slope Block	Without joints	5.0	1.5	5.0	1.5	10	35	3.2
	50 mm (2 in.) joints	4.25	1.3	5.0	1.5	10	28	2.6
	100 mm (4 in.) joints	3.7	1.1	5.0	1.5	10	24	2.2
Pisa® System	200 mm (8 in.) blocks	2.0	0.60	-	-	5	17	1.6
	200 mm (8 in.), 300 mm (12 in.) and 380 mm (15 in.) blocks	5.0	1.50	-	-	5	variable	variable
	200 mm (8 in.) and 400 mm (16 in.) blocks	5.0	1.50	-	-	5	variable	variable
Pisa® Patio System		2.0	0.60	-	-	0	21.5	2.0
Unislope® Wall	Without joints	5.0	1.5	5.0	1.5	18	33	3.2
Keystone® System	Mini and / or compact	3.0	0.9	4.0	1.2	2 and 10	22 and 11	2 and 1
Keystone® Garden-Wall		3.0	0.9	3.0	0.9	15	32	3.0
Celtik® Wall	Angle wall	3.5	1.1	3.0	0.9	9	variable	variable
	Vertical wall	1.7	0.55	3.0	0.9	0	variable	variable
Mega-Celtik® Wall		3.0	0.9	3.0	0.9	9	Variable	Variable
Country Wall		2.0	0.61	4.0	1.22	0	51.6	4.80
Old Forge® Wall		3.0	0.9	3.0	0.9	15	32	3.0

⁽¹⁾ Maximum height for a wall without geogrid reinforcement. For specific wall, you can obtain higher height with the use of geogrid reinforcement. For more details, consult our engineering service.



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