

TERREWALKS® Installation Manual

TERREWALKS® is an interconnected open-grid modular paving system made of 100% waste plastics. The patented design makes installation fast, easy and secure.

Basic Rules for Success

- 1) TERREWALKS® is intended to be installed/supervised by an experienced interlocking paver professional
- 2) Use specified base materials. (No sand, no DG.)
- 3) Attain proper compaction: 92%-95%.
- 4) Follow Guide for seam spacing and leave spacers in until job completed
- 5) If removing existing hardscape remove less than specified length.
- 6) Be cautious near trees to avoid damage to trunk and roots.

INSTALLING TERREWALKS® - OVERVIEW



- 1) Break out existing concrete (use jackhammers near trees)
- 2) Tree root inspection (if applicable)
- 3) Excavate native soil to 4" depth & compaction (6" depth required for vehicular traffic)



- 4) Layer of geotextile placed (if soil highly unstable)

5) Base material laid and compacted (95%)

6) Finishing material laid and compacted (95%)



7) Connect & place sets of TERREWALKS® with proper spacing. Small rise on center tabs prevents pavers from being closed tight. Use of dowels or wood shims will aid in proper gapping.



8) Drive spike through hole in extended tabs on both outside edges of installation & secure into base. (2 spikes per paver. Do not spike internal joints unless in driveway.)



SHIPPED PRODUCT INCLUDES:

- TERREWALKS® (5 square feet each, 24" x 30" x 2", 35 pounds)
- PERMALOC Spiral Steel Spikes or Eco-Border Recycled Plastic spikes (two per paver provided)
- Step-by-Step Installation Manual (Electronic; hard copy upon request)



CONTRACTOR PROVIDES:

- 3/4-Minus crushed angular rock for base (no fines, no sand)
- 1/2" crushed aggregate angular to create leveling layer OR
- Class 2 Permeable base (with angular fines) for base & leveling layer
- Mirafi 500x Geotextile Fabric or equivalent permeable geotextile if needed



Mirafi 500x Geotextile

No sand, decomposed granite or stone dust.

TOOLS OF THE TRADE

- Sod Cutter
- Hand Tools: Flat Head Shovels, Mallets, Hammers, Scissors and/or Blade, Expansion joint gapping tool or spacers, Tape Measure (cloth or plastic)
- Cutting Tool, Steel Pry Rod (with Flat Blade End)
- Landscape Rakes & Notched Screed

- 3,600cf~4,000cf+ Vibratory Plate Compactor (95% compaction)
- Builders' Level
- Tape measure
- Portable jigsaw for radial cuts; Skill Saw for straight cuts



- Steel Pipes / String line or 2"x 4" Wood for demarking sides & levels
- Air Spade or tree root trimming equipment (if required)

PRE-INSTALLATION

Each site is different. Consider the following:

- Site Accessibility
- Site Work Schedule Restrictions
- Site Security
- Site Utilities
- Adjacent trees and tree root growth
- Soil type and conditions
- Climate conditions

Job Site Storage

- TERREWALKS® must be stored on a flat surface.
- When stacking TERREWALKS® alternate top side-up and bottom side-up. Do not stack TERREWALKS® top side-up only. TERREWALKS® are designed with slight crowning for walking comfort and water flow. Stacking top side-up only may result in over-crowning of pavers and may lead to deformity.
- If storing TERREWALKS® for over two weeks, loosen steel strapping
- Do not leave unbound material on job site unattended.

INSTALLING TERREWALKS® – STEP BY STEP

STEP ONE – BREAK OUT



- Break out existing concrete. If site is 20 feet, break out 20 feet minus four inches. This allows a final cut to take place during installation to accommodate variables.
- Use jack hammer near trees. **NO BACKHOES**. Do not use a backhoe near trees or tree roots, as it can damage them. **CAREFUL NEAR TREES!**
- On sides, clear additional 1.5" per side to accommodate tabs.

STEP TWO – TREE ROOTS

ARBORIST INSPECTION RECOMMENDED



Tree that has outgrown original concrete tree well, now too small



Directional root trimming, selecting roots safe to cut without endangering tree



- Access need for tree root trimming. **WORK WITH CONSULTING ARBORIST.**
- Trim roots as little as possible. Roots can be left intact up to 1.875" from grade (flush to base of paver.)
- Directional root trim when necessary.

STEP THREE – TRENCH PREPARATION, NATIVE SOIL

- Excavate to 4" (or more if depth can be achieved without damage to tree roots). Removal of existing concrete leaves 4" and no additional excavation is needed.
- Rough grade native soil at 4" (to 6" for vehicular traffic) below finish and compact with vibra plate. Use caution when working around tree roots.

- Follow Soils Engineer evaluation regarding need for French drains, sheet drains or other method for drainage.
- Take special care around tree roots.



STEP FOUR

- Place first layer of geotextile (optional). This is used to keep native earth from flowing into the crushed rock layer and to stabilize base. Geotextile is 12.5' wide. Using scissors or cutting tool, cut width according to the width of installation plus 6 inches. Cut geotextile length flush on end sections where butted against existing concrete.



Soil-to-Base layer of geotextile



Six inch sub base when pavement used for vehicular traffic

STEP FIVE – BASE PREPARATION - Bottom Layer



Class 2 permeable base (See Appendix A)

Set string lines to base installed height, at appropriate depth below finish grade.

Take special care around tree roots. Protect with geotextile as needed.

Apply 2-1/2"-6" layer of Class 2 Permeable base (preferred) or 2-1/2"-6" layer of 3/4" Crushed Aggregate Base. (See Appendix A)



Distribute & compact, wetting for best compaction.

STEP SIX – BASE PREPARATION- LEVELING LAYER

Set string lines to base installed height 2" below finish grade.

Apply thickness of 1-1/2" crushed angular Rock or Class 2 permeable base.

Use landscape rakes to distribute base evenly with 2"x4" wooden forms, level and notched screed or ruling-off stick to create accurate grade.



Compact done in 4" lifts to achieve maximum density and load bearing capacity. Each layer will require several passes with the proper compacting equipment.

Compaction should be at least 95% Proctor density (per ASTM D 698) for pedestrian areas and residential driveways. For areas subjected to vehicular traffic, compaction must be at least 95% Modified Proctor Density (per ASTM D 1557).

COMPACT 95%

STEP SEVEN – LAY & CONNECT PAVERS SPACING

TERREWALKS® seams **must be spaced**, both end-to-end and width-to-width. Spacing is necessary to facilitate drainage and for the thermal expansion and contraction of the material. Following spacing guidelines will ensure that TERREWALKS® remain flat and aligned in all temperature conditions.

Leave spacers in place until installation is completed.



- Follow the spacing guidelines (See Spacing Guide below).
- Consider actual temperature of pavers, rather than outside temperature. Stacked or covered pavers may not be same as ambient temperature. Pavers lying out in sunshine may be warmer than outside temperature. Expansion allowances must be considered for installations in below 50° F temperatures, or when pavers themselves are below 50° F. Pavers will expand as temperature rises.
- Additional periodic ½” expansion joints should be considered in climates where temperatures exceed 105°. (TERREWALKS® will expand and contract according to temperature and sunlight.)
- Leave additional gap of 1/8” per 18 feet (7 pavers 4-ft-side walkway, 9 pavers 5-ft-wide walkway) at the end of long runs to allow for expansion and contraction.
- When possible, allow product to acclimate to outside temperature prior to installation to properly measure and assess gapping needs.
- No space should exceed ½” and any ½” joint should be filled with filler. Use as directed.
- Cut off tabs completely when laying pavers need to hardscape; leave proper spacing between paver and existing hardscape as needed.



Pavers with wood shims to aid spacing



Laying out pavers prior to joining



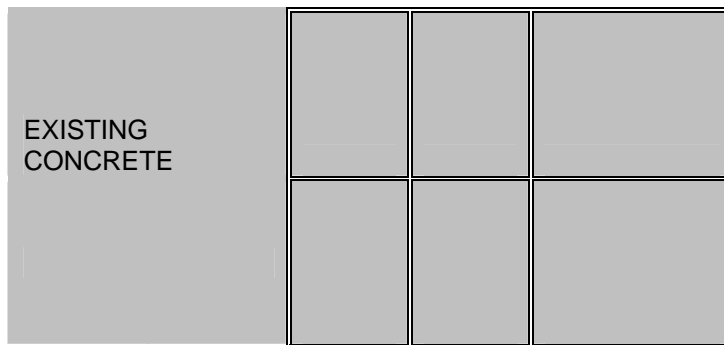
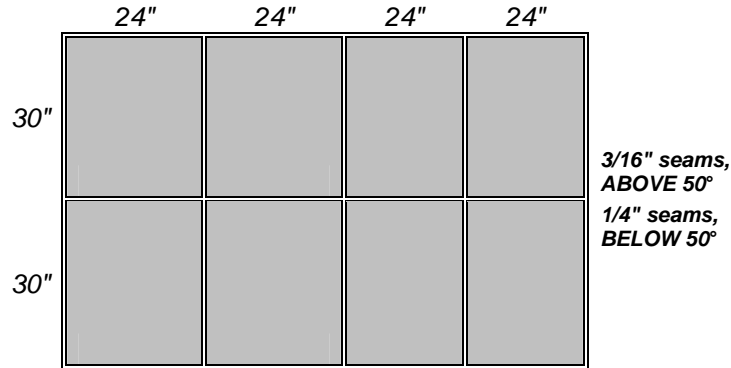
Width-to-width: above 50°F = 3/16" gap, below 50°F = 1/4" gap.

End-to-end: Five foot wide sidewalks: above 50°F = 3/16" gap, below 50°F = 1/4" gap.
Four foot side sidewalks: above 50°F = 1/4" gap, below 50°F = 5/16" gap

SPACING GUIDELINES

**FIVE FOOT WIDE
SIDEWALK:**

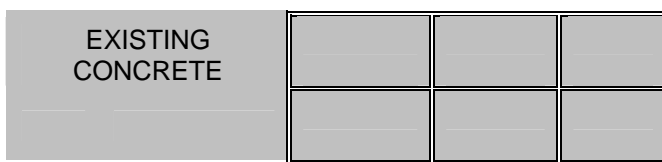
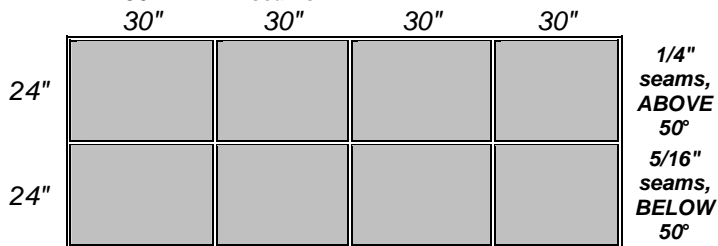
ABOVE 50° **3/16" seams**
BELOW 50° **1/4" seams**



ABOVE 50° **1/4" seams**
BELOW 50° **1/2" seams**

FOUR FOOT WIDE SIDEWALK:

ABOVE 50° **3/16" seams**
BELOW 50° **1/4" seams**



ABOVE 50° **5/16" seams**
BELOW 50° **1/2" seams**

EXISTING HARDSCAPE (CURBS, WALLS, ETC.)

When abutting against existing concrete sidewalk or curbing, cut off tabs leaving 3/16".

Any seam over 1/4", fill with foam and flexible grout as needed. (A 30" paver can expand 1/8" on each end at 130°F.)

NEW CONCRETE POUR

When pouring new concrete against pavers, leave tabs in place. Pour concrete flush to tiles, and increase gap of next seam(s), adding an additional 1/4" or 1/2" depending on temperature. In any seam over 1/4" fill with foam filler and grout.

FAILURE TO FOLLOW SPACING INSTRUCTIONS WILL RESULT IN CROWDED PAVERS AND CAN LEAD TO TEMPORARY BOWING LIKE THIS:



These pavers were actually 'wedged' tight into the space, causing them to bow when expanded.

METHOD OF LAYING PAVERS

Put two pavers together to create one horizontal pair (4' wide or 5' wide depending on site).





Put second pair together, slide and adjoin to first pair. The tabs will 'interlock' even when leaving a space. Use shim or dowel to create appropriate space in seam. Leave in place. Continue along site.



When working on installations more than 5', it is recommended to assemble the pavers on a sheet of geotextile, and then slide set into position.

(Please note that some photographs do not illustrate proper spacing.)



If sections are butted against existing concrete on one end, cut off tabs and place against concrete then slightly increase the gap on the other side, to ensure safe transition, or use concrete expansion filler in gap. **TERREWALKS®** is rigid enough to remain stable if not connected. Make sure base is properly compacted adjacent to concrete.



If end(s) is to be finished with a fresh concrete pour, then leave the extruding tabs intact. Depending on existing hardscape, concrete may need to be cut to make room for TERREWALKS® paver. Paver and concrete can be joined by drilling holes in both faces at equidistance, and securing with a dowel. Make sure to leave space between paver and hardscape.



Walk on and check each paver. Make sure pavers are at same height of existing concrete. Make sure no drop out exists beneath. Make corrections as needed.

STEP EIGHT – SPIKING IN PAVERS



Using a spike, a tool or a drill, open and slightly enlarge hole in the tab, making it an oval, so that the spike will sit inside the hole not touching all sides. Drive spiral spike through hole in flange and into ground at the center of each paver. (No more than two spikes per paver, outside edge only.) Do not drive spike into tree roots.



SPECIAL CONDITIONS - CUTTING

TERREWALKS® may need to accommodate a curve, radius, tree well or other unique need.

TERREWALKS® can be cut in the field using a ripping black (Skill Saw, worm drive), jig saw (for curves) while spraying with soapy water, or a portable band saw (which remains cool). Do not torque or force paver into curve, or use spike to hold in place.

Keep a bottle of **Simple Green** handy, to lubricate the blade and keep down heat and smoke.



We do not recommend cutting off the tabs except when necessary. However TERREWALKS® are solid. No matter where you cut them, the cut side will remain rigid and in most uses will provide structural integrity.

EXPANSION SEAMS & SPECIAL CUTS/JOINTS

Any ½” seam should be filled with foam filler such as Bakerod and resilient filler material such as Deco-Seal 125, prepared and used according to manufacturer’s instructions. Please contact company for guidance on specific job.



Caulking special seams

Foam filling for large seams

APPENDIX A
PERMEABLE BASE MATERIALS SPECIFICATIONS

For use in base with **TERREWALKS®**
 modular interlocking recycled pedestrian pavement systems.

SIEVE SIZE CLASS 2 PERMEABLE BASE MATERIAL					
SIEVE SIZE		Weight Retained	% Weight Retained	% Passing Required	% Passing Sample
Standard	Metric				
2"	50mm				
1 1/2"	37.5 mm				
1"	25 mm			100%	100%
3/4"	19 mm	0.1	0	90-100%	100%
1/2"	12.5 mm	7.9	23		77%
3/8"	9.5 mm	13	39	40-100%	61%
#4	4.75 mm	21	62	25-40%	38%
#8	2.36 mm	153	32 68	18-33%	26%
#16	1.18 mm	301	62 38		14%
#30	600 um	400	83 17	05-15%	6%
#50	300 um	447	93 4	0-7%	3%
#100	150 um	462	96 2		2%
#200	75 um	475	98 2	0-3%	1%
Pan		483			
S.E.	85				

SIEVE SIZE CLASS 1 PERMEABLE BASE MATERIAL					
SIEVE SIZE		Weight Retained	% Weight Retained	% Passing Required	% Passing Sample
Standard	Metric				
2"	50 mm				
1 1/2"	37.5 mm			100%	100%
1"	25 mm			100%	100%
3/4"	19 mm			90-100%	99.00%
1/2"	12.5 mm				72%
3/8"	9.5 mm			40-100%	51%
#4	4.75 mm			25-40%	32%
#8	2.36 mm			18-33%	25%
#16	1.18 mm				19%
#30	600 um			05-15%	12%
#50	300 um			0-7%	5%
#100	150 um				2%
#200	75 um			0-3%	1.50%
Pan					