

PAVING SYSTEM - TERRA SYSTEM ONE

SPECIFICATIONS

PRODUCT DESCRIPTION:

Terra System One provides a level surface for installation of concrete pavers over a pitched surface. The system ensures precise paver alignment and even spacing that allow for drainage and air circulation critical to the health of a deck installed over any waterproof membrane. It also allows for easier access to the subsurface for scheduled maintenance or repairs without damage to the paved surface. Terra System One can also be installed at grade level where the surface is not pitched.

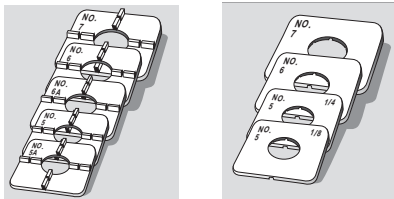
Basic Use: Terra System One is designed for exterior application on pitched roof decks, plazas, parking garages, terraces, and more.

Components and Materials:

Terra-Pavers: Available in four types and seven surfaces. Unlimited colors can be created by custom blending of matrixes and any variety of aggregates.

Type 1 - Exposed Aggregate	Type 5 - Ground/Blasted
Type 2 - Granitex	Type 6 - Cool Pavers
Type 3 - Fabritex and Cotillion	Type 7 - Ocean View
Type 4 - Stoney Creek	Type 8 - Glass

Sizes range from nominal 12" (30.48 cm) to 36" (91.44 cm) squares in thicknesses of 2" (50.8 mm) to 3" (76.2 mm).



Terra-Tab: An SBR rubber unit that provides for drainage, air circulation and precise paver alignment. (Patent pending)

- #7 - 1/2" (12.7 mm) thick, 7" (17.78 cm) sq., 3/16" (4.76 mm) wide
- #6 - 7/16" (11.11 mm) thick, 6" (15.24 cm) sq., 3/16" (4.76 mm) wide
- #6A - 7/16" (11.11 mm) thick, 6" (15.24 cm) sq., 1/8" (3.18 mm) wide
- #5 - 3/8" (9.53 mm) thick, 5" (12.7 cm) sq., 3/16" (4.76 mm) wide
- #5A - 3/8" (9.53 mm) thick, 5" (12.7 cm) sq., 1/8" (3.18 mm) wide

Terra-Shim: An SBR rubber unit that provides for shimming uneven surfaces to a level plane.

- #7 - 1/8" (3.18 mm) thick, 7" (17.78 cm) sq.
- #6 - 1/8" (3.18 mm) thick, 6" (15.24 cm) sq.
- #5 - 1/8" (3.18 mm) thick, 5" (12.70 cm) sq.
- #5 - 1/4" (6.36 mm) thick, 5" (12.70 cm) sq.



Terra-Adjust: Adjustable paver pedestal that telescopes and tilts to provide level surface for the paver installation. (Patent no. 4,570,397)



Extender: Extends the height of adjustment of the Terra-Adjust from 5-1/2" (13.97 cm) to 10" (25.4 cm).



Reducer: Base with three rings for height adjustments between 1/2" (12.7 cm) and 2" (5.8 cm) with 3/8" (9.53 mm) increments.

Blok Handle: Steel handle for management and placement of Terra-Pavers. Available in nominal:

12" (30.48 cm), 18" (45.72 cm), 24" (60.96 cm)

Big-Blok Handle: Two-person steel handle for management and placement of Terra-Pavers. Adjustable to work with nominal 24" (60.96 cm), 30" (76.2 cm), and 36" (91.44 cm) pavers.

Wheel-Attachment: Attaches to block handle, allows for one person to lift and position large pavers.

Terra System One Mix: Pre-blended concrete product for on-site filling of Terra-Adjust.

Limitations: Substrates that receive Terra System One must be designed to support the weight of the system.

TECHNICAL DATA:

Terra-Pavers: Concrete paving stones individually formed under intense vibration and hydraulic pressure. Tests are documented by independent laboratories on projects of 10,000 sq. ft (929 sq. m) or larger. Materials conform to these ASTM specifications:

- ASTM C 150-98 for Portland cement
- ASTM C 33-99 for normal weight aggregate
- Applicable ASTM coloring specifications where necessary
- ASTM C 140-02 for minimum compression strength of 7,500 psi (average 8,000 psi in 2" material)
- ASTM C 140-97 for water absorption not greater than five to six percent
- ASTM C 293-94 for flexural strength of 800 psi
- ASTM C 67-97 Section 8 Freeze/Thaw - no breakage and not greater loss than one percent in dry weight of any individual unit when subjected to 50 cycles
- Center Load - individual pavers should support a concentrated load of 1,850 lbs. (793.8 kg) when supported on four corners. Test method WT CL-96
- Sizing - permissible variations in dimensions should not differ by more than 1/16" (1.59 mm) in width, height, length, thickness, or convex or concave deflection. Standard units are manufactured with a 3/16" (4.76 mm) bevel on four sides of finished surface.

Terra-Tab: SBR rubber unit manufactured exclusively for the support of the paving unit (concrete, granite, marble, etc.) installed over a waterproof membrane. It has a shore hardness 70 (ASTM D 2240-91) allowing for resiliency without sound transmission. Available in three sizes to accommodate all paver sizes.

Terra-Tab spacing tabs allow for perfect 3/16" (4.76 mm) joints to provide for expansion, air circulation, drainage, and precise alignment. Optional 1/8" (3.18 mm) tabs are available for the #5A and #6A tabs.

Average installations call for one Terra-Tab per paver on a standard square or rectangular deck. Decks of other designs and/or containing columns will require more Terra-Tabs for use with the cut pavers.

Terra-Shim Plates: SBR rubber units. 1/8" (3.18 mm) and 1/4" (6.36 mm) thick manufactured to coincide with Terra-Tab sizes. Average installation requires five shim plates per 100 Terra-Tabs. Irregularities in deck sub-surfaces will increase the number of shims required.

Terra-Tabs and Terra-Shims can be set directly on the waterproof membrane, on an optional protection board or insulation without harm.

Terr-Adjust and Extenders: Made of high-impact styrene, the Terr-Adjust telescopes and tilts to accommodate project slope and provide a level surface for Terra-Paver installation. Outside base diameter of 6-1/8" (15.56 cm) provides contact surface of 29-1/2" (74.93 cm) square. Unit telescopes for a minimum of 2" (5.8 cm) to maximum of 5-1/2" (13.97 cm). The extender option can provide an additional 4-1/2" (11.43 cm) of adjustment to a maximum height of 10" (25.4 cm). It is installed on previously established grid lines, adjusted, locked into place, and filled with Terra System One Mix for permanence creating a solid concrete pedestal protected from the elements. An average project will require one Terr-Adjust for each Terra-Paver, plus the perimeter.

Reducer: Made of high-impact styrene, reducer is made to accommodate height adjustments between 1/2" (12.7 mm) and 2" (50.80 mm). An outside base diameter of 6" (15.24 cm) provides contact surface of 33 sq. inches (83.82 sq. cm). Unit consists of a base with three rings. The first ring stands at 1/2" (12.7 mm) high, with the additional rings providing 3/8" (9.53 mm) of adjustment. Reducer units are leveled, then filled with Terra System One Mix.

Blok Handle: Made of 10-gauge HRCQ steel, Blok Handles are available for most Terra-Pavers. Precise sizing of the handle provides for easy manipulation during installation without harm to the paver or other components, while allowing for 3/16" (4.76 mm) joints. The handle also makes removal easy, should repairs to subsurface components be necessary.

Big-Blok Handle: Made of steel, unit is adjustable to work with 24" nominal (60.96 cm), 30" (76.2 cm), and 36" (91.44 cm) pavers. Requires two people to operate.

Wheel Attachment: Takes the place of one handle, enabling one person to transport and place paver units. Made of steel, with a 16" x 6.5" pneumatic tire.

Terra System One Mix: Pre-blended, dry concrete mix that meets ASTM C 387-87A specifications. When mixed with water, it provides a compressive strength of 5,500 psi at 28

days. Intended for use with Terr-Adjust paver pedestals, extenders, and the reducer unit, supplied in 100 lb. (220.4 kg) bags that produce 7/8 of one cubic foot (.025 of one cu. m) of material. Mix should be allowed to set and cure. Keep free of weight for 24 hours.

INSTALLATION:

Installation requirements depend upon individual project needs. Wausau Tile, Inc. will recommend tools and techniques, however contractors should have experience in the installation of similar systems. Grid layout and pattern are determined by the architect or installing contractor.

Typical installations begin by determining a starting point based on pattern layout. Next, measurements are taken and chalk lines placed. Terra-Tabs are placed on the intersections of these chalk lines where the finished surface is to follow the natural slope. Terr-Adjust pedestals, extenders, and reducers are placed, adjusted, and filled with Terra System One Mix. Terra-Pavers are set on Terra-Tabs. Minor height and pitch adjustments are made using 1/8" (3.18 mm) Terra-Shim plates. Should repair to the sub-structure be needed, Terra-Pavers are easily removed and replaced with the Blok Handle or Big-Blok Handle.

AVAILABILITY AND COST:

Terra System One components are delivered factory direct. Delivery time is subject to manufacturing schedule. Prices quoted upon request.

WARRANTY:

Full Terra System One installation, using all components, carries a three-year Limited Warranty. Individual components are warranted as follows:

- Terra-Pavers - Three-year limited warranty
- Blok Handles/Big-Blok Handles - Three-year limited warranty
- Terra-Tab/Terr-Adjust/Extender/Reducer/Terra System One Mix - Three-year limited warranty

A copy of the complete warranty is available upon request. Warranties can be negotiated for extension.

MAINTENANCE:

Complete Terra System One installations require periodic cleaning by use of high-pressure water system to rinse off debris. Regular maintenance also includes adjustment of pavers that may have shifted or been damaged. Installations over waterproof membranes allow for access to the substrate for maintenance. Drains should be cleaned as needed to prevent water back up.

TECHNICAL SERVICES:

Consultation services are available for all Terra System One applications, including paver selection, project design, and installation recommendations. Contact Wausau Tile's Terra-Paving division for any assistance.

This information updated 2/6/04 by Wausau Tile, Inc.