

Guide Specifications
PLAZA PAVER
Section 077616 Roof Decking Pavers



Westile Plaza Pavers provide a practical solution for maximizing space and building decks. Utilizing both fixed height and fully adjustable pedestals, construction crews are able to efficiently install plaza decks over sloping, difficult or uneven surfaces. Westile Plaza Pavers allow future access to the waterproofing membrane or rooftop utility lines by simply removing specific plaza pavers.

Part 1: General

1.01 Section Includes

- A. Roof pavers
- B. Deck pedestals

1.02 Related Sections

- A. Section 042200 - Concrete Unit Masonry
- B. Section 044000 - Stone Assemblies
- C. Section 061500 - Wood Decking
- D. Section 065000 - Structural Plastics
- E. Section 067300 - Structural Composites
- F. Section 075000 - Membrane Roofing
- G. Section 077246 - Roof Walkways
- I. Section 077600 - Roof Pavers
- H. Section 096900 - Access Flooring

1.03 References

- A. ASTM C1491 – Concrete Roof Pavers
- B. ASTM C1782 – Segmental Concrete Paving Slabs
- C. ASTM C1645 – Freeze Thaw
- D. ASTM C140 – Compressive Strength
- E. ASTM C140 – Water Absorption
- F. ASTM C293 – Flexural Strength

1.04 Submittals

- A. Submit in accordance with Section 013000
 - 1. Shop drawings showing layouts, sizes and sections
 - 2. Product data
 - 3. Samples
 - 4. Delivery, storage and handling requirements and recommendations
 - 5. Installation methods
 - 6. Warranties

1.05 Quality Assurance

- A. Manufacture qualifications
 - 1. Primary products specified in this section to be supplied by a manufacture with a minimum of ten (10) years experience
- B. Installer Qualifications
 - 1. Must show successful completion of similar sized projects
 - 2. Must be capable of estimating and installing from blueprint plans and details
 - 3. Must know how to properly handle and store materials being used
 - 4. Must verify the structure can sustain the dead and live load weight(s) involved
 - 5. Must verify the density of any insulation (if applicable) is satisfactory to resist crushing and damaging the waterproofing membrane
 - 6. Must conform to all local and state licensing and bonding requirements

1.06 Delivery, Storage and Handling

- A. Deliver materials to project site in the original packaging with the manufacture's labels intact and legible
- B. Inspect all materials to ensure they are undamaged and in good condition
- C. Store materials in a clean, dry and protected location
- D. Ensure waterproofing membrane is not damaged while delivering, storing or handling material

1.07 Project Conditions

- A. There are no installation temperature restriction guidelines other than the practical considerations of working in any unsafe condition or inclement weather.
- B. Deck supports specified are to be for used with pedestrian traffic only.
- C. Pedestrian decks must be restrained by perimeter blocking or walls on all sides. Lateral movement greater than one tab width is unacceptable and will be rejected.
- D. Installation or anticipated installation of additional items on top of the deck, (such as planters, concrete benches, sculptures, hot tubs, grills, or industrial equipment) must be supported directly by additional pedestals that are in addition to the main deck paver/tile pedestal system. Special consideration must be also given when installing equipment that vibrates. Total weights must be calculated and dispersed evenly over the number of pedestals needed to carry the expected weight. To avoid point loading, the use of planters or architectural features with 'feet' is not allowed. Failure to adequately support the additional weight of any such features or items may cause significant damage to the deck, underlying structure, or waterproofing system.
- E. All decks shall be designed to not exceed the design capacity of the pedestal.
- F. The substrate immediately below the pedestals shall provide positive drainage.
- G. In the case of decks over roofing substrates, roof systems must meet local building code and be in accordance with the NRCA recommended good construction practices. Only roofing manufacturer approved systems shall be used.
- H. Decks over roofing and waterproofing:
 - 1. If integral roof insulation is installed immediately below the membrane, the type and density of the insulation (40 psi minimum) is of utmost importance. Roofing systems having "common" insulations with a medium density of 20 psi must also use either a recovery board or Bison Floating Insulation Bases (FIB). FIB's are installed immediately below the ScrewJack Pedestals to disperse the deck load.
 - 2. If high density closed cell extruded 40 psi polystyrene insulation is installed on top of the membrane in a protected membrane system, ScrewJack Pedestals may be installed directly on top of this type of insulation.
 - 3. Do not use ScrewJack Pedestals over any insulation less than 20 psi or with low density polystyrene (bead board) insulation.

Part 2: Products

2.01 MANUFACTURER

- A. Westile
5909 Baker Road Suite 550
Minnetonka, MN 55345
(800) 433-8453
(866) 552-6190 Fax
- B. Substitutions: Not permitted
 - 1. Substitutions will be considered in accordance with Section 016000

2.02 PAVER SYSTEM (select one)

- A. Level System: Provides a level paver surface over a sloped roofing assembly
 - 1. Compensates for various sloping substrates
 - 2. Can utilize both fixed height and fully adjustable ScrewJack pedestals depending on project conditions.

- B. Sloped System: Provides a paver surface that conforms to the slope of the roofing assembly.

2.03 PLAZA PAVERS

- A. Plaza Paver as provided by Westile
- B. Meet the required technical specifications:
 1. Compressive strength shall be 8,000 psi as tested in accordance with ASTM C140
 2. Minimal flexural strength shall be 725 psi as tested in accordance with ASTM C293
 3. Water absorption shall not exceed 5% as tested in accordance with ASTM C140
 4. Freeze thaw shall not exceed 1% loss of dry weight in accordance with ASTM C1645

2.04 SCREWJACK PEDESTALS

- A. Typical Height Range 0-36 inches (bracing required above 24 inches)
- B. Weight Bearing Design Capacity 1000 lbs/pedestal FS:3
- C. Integral 4.5 mm (3/16 inch) spacer tabs
- D. Material: Mineral Filled High Density Copolymer Polypropylene. Contains 20% Postindustrial recycled material.
- E. Made in the USA
- F. Adjustable pedestals with rotating base size of 7 7/8 inch (200mm) diameter x 3/16 inch (4.75mm) top wall thickness. Bearing Surface Area: 48 square inches (310 sq. cm.).
 1. Model B1: 1 1/4 inches to 2 inches (32mm - 51mm).
 2. Model B2: 2 inches to 3 inches (51mm - 76mm).
 3. Model B3: 3 inches to 4 3/4 inches (76mm - 121mm).
 4. Model B4: 4 3/4 inches to 7 3/4 inches (121mm - 197mm).
 5. Model B3 + C4: 7 3/4 inches to 9 inches (197mm - 229mm).
 6. Model B4 + C4: 9 inches to 12 inches (229mm - 305mm).
 7. Model B4 + C4 + C4: 12 inches to 16 inches (305mm – 406mm).
 8. C4 Coupler: Each adds up to 4 inches (102 mm) of height.
- G. Fixed height pedestals:
 1. Model: VT316 1/8 inch (3.175mm) tall with integral 3/16" spacer tabs.
 2. Model: HD25 Stackable (4 Max) 1/4 inch (6.4mm) tall, with integral Spacer Tabs
 3. Model: HD50 Stackable (4 Max) 1/2 inch (13mm) tall, with integral Spacer Tabs
 4. Model: HD75 Stackable (4 Max) 3/4 inch (19mm) tall, with integral Spacer Tabs
- H. Accessories:
 1. Model: LD4 - Placed beneath pedestals to compensate for slopes up to 1/4 inch per foot. Stack up to four LD4's under one pedestal for up to 1 inch of slope compensation.
 2. Model: B11 Flexible Shim 1/16 inch. Material: (1.5mm) Sanaprene.
 3. Model: PS1 Rigid Poly Shims 1/8 inch (3.175mm). Material: Mineral filled high density copolymer polypropylene.
 4. Model FFB: Pedestal base pad for on grade use, provides a large 12 inch by 12 inch x 1/4 inch (305mm x 305mm x 6 mm) base bearing surface for on grade installations.
 5. Model FIB: Pedestal base pad for use on roofing and waterproofing installations over low density insulation (20 psi minimum), provides a large 12 inch by 12 inch x 11/16 inches (305mm x 305mm x 17.5mm) base bearing surface.

Part 3: Execution

3.01 INSPECTION

- A. Pedestals are smooth, sound, clean and free of irregularities
- B. Related work penetrating the plane of the roof is completed (i.e. roof membrane)
- C. Verify that the roof deck will sustain the weight of the Plaza Paver system
- D. Verify deck dimensions, elevations and pedestal heights before commencing work
- E. Do not commence paver application until unsatisfactory conditions are satisfied

3.02 PREPARATION

- A. Clean and prepare deck in accordance with manufacturer's instructions.
- B. Establish visual pattern with accurate lines and levels.

3.03 INSTALLATION (requirements for installation are dependent upon individual project needs).

- A. First, determine a starting point; this will be largely dependent on where less than full size pavers are to be used.
- B. If partial paver at perimeter is necessary, begin installation of full pavers at the second row in the roof field.
- C. Mark perpendicular guidelines on substrate surface to ensure square layout
- D. Establish a grid pattern for the pedestals using chalk lines. Place ScrewJack at the grid line intersections. If the Level System is used, use a laser leveling device or a mason's line stretched from opposite sides to select the correct model of ScrewJack Adjustable Pedestal.
- E. Install initial pavers along guidelines forming a "T" pattern.
- F. Install Plaza Pavers against spacing ribs of pedestal.
- G. Fine tune adjustments to the paver surface can be made by using the pedestal shims.
- H. Any section of the roof that receives plaza pavers that is not restrained by an abutting wall or parapet must be "boxed in" by some field installed restraint.
 - 1. No movement should be allowed at the perimeter of the paver system greater than 3/16 inch.

Part 4: Maintenance

4.01 CLEANING

- A. During the course of the work and on completion, remove any cut dust from the surface of the pavers by means of high-pressure water or air; cut dust can and will discolor pavers if left unattended. Extreme care should be taken when using high-pressure water to avoid potential damage when used in a concentrated area.
- B. Concrete cleaning agents can be used as long as they are approved by the membrane manufacture. Westile assumes no responsibility for damage caused to the pavers or membrane as a result of cleaners used.
- C. Clean surface of paver using a broom or brush
- D. Once cleaned, rinse the pavers completely to avoid staining
 - 1. If rinse water is allowed to pool on pavers, secondary efflorescence can occur.
- E. Do not use de-icing agents including but not limited to Ammonium Nitrate, Ammonium Sulfate, Sodium Chloride (salt) and Calcium Chloride; these agents can be destructive and cause damage to pavers.
- F. Plaza Pavers can be easily removed from their existing locations by using the Probst Stab Grabber; this will allow easy access for repairs or cleaning of the substructure.

4.02 SEALING

- A. Concrete sealer may be applied to paver, but is not required.

Part 5: Warranty

5.01 Individual components of the Level and Sloped Systems are warranted as follows:

- A. Plaza Pavers - Limited 10 year warranty.
- B. ScrewJack, Shims, Couplers and Spacer Tabs - Limited 3 year warranty