

SECTION 077619 - PORCELAIN-TILE ROOF PAVERS

PART 1 - GENERAL

This is a specification guideline template. Verify all specifications in accordance with any applicable building codes and project engineering.

1.1 SUMMARY

A. Section Includes:

1. Porcelain-tile roof pavers.
2. Track support system.
3. Supplementary support system components and accessories necessary for installation.
4. Other system components provided by Installer.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product and system indicated.

1. Include manufacturer's specifications for materials, finishes, construction details, installation instructions, and recommendations for maintenance.

B. Shop Drawings: For paver tile track system layout; indicate adjacent construction, perimeter containment components, penetrations, attachment details, and other conditions.

1. Include data indicating compliance with performance requirements.

C. Samples for Initial Selection: For each type of porcelain-tile roof paver, provide representative charts of manufacturer's full range of patterns and colors.

D. Samples for Verification: For each type of exposed finish for each porcelain-tile roof paver selected.

1. Paver Size: Manufacturers' standard size, [**4 by 4 inches**] [**12 by 12 inches**] [**24 by 24 inches**].
2. Accessories: [**aluminum track**] [**spray adhesive**] [**double sided tape**].

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Statements: For delegated design engineer.

B. Sample Warranty: For warranty review.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For porcelain-tile roof pavers and paver support system to include in operation and maintenance manuals.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Extra Stock Material: Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents. Include inventory list of items delivered.
 - 1. Porcelain-Tile Roof Pavers: Full-size units in quantity equal to **[3]** <Insert number> percent of quantity installed for each type, pattern, color, and size.
 - 2. Deliver materials to location determined by Owner.

1.6 QUALITY ASSURANCE

- A. Delegated Design Engineer: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated.

1.7 MOCKUPS

- A. Mockup: Build mockups to verify selections made under Sample submittals and to set quality standards for materials and execution.
 - 1. Build mockup in size and location indicated on Drawings, or if not indicated, no fewer than **[four]** <Insert number> porcelain-tile roof pavers
 - 2. Acceptance of mockups does not constitute acceptance of deviations from the Contract Documents contained in mockups unless Architect specifically accepts such deviations in writing.
 - 3. Subject to compliance with requirements, accepted mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Protect products during shipping, handling, and storage to prevent staining, chipping, deterioration of components, or other damage. Store unused materials in original packaging.

1.9 WARRANTY

- A. Manufacturer's Warranty: Manufacturer and Installer agree to repair or replace the following:
 - 1. Damaged porcelain-tile roof pavers that are delivered to Project site chipped, cracked, or broken prior to being unpackaged.
 - 2. Porcelain-tile roof pavers and track system that fail in materials or workmanship within specified warranty period when installed and used in accordance with manufacturer's written instructions.
 - 3. Manufacturer's Warranty Period: Lifetime from date of Substantial Completion.
 - 4. Installer's Warranty Period: **[Three]** <insert number> years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

- A. Obtain porcelain-tile roof pavers and track system from single source or producer.

2.2 PORCELAIN-TILE ROOFING PAVERS

- A. Structural Porcelain-Tile Roof Pavers: An impervious vitreous tile with a water-absorption rate of 0.5 percent or less in accordance with ASTM C373 test method; abrasion, freeze/thaw, chemical, and stain resistant; intended for exterior use with paver support system.
 - 1. See current available colors for specification.
 - a. **<Insert manufacturer's name>**.
 - 2. Size: **Nominal 12x24, 24x24, 12x48, 24x48.**
 - 3. Thickness: **7/8"**
 - 4. Weight: **10.6 lbs. /sq. ft.**
 - 5. Breaking Strength (ISO 10545-4): **4500 lb./sq. ft.** minimum.
 - 6. Static Load Capacity (EN 12825): **1700 lb./sq. ft.** minimum.
 - 7. Slip Resistant (ASTM C1028): **R11 to R13 rated**
 - 8. Wind Uplift (ASTM E 1592): **Contact for specific installation method (160 MPH).**
 - 9. Colors and Textures: **[As indicated by manufacturer's designations] [Match Architect's samples] [As selected by Architect from manufacturer's standard range] [As selected by Architect from manufacturer's custom range] [As selected by Architect from manufacturer's full standard and custom range] <Insert color>**.

2.3 TRACK SUPPORT SYSTEM

- A. Aluminum Track: Low profile extruded aluminum track system attached directly to concrete base. Set height of **1 1/8 inch** from top of concrete to top of tile. Track system shall maintain **1/8- to 1/4-inch** paver joint width and alignment of pavers while allowing for drainage, air circulation, and preventing water accumulation.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide MBRICO LLC Low Profile Track (T Tracks, L Tracks, and Offset L Tracks) or comparable product by one of the following:
 - a. **<Insert manufacturer's name>**.
- B. Track System Components and Accessories: Provide accessories as necessary for a complete assembly.

1. Spray Adhesive:
 - a. Basis-of-Design Product: Subject to compliance with requirements, provide 3M Rubber & Vinyl 80 or comparable product by one of the following:
 - 1) <Insert manufacturer's name>.
2. Double Sided Tape:
 - a. Basis-of-Design Product: Subject to compliance with requirements, provide 3M VHB (2") Tape or comparable product by one of the following:
 - 1) <Insert manufacturer's name>.

2.4 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage manufacturer to design track system layout.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
 1. Verify suitability of any perimeter containment components.
- B. Examine system installation, with Installer present, for protection from system installation. Examine areas where any roofing system component is turned up or flashed against vertical surfaces and horizontal roofing.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Coordinate placement of track system with roofing membrane or concrete work.
- B. Lay out porcelain-tile roof paver and roof-paver track system locations, and mark for installation.

3.3 INSTALLATION OF TRACK & TILE SYSTEM

- A. Install track system in accordance with manufacturer's written instructions and accepted Shop Drawings.

3.4 INSTALLATION OF ROOF PAVERS

- A. Install porcelain-tile roof pavers in track system in accordance with manufacturer's written instructions and accepted Shop Drawings. Align joint patterns parallel in each direction. Lay out paver units to avoid less than half-width units at perimeter or other terminations.
- B. Set porcelain-tile roof pavers in place using placement methods that result in stable installation free from rocking, using sound pavers with no edge or surface damage. Make final in-place level adjustments using manufacturer's furnished tool to adjust paver support heights.
- C. Do not use paver units with chips, cracks, voids, discolorations, and other defects that might be visible or cause staining in finished work.

3.5 CONSTRUCTION TOLERANCES

- A. Variation of Level Across Width of Each Porcelain-Tile Roof Paver: **1/16 inch** maximum.
- B. Variation from Level for Paved Areas: Do not exceed **1/4 inch in 10 ft.** when measured at any location and in any direction.
- C. Variation in Joint Width: Do not vary joint thickness more than one-fourth of nominal joint width.
- D. Variation in Plane at Joints (Lipping): Do not exceed **1/16-inch** difference between planes of adjacent units.
- E. Variation in Line of Edge at Joints (Lipping): Do not exceed **1/16-inch** difference between edges of adjacent units, where edge line continues across joint.

3.6 CLEANING AND PROTECTION

- A. Remove and replace loose, chipped, broken, stained, or otherwise damaged porcelain-tile roof pavers or pavers that do not match adjoining units or pattern indicated on Drawings.
- B. Cleaning: Remove soiling from exposed porcelain-tile roof paver surfaces; wash and scrub clean. Leave joints between pavers open and clean of debris to allow for proper drainage and airflow.
- C. Provide final protection and maintain porcelain-tile roof pavers without damage or deterioration at time of Substantial Completion.

END OF SECTION 077619