



SECTION 07 76 16

CONCRETE DECK PAVERS AND PEDESTALS

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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Concrete deck pavers and pedestals for pedestrian applications.

1.2 RELATED SECTIONS

- A. Section 07 50 00 - Membrane Roofing.

1.3 REFERENCES

- A. ASTM International (ASTM):
 1. ASTM C 140 - Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units.
 2. ASTM C 293 - Standard Test Method for Flexural Strength of Concrete (Using Simple Beam With Center-Point Loading).
 3. ASTM C 979 - Standard Specification for Pigments for Integrally Colored Concrete.
 4. ASTM C 1262 - Standard Test Method for Evaluating the Freeze-Thaw Durability of Manufactured Concrete Masonry Units and Related Concrete Units.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 1. Storage and handling requirements and recommendations.
 2. Installation methods.
 3. Cleaning and maintenance instructions.
- C. Shop Drawings: Include layout, perimeter conditions, junction with other materials, expansion and control joints, paver layout, patterns, color arrangement, installation and setting details. Indicate layout, pattern and relationship of paving joints to fixtures, and project formed details.
- D. Certificates: Certificate of Compliance to specified performance requirements.
- E. Verification Samples: Four representative full-size samples of each paver type, thickness, color, finish that indicates the range of color variation and texture

expected in the finished installation.

- F. Deck Paver Installation Subcontractor Qualification and Documentation.
 - 1. Provide references from projects of a similar size and complexity. Provide Owner/Client/General Contractor names, address, phone, fax, and email address.
 - 2. Provide written Method Statement and Quality Control Plan that describes material staging and flow, paving direction and installation procedures, including representative reporting forms that ensure conformance to the project specifications.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 3 years manufacturing similar products.
- B. Installer Qualifications: Minimum 2 years installing similar products.
- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship is approved by Architect.
 - 3. Rebuild mock-up area as required to produce acceptable work.

1.6 PRE-INSTALLATION MEETINGS

- A. Convene a pre-installation meeting a minimum of two weeks prior to starting work of this section.
 - 1. Review the manufacturers' quality control plan, paver installation subcontractor's Method Statement and Quality Control Plan with a pre-construction meeting of representatives from the paver installation subcontractor, Contractor and Architect.

1.7 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 1 Product Requirement Section.
- B. Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.
- C. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers packaging with identification labels intact.
 - 1. Inspect all delivered materials to insure they are undamaged and in good condition.
 - 2. Deliver concrete pavers to the site on cubes capable of transfer by forklift or clamp lift.
 - 3. Unload pavers at job site in such a manner that no damage occurs to the product.
- D. Storage and Protection: Store materials protected such that they are kept free from mud, dirt, and other foreign materials. Store concrete paver cleaners per manufacturer's instructions.
 - 1. Cover bedding material and joint material with waterproof covering if needed to prevent exposure to rainfall or removal by wind. Secure the covering in place.

1.8 PROJECT AND SITE CONDITIONS

- A. Environmental Requirements:
 - 1. Do not install during heavy rain or snowfall.
 - 2. Do not install over frozen base materials.
 - 3. Do not install frozen or saturated materials.
 - 4. Do not install concrete pavers on frozen or saturated materials.
- B. Positive Drainage: Supplied by substrate below the pedestals.
 - 1. Verify materials in existing roofing system to confirm suitability for installation of pavers:
 - a. Do not use supports over any insulation less than 20 psi (138 kPa) or low density polystyrene (bead board) insulation.
 - b. Supports may be installed directly on top of high density closed cell extruded 60 psi (414 kPa) polystyrene insulation installed on top of the membrane in a protected membrane system.
 - 2. Decks on Grade: Any substrate soil that is to receive pedestals shall be adequately compacted and have positive drainage slope. A walkway gravel base (ie: 1/4 inch (6 mm) minus breeze) should be installed and compacted at pedestal locations.

1.9 SEQUENCING

- A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1.10 EXTRA MATERIALS

- A. Extra Materials: Under contract of installer, order additional material for use by owner for maintenance and repair.
 - 1. Quantity: 2 percent of amount of pavers installed. Label and crate.

1.11 WARRANTY

- A. Warranty: Provide manufacturer's standard limited 5 year commercial warranty.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Paver Manufacturer: County Materials Corporation, which is located at: 205 North St. P. O. Box 100 ; Marathon, WI 54448-0100. ASD. Toll Free Tel: 800-242-7733; Fax: 877-443-3691; Email: info@countymaterials.com; Web: www.countymaterials.com
- B. Acceptable Pedestal Manufacturer: MRP Supports, LLC, 3310 N Benzing Road, Orchard Park, NY 14127- Phone: 800-828-8424; Fax 716-332-7676; Email: mrp@mrpsupports.com . Web: www.mrpsupports.com
- C. Substitutions: Not permitted.
- D. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 CONCRETE DECK PAVER UNITS

- A. System: Construction of concrete paver applications in the U.S.
- B. Concrete Deck Pavers:
 - 1. Paver: Skylands Roof Deck Pavers manufactured by County Materials Corp.

- a. Finish: Fine texture; County Materials' proprietary face mix.
 - b. Dimensions (L by W by D): 24 by 24 by 2 inches (610 by 610 by 50 mm).
 - c. Average Compressive Strength (ASTM C140): 8000 psi (55 MPa) with no individual unit under 7200 psi (50 MPa).
 - d. Flexural Strength: Passes ASTM C 293. Greater than 2000 lbs (907 kg) center load test.
 - e. Freeze/Thaw Durability: Passes ASTM C 1262.
 - f. Average Water Absorption (ASTM C 140): 5 percent with no unit greater than 7 percent.
 - g. Color Pigment Material Standard: Comply with ASTM C 979.
 - h. Color: As selected from manufacturer's standard options.
 - i. Color: As indicated on the Drawings.
 - j. Color: _____.
- C. Accessories: Provide the following.
- 1. Cleaners:
 - a. Type and Manufacturer: As acceptable to manufacturer.
 - b. Type and Manufacturer: _____.

2.3 ADJUSTABLE DECK PAVER PEDESTALS

- A. Basis of Design: Eterno Adjustable Paver Supports by MRP Support, LLC:
- 1. Height Range Across Product Line: 1.125 to 21.75 inches (28 to 550 mm).
 - 2. Weight Bearing Design Capacity 2505 lbs (1136 kg) per support.
 - 3. Four, 1/4 inch (6 mm) diameter holes for drainage and mechanical attachment.
 - 4. Self-Leveling Head: 6 inch (152 mm) diameter, 5/32 inch (4mm) thick plate. Compensates for gradients of up to 5 percent.
 - a. Bi-material offering sound suppression and anti-slip properties.
 - 5. Body Material: High Density Polypropylene. 100 percent recycled material.
 - 6. Model Star T: 3/8 to 9/16 inches (10 to 14 mm)
 - 7. Model Star B: 3/16 inch (5 mm) Star T extension
 - a. Maximum 3 extensions per pedestal allowed.
 - 8. Model SE0: 1-1/8 to 1-1/2 inches (26 to 38 mm).
 - 9. Model SE1: 1-1/2 to 2 inches (38 to 51 mm)
 - 10. Model SE2: 2 to 3 inches (51 to 76 mm).
 - 11. Model SE3: 3 to 4-3/4 inches (76 to 121 mm).
 - 12. Model SE4: 4-3/4 to 6-3/4 inches (121 to 171 mm).
 - 13. Model SE5: 6-3/4 to 8-1/2 inches (171 to 216 mm).
 - 14. Model SE6: 5-1/2 to 9 inches (140 to 229 mm).
 - 15. Model SE7: 7-1/4 to 10-3/4 inches (185 to 273 mm).
 - 16. Model SE8: 9-1/4 to 12-3/4 inches (235 to 324 mm).
 - 17. Model SE9: 8 to 13-1/2 inches (203 to 343 mm).
 - 18. Model SE10: 9-7/8 to 15 inches (251 to 381 mm).
 - 19. Model SE11: 11-3/4 to 15-3/4 inches (298 to 400 mm).
 - 20. Model SE12: 10-1/2 to 18 inches (267 to 457 mm).
 - 21. Model SE13: 12-13/32 to 19-3/4 inches (315 to 502 mm).
 - 22. Model SE14: 14-1/4 to 21-3/4 inches (362 to 552 mm).
- B. Leveling Shims:
- 1. Model LGH2: 4 inch (102 mm) diameter 1/16 (2mm) thick. Used with Eterno Adjustable Supports.
 - 2. Model LGHS: 4 inch (102 mm) diameter 1/8 inch (3mm) thick. Used with Eterno Adjustable Supports.
- C. Accessories:

1. Integral 5/32 inch (4mm) spacer tabs.
2. Locking Piece for Fixed Head.
3. Adjustment key.

2.4 FIXED PAVER PEDESTALS

- A. Basis of Design: Eterno Fixed Paver Supports by MRP Supports, LLC:
 1. Model EH12: 1/2 inch (13 mm) tall Fixed Head Stackable.
 2. Model: EH20: 3/4 inch (19 mm) tall Fixed Head Stackable.
 3. Model LH3: 6 inch (152 mm) diameter Leveling Disc 1/8 inch (3mm) thick.

PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Verify that site conditions and are acceptable for installation of paving system with responsible entity to perform corrective work on unsatisfactory conditions.
- B. Commencement of work by installer is acceptance of site conditions.

3.2 INSTALLATION

- A. Install in accordance with manufacturers' written instructions.
- B. Perimeter Containment: Perimeter framing and edging boards located at the outside of the deck perimeter must be installed to provide restraint.
 1. No movement should be allowed at the perimeter of the deck system greater than one tab width.
 2. Any deck area not restrained by a parapet or foundation wall must be contained. The deck panels will move if all sides are not adequately restrained.

3.3 FIELD QUALITY CONTROL

- A. Inspect the finish installation to confirm the following requirements are met. Adjust until proper results are obtained.
 1. Ensure that grid spacer lines are in a straight and consistent pattern and pavers are level and not rocking.
 2. Verify deck system is adequately blocked on all sides to contain the surface decking and related components.
 3. Confirm that deck pedestal height does not exceed the specified height.
 4. Verify required spacer tabs are in place and visible.
 5. Assure all paver spacing between pavers and at perimeter containment does not exceed a tab width, unless specified in writing to allow for expansion,
 6. Assure all pedestrian access points to the deck are level and that deck surface tiles are not raised or uneven.
 7. Verify no ballasting rock is used to fill in any perimeter voids.

3.4 CLEANING

- A. Clean concrete pavers in accordance with the manufacturer's written recommendations.

3.5 PROTECTION

- A. After work in this section is complete, the General Contractor shall be responsible for protecting work from damage due to subsequent construction activity on the site.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION