

**SECTION 32 14 16
BRICK UNIT PAVING**

SPEC WRITER NOTE: Use this section only
for NCA projects. Delete text between
// _____ // not applicable to project.
Edit remaining text to suit project.

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
- B. Brick pavers set in mortar on a rigid base.

1.2 RELATED REQUIREMENTS

- A. Concrete Substrate: Section 32 05 23, CEMENT AND CONCRETE FOR EXTERIOR IMPROVEMENTS.
- B. Color and Texture of Mortar and Brick: Section 09 06 00, SCHEDULE FOR FINISHES.

1.3 APPLICABLE PUBLICATIONS

- A. Comply with references to extent specified in this section.
- B. ASTM International (ASTM):
 - 1. C67-14 - Sampling and Testing Brick and Structural Clay Tile.
 - 2. C144-11 - Aggregate for Masonry Mortar.
 - 3. C150/C150M-16 - Portland Cement.
 - 4. C207-06(2011) - Hydrated Lime for Masonry Purposes.
 - 5. C270-14a - Mortar for Unit Masonry.
 - 6. C902-15 - Pedestrian and Light Traffic Paving Brick.
 - 7. C1272-16a - Heavy Vehicular Paving Brick.

1.4 SUBMITTALS

- A. Submittal Procedures: Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Submittal Drawings:
 - 1. Show brick paving layout and patterns.
 - 2. Show special brick shapes.
- C. Manufacturer's Literature and Data:
 - 1. Description of each product.
- D. Samples:
 - 1. Brick: Full size of each type and color.
 - a. Minimum five individual samples to show full color and texture range.

2. Mortar: Samples of brick with mortar joints of each color.

- E. Test Samples: Five random bricks taken from project site by Contracting Officer's Representative (COR) for testing to verify brick meets ASTM C67 freeze thaw tests.

1.5 QUALITY ASSURANCE

SPEC WRITER NOTE: Ensure mockup location and size are shown on drawings. Otherwise, specify size and location.

- A. Mockups: Provide mockup of size indicated on drawings to confirm paving materials and pattern and to establish workmanship quality.

1.6 DELIVERY

- A. Deliver products in manufacturer's original sealed packaging.
- B. Mark packaging, legibly. Indicate manufacturer's name or brand, type, color, production run number, and manufacture date.
- C. Before installation, return or dispose of products within distorted, damaged, or opened packaging.

1.7 STORAGE AND HANDLING

- A. Store masonry materials under waterproof covers on planking clear of ground.
- B. Protect products from damage during handling and construction operations.

1.8 FIELD CONDITIONS

- A. Environment:
 - 1. Product Temperature: Minimum 4 degrees C (40 degrees F) for minimum 48 hours before installation.

1.9 WARRANTY

SPEC WRITER NOTE: Always retain construction warranty. FAR includes Contractor's one year labor and material warranty.

- A. Construction Warranty: FAR clause 52.246-21, "Warranty of Construction."

PART 2 - PRODUCTS

2.1 SYSTEM PERFORMANCE

- A. Design brick complying with specified performance:

1. Slip Resistance: ASTM C902.

2.2 PRODUCTS - GENERAL

- A. Basis of Design: Section 09 06 00, SCHEDULE FOR FINISHES.
- B. Provide each paving system component from one manufacturer and from one production run.

2.3 BRICK

SPEC WRITER NOTE: Class SX, Type 1 pavers are suitable for freeze-thaw exposure and are abrasion resistant for use in public spaces.

- A. Paving Brick: ASTM C902; Class SX, Type I.

SPEC WRITER NOTE: Application PS is intended for general use. For more exacting tolerances, specify Application PX pavers which have tighter dimensional tolerances and allow consistently narrow joints between pavers.

1. Manufacturing Tolerances: // Application PS // Application PX //.

SPEC WRITER NOTE: Specify vehicular paving brick if included in project scope.

- B. Vehicular Paving Brick: ASTM C1272; Type R.

1. Manufacturing Tolerances: // Application PS // Application PX //.

2.4 MORTAR

- A. ASTM C270, Type S, cement-lime proportion specification mix. Admixtures and Type N lime are not acceptable.
- B. Hydrated Lime: ASTM C207 Type S.
- C. Sand: ASTM C144.
- D. Portland Cement: ASTM C150/C150M.
- E. Latex Additive: Acrylic resin or styrene-butadiene-rubber water mixture formulated for Portland cement mortar beds.
- F. Coloring Pigments: Pure mineral pigments, lime proof and non-fading; added to mortar by manufacturer. Job colored mortar is not acceptable.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Examine and verify substrate suitability for product installation.

1. Verify substrate depth accommodates brick paving installation thickness.
 - B. Protect existing construction and completed work from damage.
 1. Prevent damage from contact with mortar.
 - C. Clean substrates. Remove contaminants capable of affecting subsequently installed product's performance.
 - D. Concrete Substrate: As specified in Section 32 05 23, CEMENT AND CONCRETE FOR EXTERIOR IMPROVEMENTS.
- 3.2 INSTALLATION - GENERAL**
- A. Install products according to manufacturer's instructions and approved submittal drawings.
- 3.3 SETTING BED BOND COAT**
- A. Install liquid latex modified slurry of sand, cement, and water on concrete substrate according to manufacturer's instructions.
- 3.4 BRICK INSTALLATION**
- A. Do not use bricks with chips, cracks, discoloration, or other visible defects.
 - B. Layout brick paving according to pattern indicated on drawings.
 - C. Installation with Portland Cement Mortar:
 1. Install brick in full bed joint. Remove excess mortar. Strike joints flush with top surface of brick and tool slightly concave.
 2. Cure mortar by maintaining damp condition for seven days.
 - D. Installation Tolerances:
 1. Paved surface true to plane within 3 mm (1/8 inch) in 3 m (10 feet), non-cumulative.
 - E. Joint width deviation maximum 10 percent of dimension shown on drawings.
- 3.5 CLEANING**
- A. Remove excess mortar before fully set.
 - B. Clean exposed brick and mortar surfaces. Remove contaminants and stains.

3.6 PROTECTION

- A. Protect brick paving from traffic and construction operations.
- B. Cover brick paving with plywood or hardboard.
- C. Remove protective materials immediately before acceptance.
- D. Repair damage.

- - - E N D - - -