

**BROADWAY PAVERS**  
Sand Set Installation on Concrete Slab  
32 14 13.16

Arto Brick California Pavers  
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This 3-part specification utilizes the Construction Specifications Institute (CSI) *Manual of Practice*, including *MasterFormat*., *SectionFormat*. and *PageFormat* and is a manufacturer-specific proprietary product specification using the proprietary method of specifying applicable to project specifications and masterguide specifications. Optional text is indicated by brackets [ ]; delete optional text in final copy of specification. Specifier Notes typically precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate symbols typically are used in Specifier Notes; symbols are not used in specification text. Metric conversion, where used, is soft metric conversion.

This 3-part specification specifies concrete paving slabs. These products are manufactured by Arto Brick Veneer Manufacturing Company. Revise section number and title below to suit project requirements, specification practices and section content. Refer to CSI *MasterFormat* for other section numbers and titles.

**PART 1 GENERAL**

**1.01 SUMMARY**

Specifier Note: Revise paragraphs below to suit project requirements.

A. Section Includes: Concrete Paving Slabs

B. Related Sections:

1. Division 31: Excavation and Fill 31 23 00.
2. Division 31: Grading 31 22 00
3. Division 32: Base Courses 32 11 00
4. Division 32: Curbs and Gutters 32 16 00

Specifier Note: Article below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract or Division 01 References Section may establish the edition date of standards. This article does not require compliance with standard, but is merely a listing of references used. Article below should list only those industry standards referenced in this section.

**1.02 REFERENCES.**

A. ASTM International:

1. ASTM C33 Specification for Concrete Aggregates
2. ASTM C136 Method for Sieve Analysis of Fine & Coarse Aggregate
3. ASTM C1028 Standard Specification for Aggregate for Masonry Mortar.

B. Canadian Standards Organization (CSA)

1. A231.1 Precast Concrete Paving Slabs

### 1.03 SYSTEM DESCRIPTION

#### A. Performance Requirements:

1. Absorption (ASTM C140): Not more than 12%.
2. Compressive Strength (ASTM C140): Not less than 8000 psi.
3. Freeze/thaw resistance (ASTM C67): Unaffected after 50 cycles.
5. Density (ASTM C140): 140 lb/ft<sup>3</sup> (2251 kg/m<sup>3</sup>).
6. Abrasion Resistance (ASTM C1353): 20 wear index.
7. Coefficient of Friction (ASTM C1028): 0.6.

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Division 01 Submittal Procedures Section.

### 1.04 SUBMITTALS

A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 01 Submittal Procedures Section.

B. Product Data: Submit manufacturer's product data, installation instructions, and material safety data sheets for specified products.

C. Shop Drawings: Indicate layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, control and expansion joints, and setting details.

D. Samples: Provide selection of each paving slab to represent sizes, thicknesses, textures, and range of colors in final installation. Accepted pavers become standard of installation for the work

E. Sieve Analysis: Provide report from supplier or testing laboratory to confirm bedding and joint sand gradation in accordance with ASTM C136.

### 1.05 QUALITY ASSURANCE

Specifier Note: Paragraph below should list obligations for compliance with specific code requirements particular to this section. General statements to comply with a particular code are typically addressed in Conditions of the Contract and Division 01 Regulatory Requirements Section. Repetitive statements should be avoided.

#### A. Qualifications:

1. Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project for a minimum of 5 years.

B. Regulatory Requirements and Approvals: [Specify applicable requirements of regulatory agencies].

1. [Code agency name].

- a. [Report or approval number].

Specifier Note: Retain paragraph below for erected assemblies (either onsite or offsite) required for review of construction, coordination of work of several sections, testing or observation of operation. Mock-ups, when accepted or approved, establish standards by which work will be judged. Coordinate below with Division 01 Quality Control (Mock-Up Requirements) Section.

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C. Mock-Ups: Install at project site a job mock-up using acceptable products and manufacturer approved installation methods. Obtain Owner's and Architect's acceptance of finish color, texture and pattern and workmanship standard(s). Comply with Division 01 Quality Control (Mock-Up Requirements) Section.

Specifier Note: Edit paragraph below when specifying mock-up size.

1. Mock-Up Size: [Specify mock-up size.].
2. Maintenance: Maintain mock-up during construction for workmanship comparison; remove and legally dispose of mock-up when no longer required.
3. Incorporation: Mock-up may be incorporated into final construction upon Owner's approval.

Specifier Note: Article below should include special and unique requirements. Coordinate article below with Division 01 Product Requirements Section.

#### 1.06 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 01 Product Requirements Section.
- B. Ordering: 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 with identification labels intact.
1. Coordinate delivery and paving schedule to minimize interference with normal use of buildings adjacent to paving.
  2. Deliver paving slabs to the site in steel banded, plastic banded or plastic wrapped pallets or crates capable of transfer by forklift or clamp lift.
  3. Unload slabs at job site in such a manner that no damage occurs to the product.
- D. Storage and Protection: Store materials in original packaging protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

#### 1.07 ENVIRONMENTAL REQUIREMENTS

- A. Do not install paving slabs during heavy rain or snow.
- B. Do not install paving slabs over frozen base materials.
- C. Do not install frozen sand or saturated sand.
- D. Do not install paving slabs on frozen or saturated sand.

Specifier Note: Retain article below if the Owner wants surplus materials.

#### 1.08 EXTRA MATERIALS

- A. Extra materials: Provide \_ ft<sup>2</sup> of each size, color and surface texture of paving slab specified.

### **PART 2 PRODUCTS**

Specifier Note: Retain article below for proprietary method specification. Add product attributes, performance characteristics, material standards and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

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2.01 TILES/PAVERS

Specifier Note: Paragraph below is an addition to CSI *SectionFormat* . Retain or delete paragraph below per project requirements and specifier's practice.

A. Manufacturer: Arto Brick California Pavers.

1. Contact: 15209 S. Broadway St., Gardena, CA 90248-1823; Telephone: (310) 768-8500;  
Fax: (310) 768-8544; website: [www.artobrick.com](http://www.artobrick.com).

Specifier Note: Edit Paragraph below to suit project requirements. If substitutions are permitted, edit text below. Add text to refer to Division 01 Project Requirements (Product Substitutions Procedures) Section.

B. Substitutions: No substitutions permitted.

Specifier Note: Paragraphs below list paving slabs offered by Arto Brick. Select products appropriate to project. Consult manufacturer regarding product options. Select product characteristics required; delete characteristics not required.

2.02 MANUFACTURED UNITS

A. Broadway Pavers

Specifier Note: Select size below.

1. Series:
  - a. [12 inches × 12 inches].
  - b. [18 inches × 18 inches].
  - c. [24 inches × 24 inches].

Specifier Note: Select color(s) below. If more than one color is selected, create color designators and coordinate with drawings.

2. Color(s):
  - a. [Sidewalk Gray].

3. Thickness
  - a. 2 inches

2.03 ACCESSORIES

2.04 BEDDING SAND

- A. Bedding sand shall conform to grading requirement of ASTM C 33.
- B. Do not use mason's sand or sand conforming to ASTM C 144.
- C. Utilize hardest sand that is practically available in areas subject to heavy vehicular traffic.

2.05 JOINT SAND

- A. Joint sand shall conform to grading requirement of ASTM C 144.

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- B. Coarser material including sand conforming to ASTM C 33 grading requirement can be used. Additional sweeping and extra compaction will be required.

**PART 3 EXECUTION**

Specifier Note: Paragraph below is an addition to CSI *SectionFormat* and a supplement to this three-part specification. Retain or delete paragraph below per project requirements and specifier's practice.

**3.01 MANUFACTURER'S INSTRUCTIONS**

- A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.

**3.02 EXAMINATION**

- A. Site Verification of Conditions: Verify that substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.

**3.03 PREPARATION**

- A. Verify that concrete slab is clean, dry and properly prepared to general contractor's specifications
- B. Concrete slab should not be cracked, spalled, or heaving.
- C. Paving slabs can be installed with mortar on concrete slab for use as edge restraints.
- D. Cover joints in concrete slab with geotextile fabric to prevent loss of bedding sand.

**3.04 INSTALLATION**

- A. Spread bedding sand on slab and screed to nominal 1" thickness.
- B. Compact screeded bedding sand with at least two passes of vibratory plate compactor with compaction force greater than 4,000 lbs. and frequency 75-90 Mhz
- C. Do not screed area larger than can be covered with paving slabs in one day.
- D. Do not use bedding sand to fill depressions in concrete slabs.
- E. Lay paving slabs by hand following patterns specified in drawings. Use rubber mallet to gently adjust horizontal alignment of pavers.
- F. Provide 1/4" – 3/8" joints between paving slabs or as specified by architect.
- G. Use cut paving slabs to fill gaps at the perimeter of the installation. Wherever possible adjust perimeter edge or bond pattern to minimize cutting.
- H. Protect pavers from vehicles and heavy equipment until initial compaction.
- I. Compact paving slabs with vibratory plate compactor with compaction force greater than 4,000 lbs. and frequency 75-90 Mhz. During compaction sweep dry joint sand into joints until full. Multiple passes will be required. Do not compact paving slabs within 6 feet of any unrestrained edge.
- J. Remove cracked or damaged paving slabs after compaction and replace with new paving slabs.
- K. Cover unfinished installation and materials at end of each day.
- L. Sweep and remove sand from finished installation. Sand may be left on the surface to protect paving slabs from subsequent construction

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**3.05 QUALITY CONTROL**

- A. Surface tolerance from grade elevation shall not deviate more than 3/8" per 10 feet.
- B. Verify surface elevations conform to drawings and specifications.
- C. Surface elevation of paving slabs should be 1/4" above utility collars, drainage channels, and other infrastructure
- D. Protect installed products until completion of project.
- E. Repair or replace damaged products prior to Substantial Completion

**3.06 JOINT STABILIZING SAND**

- A. If specified, apply joint stabilizing sand in paving slab joints in accordance with manufacturer's written recommendations.

**3.07 SEALING**

- A. If specified, seal paving slabs with penetrating sealer in accordance with manufacturers' written recommendations

**END OF SECTION**