

**Section 03410**  
**Prestressed Concrete Decking**  
Updated 4/08

**Part 1 General**

- 1.1. Section includes
  - A. Shop cast prestressed cast stone decking
  - B. Supports, anchors and attachments
- 1.2. Related Sections
  - A. 07190 Water repellents
  - B. Support structure.
- 1.3. References
  - A. PCI MNL 116 Manual for quality control: Structural precast concrete
  - B. PCI MNL 117 Manual for quality control: Architectural precast concrete
  - C. ACI 318 Building code requirements for structural concrete.
- 1.4. System Description
  - A. Thin cast stone decking placed under compression with type 316 stainless steel prestressing tendons. Minimum prestress force of 200 psi in both directions.
- 1.5. Performance Requirements
  - A. Design units and support to withstand project specified loading requirements including static, anticipated dynamic loading, and anticipated displacements.
- 1.6. Submittals
  - A. Support structure shop drawings:
    - a. Indicate layout, unit locations, configuration, connection details, support items, and location of openings.
    - b. Indicate width and types of supports and anticipated displacements for compatibility with decking material
    - c. Indicate any cuts, openings or attachments required in decking material.
    - d. Provide letter from Arcis Corp. that support structure is compatible with decking material.
  - B. Prestressed decking:
    - a. Cast stone mix design.
    - b. Shop drawings: Include support requirements, handling points, and dimensions.
    - c. Maintenance and repair manual.
- 1.7. Quality Assurance
  - A. Maintain plant records and quality control program during production of prestressed cast stone. Make records available upon request.
- 1.8. Product Delivery, Storage, and Handling
  - A. Panels to be palletized sufficient to support panels without distortion. Stacked panels to be supported no more than 30" on center, block between panels with panel pads (plastic with round surfaces). Place rounded

surfaces to touch the finished side of the panel. Support to line up vertically through stack to translate weight through the stack not loading any individual panel.

- B. Strap panels using non-staining, clean materials that will not harm exposed surfaces.
- C. Store pallets on level and adequate support to avoid distortion. Sight down edges of the panels to make sure they are straight.
- D. Lift panels from designated pick points, or with removable handles at locations approved by manufacturer.

## **Part 2 Products**

### 2.1. Manufacturers

- A. Arcis Corp. (503)647-5042

### 2.2. Concrete Materials

- A. Cast stone material
  - a. Compressive strength 8000 psi at 56 days.
  - b. Entrained air 7 to 8 ½% in accordance with ACI 318
- B. Aggregates: ASTM C33
- C. Cement: ASTM C150
- D. Air entraining admixtures: ASTM C260

### 2.3. Reinforcement

- A. Type 316 stainless steel prestressing tendons: ASTM A204

### 2.4 Embeds and Accessories

- A. Type 316 stainless steel: ASTM A204

### 2.5 Finish

- A. Sand blast or acid etch per project specifications

## **Part 3 Execution**

### 3.1. Examination

- A. Verify that support structure, anchors, devices are ready to receive work of this section.

### 3.2. Erection

- A. Erect units without damage to shape or finish.
- B. Erect units level and fully supported per shop drawings.
- C. Attach units per project specifications
- D. Set felt or foam joint material between panels on dynamic structures

### 3.3. Drilling openings

- A. Referrer to Arcis Corp. Drilling procedures

### 3.4. Cleaning and Maintenance

- A. Refer to Arcis Corp. maintenance procedures.

**End of Section**

