



## **ConCore® Access Floor Panel with Casal Grand Two-Piece Porcelain Tile Heavy-Duty Bolted Stringer Understructure System**

### **SECTION 09 69 00 ACCESS FLOORING**

#### **PART 1 - GENERAL**

##### **1.1 Section Includes**

- A. Work of this section includes, but is not limited to: access floor panels, understructure, electrical, data and communication accessories, and sealing of the access floor.

##### **1.2 Related Sections**

- A. Subfloor concrete sealer shall be compatible with pedestal adhesive, see Division 3.
- B. See Division 26 Section "Grounding and Bonding for Electrical Systems" for connection to ground of access flooring understructure. Note: The electrical engineer or contractor shall determine requirements for grounding and the electrical contractor shall provide the necessary labor and materials to electrically connect the access flooring to the building ground if it is required.
- C. Floor Protection: General Contractor shall apply floor protection during access floor installation in accordance with the guidelines set forth in Section 3.2 of this specification.

##### **1.3 Coordination**

- A. Mark pedestal locations on subfloor using a grid to enable mechanical and electrical work to proceed without interfering with access flooring pedestals.
- B. Coordinate locations of electrical and mechanical work in the underfloor cavity to prevent interference with access flooring pedestals.
- C. Install power cables, power distribution boxes, and air distribution equipment on subfloor prior to installation of access floor.

##### **1.4 Pre-installation Conference**

- A. Review requirements and responsibilities for maintaining protection of the floor during installation. Inform all trades that the porcelain tile is the floor's finished surface and that construction activities can permanently damage unprotected floor panels.
- B. Inform all trades that material carts, pallet jacks, and lifts must not be rolled directly on floor panels and must be kept on floor protection sheets at all times. (Panels can become permanently damaged by wheel treads capable of marking or scuffing the porcelain surface.)
- C. Provide copies of manufacturer's floor specification to inform all subcontractors of the loading limits of the system being installed.





D. Review procedures for keeping underfloor space clean.

#### 1.5 **Environmental Conditions for Storage and Installation**

A. Area to receive and store access floor materials shall be enclosed and maintained at ambient temperatures between 35° to 95° F and a minimum relative humidity of 20%. All areas of installation shall be enclosed and maintained at ambient temperature between 50° and 90° F and at relative humidity levels between 20% and 80%, and shall remain within these environmental limits throughout occupancy.

#### 1.6 **References**

A. CISCA (Ceilings & Interior Systems Construction Association) “Recommended Test Procedures for Access Floors” shall be used as a guideline when presenting load performance product information.

#### 1.7 **Performance Certification**

A. Product tests shall be witnessed and certified by independent engineering and testing laboratory based in the U.S. with a minimum of five years of experience testing access floor components in accordance CISCA “Recommended Test Procedures for Access Floors”.

#### 1.8 **Country-of-Origin and Product Marking**

- A. Access floor materials shall comply with the provisions outlined in FAR Subpart 25.2 – Buy American Act – Construction Materials.
- B. Floor panels shall be permanently marked with manufacturer’s name and manufacturing date. Removable Product ID stickers are not acceptable.

#### 1.9 **Performance Requirements:** Provide access-flooring systems capable of complying with the following performance requirements.

- A. **Design Load:** Bare panel (excluding porcelain) supported on actual understructure system shall be capable of supporting a point load of 1500 lbs. applied on a one square inch area at any location on the panel without experiencing permanent set in excess of 0.010 inches as defined by CISCA. The loading method used to determine design (allowable) load shall be in conformance with CISCA Concentrated Load test method but with panel tested on actual understructure instead of steel blocks.
- B. **Safety Factor:** Bare panel (excluding porcelain) shall withstand a point load of no less than 2.0 times its design load rating on a one square inch area anywhere on the panel without failure when tested in accordance with CISCA A/F, Section 2 “Ultimate Loading”. Failure is defined as the point at which the system will no longer accept the load.
- C. **Ultimate Load:** Bare panel (excluding porcelain) shall withstand a point load of at least 3000 lbs. applied through a load indenter on a one square inch area at any location





on the panel without failure when tested in accordance with CISCA A/F, Section 2 “Ultimate Loading”.

- D. **Rolling Load:** Bare panels (excluding porcelain) shall withstand the following rolling load at any location on the panel without developing a local and overall surface deformation greater than 0.040 inches when tested in accordance with CISCA A/F Wheel 2 Test, Section 3 “Rolling Loads”.

CISCA Wheel 1: Size: 3” dia x 1 13/16” wide Load: 1250 lbs. Passes: 10

CISCA Wheel 2: Size: 10” dia x 4” wide Load: 900 lbs. Passes: 10,000

- E. **Flammability:** Bare panel (excluding porcelain) shall meet *Class A* Flame spread requirements for flame spread and smoke development in accordance with ASTM E 84, Standard Test Method for Surface Burning Characteristics for Building Materials.
- F. **Recycled Content:** Bare panel (excluding porcelain) and understructure system shall be required to have a minimum post-consumer recycled content of 18% and a minimum total recycled content of 49%.
- G. **Pedestal Axial Load:** Pedestal support assembly shall provide 6000 lbs. axial load capacity without permanent deformation when tested in accordance with CISCA A/F, Section 5 “Pedestal Axial Load Test”.
- H. **Pedestal Overturning Moment:** Pedestal support assembly shall provide an average overturning moment of 1000 in-lbs. when glued to a clean, sound, uncoated concrete surface when tested in accordance with CISCA A/F, Section 6 “Pedestal Overturning Moment Test”.
- I. **Stringer Concentrated Load:** Stringer shall withstand a concentrated load of 450 lbs. placed at mid-span on a one square inch area using a round or square indenter without exceeding a permanent set of 0.010” when tested in accordance with CISCA A/F, Section 4 “Stringer Load Testing”.

#### 1.10 **Design Requirements:**

- A. Access floor system, where indicated on the design documents, shall consist of modular and removable fully encased cementitious filled welded steel panels supported on all four edges by structural steel members which are designed to bolt onto adjustable height pedestal assemblies forming a modular grid pattern.
- B. Panel shall be easily removed by one person with a suction cup lifting device and shall be interchangeable except where cut for special conditions.
- C. Quantities, finished floor heights (FFH) and location of accessories shall be as specified on the contract drawings.

#### 1.11 **Submittals for Information**

- A. Manufacturer’s installation instructions and guidelines.





- B. Manufacturer's Owner Manual outlining recommended care and maintenance procedures.

## **PART 2 - PRODUCTS**

### **2.1 Manufacturers**

- A. Source Limitations: Obtain access-flooring system from single source manufacturer.
- B. Access floor system shall be as manufactured by Tate Access Floors, Inc. and shall consist of ConCore® access floor panel supported by a bolted stringer understructure system.
- C. Alternative products shall meet or exceed all requirements as indicated herein and must receive prior written approval by the architect or designer.
- D. Access floor manufacture shall be ISO9001: 2015 certified demonstrating it has a robust and well documented quality management system with continuous improvement goals and strategies.
- E. Access floor manufacturer's facilities shall be ISO14001:2015 certified demonstrating that they maintain an environmental management system.
- F. Access floor manufacturer's facilities shall be OHSAS 18001:2018 certified demonstrating that they maintain an Occupational Health and Safety Management system.

### **2.2 Support Components**

#### **Pedestals:**

- A. Pedestal assemblies shall be corrosive resistant, all steel welded construction and provide an adjustment range of +/- 1" for finished floor heights of 6" or greater.
- B. Pedestal assemblies shall provide a means of leveling and locking the assembly at a selected height, which requires deliberate action to change the height setting and which prevents vibration displacement.
- C. Hot dip galvanized steel pedestal head shall be welded to a threaded rod which includes an adjusting nut with location lugs to engage the pedestal base assembly, such that deliberate action is required to change the height setting.
- D. Threaded rod shall include an anti-rotation device, such that when the head assembly is engaged in the base assembly the head cannot freely rotate (for FFH of 8" or greater and Types 1A and 2B square tube bases only). This prevents the assembly from losing its leveling adjustment when panels or stringers are removed from the installation during use.





- E. Hot dip galvanized pedestal base assembly shall consist of a formed steel plate with no less than 16 inches of bearing area, welded to a 7/8" square steel tube designed to engage the head assembly.

**Stringers:**

- A. Stringers shall support each edge of panel.
- B. [Steel stringer shall have conductive hot dipped galvanized or galvanized coating.] [Steel box stringer shall have conductive hot dipped galvanized coating and factory applied gasket. Zinc electroplating shall be prohibited on stringers and stringer fasteners.]
- C. Stringers shall be individually and rigidly fastened to the pedestal with one machine screw for each foot of stringer length. Bolts shall provide positive electrical contact between the stringers and pedestals. Connections depending on gravity of spring action are unacceptable.
- D. Stringers shall have factory applied felt gasket.
- E. Stringer grid shall be 4' stringers in a basketweave configuration ensuring maximum lateral stability in all directions.

**2.2 Floor Panels**

- A. Panel shall consist of a steel top sheet welded to a formed steel bottom pan filled internally with a lightweight cementitious material. Mechanical or adhesive methods for attachment of the steel top and bottom sheets are unacceptable.
- B. Panel shall be protected from corrosion by electro-deposited epoxy paint.
- C. Panel shall be easily removed by one person with a suction cup lifting device and shall be interchangeable except where cut for special conditions.

**2.3 Finish**

- A. Finish surface of panel with 2 pieces of .400" thick porcelain tile, style [Pietra Di Paragone] [Amazzonia] [Pietra Di Bauge] [Pietre Di Sardegna] [Chalon] [Stile] [Terrazzo] [Granito Evo] [Fusion] [Eco Concrete] [Metropolis].
- B. Finish perimeter of porcelain tile with protective edge banding.

**2.4 Accessories**

- A. Provide manufacturer's standard steps, ramps, fascia plate, perimeter support, and grommets where indicated on the contract drawings.
- B. Provide \_\_\_\_\_ spare floor panels and \_\_\_\_\_ square feet of understructure systems for each type used in the project for maintenance stock. Deliver to project in manufacturer's standard packaging clearly marked with the contents.





- C. Provide \_\_\_\_\_ panel lifting devices.
- D. When applicable provide manufacturer's standard underfloor air systems components (including, grilles, diffusers and perforated floor panels) where indicated on the contract drawings.

## 2.5 Fabrication Tolerances

- A. Floor panel flatness measured on a diagonal: +/- 0.035"
- B. Floor panel flatness measured along edges: +/- 0.025"
- C. Floor panel width or length of required size: +/- 0.0125"
- D. Floor panel squareness tolerance: +/- 0.020"

## PART 3 – EXECUTION

### 3.1 Preparation

- A. Examine structural subfloor for unevenness, irregularities and dampness that would affect the quality and execution of the work. Do not proceed with installation until structural floor surfaces are level, clean, and dry as completed by others.
- B. Concrete subfloor sealers, if used, shall be identified and proven to be compatible with pedestal adhesive. Verify that adhesive achieves bond to slab before commencing work.

Verify dimensions on contract drawings, including level of interfaces including abutting floor, ledges and doorsills.

The General Contractor shall provide clear access, dry subfloor area free of construction debris and other trades throughout installation of access floor system.

### 3.2 Installation

Area to receive and store access floor materials shall be enclosed and maintained at ambient temperatures between 35° to 95° F and a minimum relative humidity of 20%. All areas of installation shall be enclosed and maintained at ambient temperature between 50° to 90° F and at relative humidity levels between 20% to 80%, and shall remain within these environmental limits throughout occupancy.

Floor Protection: General Contractor shall apply a minimum of the following protection to access floor as installation progresses: plastic sheets taped together across floor surface with sheets of 3/16" or 1/4" thick Masonite (or 1/2" thick plywood) on top of plastic taped together with duct tape. No traffic by other trades shall be permitted on any floor area until floor protection is applied.

- C. Pedestal locations shall be established from approved shop drawings so that mechanical and electrical work can be installed without interfering with pedestal installation.
- D. Installation of access floor shall be coordinated with other trades to maintain the integrity of the installed system.





- E. Floor system and accessories shall be installed under the supervision of the manufacturer's authorized representative and according to manufacturer's installation guidelines.
- F. No dust or debris producing operations by other trades shall be allowed in areas where access floor is being installed to ensure proper bonding of pedestals to subfloor.
- G. No dust or debris producing operations by other trades shall be allowed in areas where access floor is unprotected to prevent contamination of access floor surface.
- H. Access floor installer shall keep the subfloor broom clean as installation progresses.
- I. Partially complete floors shall be braced against shifting to maintain the integrity of the installed system where required.
- J. Install additional pedestals as needed shall support panels where floor is disrupted by columns, walls, and cutouts.
- K. Understructure shall be aligned such that all uncut panels are interchangeable and fit snugly but do not bind when placed in alternate positions.
- L. Finished floor shall be level, not varying more than 0.062" in 10 feet or 0.125" overall.

### 3.3 Cleaning Porcelain Finish

- A. Clean porcelain finish in accordance with access floor manufacturer's cleaning guidelines.
- B. Replace any floor panels that are stained, scratched or structurally damaged.

### 3.4 Acceptance

- A. General Contractor shall accept floor in whole or in part prior to allowing use by other trades.

### End ###



Rev: 09/22/25  
ECN: 16502  
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