

**Tate Access Floors, Inc.**  
**ConCore® 1000 Access Floor Panel – 600 mm**  
**PosiLock™ Understructure – Cornerlock System**

**SECTION 10270**

**PART 1 - GENERAL**

**1.1 Section Includes**

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

**1.2A Related Sections**

- A. Concrete sealer shall be compatible with pedestal adhesive, see Division 3.
- B. Electrical contractor shall provide necessary material and labor to electrically connect the access floor to the building, see Division 16.

**1.2B Access Floor Air Plenum Requirements**

(Retain paragraphs below if access flooring will be used to form an underfloor air delivery plenum.)

- A. The access floor contractor is aware that the space beneath the access floor will be used as an air delivery plenum and as such will take the necessary precautions when installing their work so as not to impact the integrity of the plenum space specific to air leakage and cleanliness. Any penetrations or holes in the underfloor plenum created for or resulting from the work performed by the Division 9 access flooring contractor are required to be properly sealed to prevent air leakage.
- B. Panel construction shall be die-cut welded steel type which creates a consistent panel-to-panel seam width along the entire edge of the panel when installed in accordance with normal installation procedures.

**1.3 Environmental Conditions for Storage and Installation**

- A. Area to receive and store access floor materials shall be enclosed and maintained at ambient temperature between 35° to 95° F and humidity level between 20% to 80% relative. **All floor panels shall be stored at ambient temperature between 50° to 90° F for at least 24 hours before installation begins.** All areas of installation shall be enclosed and maintained at ambient temperature between 50° to 90° F and at humidity level between 20% to 80% relative, and shall remain within these environmental limits throughout occupancy.

**1.4 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.
- B. Access flooring shall comply with NFPA 75 requirements for access flooring.

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**1.5 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 experience testing access floor components in accordance CISCA “Recommended Test Procedures for Access Floors”.

**1.6 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, product identification, manufacturing date and country-of-origin. Removable Product ID stickers are not acceptable.

**1.7 Performance Requirements**

**Pedestals:**

- A. **Axial Load:** Pedestal assembly shall sustain a 5000 lb. (22.24 Kn) axial load without permanent deformation.
- B. **Overturning Moment:** Pedestal assembly shall provide an average overturning moment of 1000 in-lbs. (113 Nm) when glued to a clean, sound, uncoated concrete surface. ICBO number for the specific system or structural calculations shall be required attesting to the lateral stability of the system under seismic conditions.

**Floor Panels:**

- A. **Design Load:** Panel supported on actual understructure (the system) shall be capable of supporting a safe working load or design load of 1000 lbs. (4.44 Kn). This rating signifies that the system will withstand not only a concentrated load placed on a one square inch area at any location on the panel without yielding but also demonstrate the ability to withstand an overload capacity of two times its rating (i.e. a safety factor of 2). (For a detailed description of this important criteria, refer to the Design Load bulletin [www.tateaccessfloors.com](http://www.tateaccessfloors.com) and click on Technical Resources/Technical Bulletins.)
- B. **Safety Factor:** Panel supported on actual understructure (the system) shall be capable of withstanding a minimum of (2) two times the design load anywhere on the panel without failure. Failure is defined as the point at which the system will no longer accept the load.
- C. **Uniform Load:** Panel shall be capable of supporting a uniform load of 250 lbs. placed on a one square foot area (11.97 Kn/m<sup>2</sup>) at any location on the panel with a maximum top surface deflection of 0.060 inches (1.52 mm). Panel shall not exceed a permanent set of 0.010 inches (0.25 mm), after the load is removed. **Note: The uniform load rating of an access floor panel as specified herein should not be confused with the “uniform live load” as specified in seismic zone applications.**

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D. **Rolling Load:** Panel and supporting understructure shall be able to withstand the following rolling loads at any location on the panel without developing a local and overall surface deformation greater than 0.040 inches (1.01 mm). Note: wheel 1 and wheel 2 tests shall be performed on two separate panels.

Wheel 1:	Size: 3" dia x 1 13/16" wide (76.2 mm dia x 45.9 mm)	Load: 800 lbs. Passes: 10 (3.56 Kn)
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Wheel 2:	Size: 6" dia x 1 1/2" wide (152.4 mm dia x 38.1 mm)	Load: 600 lbs. Passes: 10,000 (2.67 Kn)
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E. **Impact Load:** Panel and supporting understructure shall be capable of supporting an impact load of 100 lbs. (0.44 Kn) dropped from a height of 36 inches (914.4 mm) onto a one square inch area (645.16 mm<sup>2</sup>), using a round or square indenter, at any location on the panel without failure.

F. **Panel Drop Test:** Panel shall be capable of being dropped face up onto to a concrete slab from a height of 36"(914.4 mm), after which it shall continue to meet all load performance requirements as previously defined.

G. **Panel Cutout:** Panel with 8" (203.2 mm) diameter cutout shall be capable of withstanding an ultimate load without failure of 1500 lbs. (6.67 Kn) anywhere on the panel.

H. **Flammability:** System shall meet *Class A* Flame spread requirements for flame spread and smoke development. Tests shall be performed in accordance with ASTM-E84-1998, Standard Test Method for Surface Burning Characteristics for Building Materials.

### 1.8 Design Requirements:

- A. Access floor system, where indicated on the design documents, shall consist of modular and removable cementitious filled welded steel panels fastened onto, and supported by, adjustable height pedestal assemblies. Pedestal head and panel corner design must provide a positive location and lateral engagement of the panel to the understructure support system without the use of fasteners.
- B. Panel shall be easily removed by one person with a 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.

### 1.9A Submittals for Review

- A. Detail sheets, for each proposed product type, which provide the necessary information to describe the product and its performance.
- B. Test reports, certified by an independent testing laboratory with a minimum of five years experience testing access floor components in accordance Cisca Recommended Test Procedures, certifying that component parts perform as specified.

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**1.9B 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. Access floor system shall be as manufactured by Tate Access Floors, Inc. and shall consist of the ConCore® 1000 panel supported by PosiLock understructure system.
- B. Alternative products shall meet or exceed the feature requirements as indicated herein and the performance requirements as outlined in section 1.6 and must receive prior written approval by the architect or designer.
- C. Access floor manufacture shall be ISO9001: 2000 certified demonstrating it has a robust and well documented quality management system with continuous improvement goals and strategies.
- D. Access floor manufacturer's facilities shall be ISO14001:2004 certified demonstrating that they maintain an environmental management system.

**2.2 Support Components**

**Pedestals:**

- A. Pedestal assemblies shall be corrosive resistant, all steel welded construction, and shall provide an adjustment range of +/- 1" (25.4 mm) for finished floor heights 6" (152.4 mm) or greater.
- B. Pedestal head shall be designed with locating tabs and integral shape to interface with the panel for positive lateral retention and positioning without fasteners. **Note: This allows the floor to be installed during the construction process without screws so that access by other related trades can be accomplished quickly and easily. It also enables the user to have a mixed installation of fastened and unfastened panels within the same installation.**
- C. Pedestal assemblies shall provide a means of leveling and locking the assembly at a selected height, which requires deliberate action to change height setting and prevents vibration displacement.
- D. Hot dip galvanized steel pedestal head shall be welded to a threaded rod that includes a specially designed adjusting nut. The nut shall provide location lugs to engage the pedestal base assembly, such that deliberate action is required to change the height setting.
- E. Threaded rod shall provide a specially designed anti-rotation device, such that when the head assembly is engaged in the base assembly, the head cannot freely rotate for FFH of 6" (152.4 mm) or greater. Note: This prevents the assembly from inadvertently losing its leveling adjustment when panels are removed from the installation during use.

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- F. Hot dip galvanized pedestal base assembly shall consist of a formed steel plate with no less than 16 inches (406.4 mm) of bearing area, welded to a 7/8" (22.09 mm) square steel tube and shall be designed to engage the head assembly.

**2.3 Panel Components**

**Floor Panels:**

- A. Panels shall consist of a top steel sheet **welded** to a formed steel bottom pan filled internally by a lightweight cementitious material. **Mechanical or adhesive methods for attachment of the steel top and bottom sheets are unacceptable.**
- B. Cementitious fill material shall be totally encased within the steel welded shell except where cut for special conditions. Note: This greatly reduces the potential for dust in the environment from exposed cement materials.
- C. Panel shall have an electrically conductive epoxy paint finish.
- D. Corner of panel shall have a locating tab and integral shape design to interface with the pedestal head for positive lateral retention and positioning with or without fasteners.
- E. Fastening of panels to pedestal heads shall be accomplished by the use of a machine screw which is specially designed to be self capturing within the body of the panel. Note: This prevents the inadvertent loss of panel fastening screws when accessing the underfloor space and potential damage to objects by screws which extend beyond the depth of the panel.
- F. Fit between the pedestal head, panel, and screw shall enable an installation with an average panel to panel gap of 0.015".

**2.4 Accessories**

- A. UL listed Power, Voice & Data Servicers shall be provided in locations as detailed on the contract drawings. High capacity 11-1/4 inch (285.75 mm) square PVD Servicers shall be capable of accommodating four duplex receptacles, three knockouts for standard voice/data faceplates or Tate voice/data interface plates (or grommeted interface plates). Standard capacity 7-5/16 inch (185.67 mm) by 6-15/16 inch (176.02 mm) PVD Servicers shall be capable of accommodating two duplex receptacles, two individual voice data/termination points and one grommet port. The service outlet box shall be a drop-in design having a hinged Lexan lid with carpet insert and Lexan frame with tapered edge. Service outlet box shall be capable of withstanding without failure an 800 lb. (3.55 Kn) load.
- B. Provide manufacturer's standard steps, ramps, fascia plate, perimeter support, and grommets where indicated on the contract drawings.

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- C. Provide Air Arrest CB 44 rectangular cable brush grommet with 4" x 13" (101 mm x 330 mm) usable cable opening for installation in plenum walls to permit passage of wires and cables without the need of additional sealing materials. Grommet assembly shall consist of a 9" x 17" (228.6 mm x 423 mm) extruded aluminum frame with interwoven premium grade Nylon 6 filament brushes and intermediate layer of flexible EPDM rubber. Assembly shall include permanently attached tray to provide support for wires and cables passing through walls. Grommet shall be cable of mounting to wall by screws, contact adhesive or double-faced tape.
- D. Provide Air Arrest CB 55-04 circular cable brush grommet with 2" (51 mm) diameter usable cable opening for installation in plenum walls to permit passage of wires and cables without the need of additional sealing materials. Grommet assembly shall consist of a 5-3/4" (146 mm) diameter high impact ABS plastic frame with interwoven premium grade Nylon 6 filament brushes. Assembly shall include 6" (152 mm) long cable conduit to provide support for wires and cables passing through walls. Grommet shall be cable of mounting to wall by screws or contact adhesive.
- E. Provide Air Arrest CB 55-06 circular cable brush grommet with 4" (102 mm) diameter usable cable opening for installation in plenum walls to permit passage of wires and cables without the need of additional sealing materials. Grommet assembly shall consist of an 8" (204 mm) diameter high impact ABS plastic frame with interwoven premium grade Nylon 6 filament brushes. Assembly shall include 6" (152 mm) long cable conduit to provide support for wires and cables passing through walls. Grommet shall be cable of mounting to wall by screws or contact adhesive.
- F. 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.
- G. Provide \_\_\_\_\_ panel lifting devices.
- H. When applicable provide manufacturer's standard underfloor air systems components (including grilles and diffusers) where indicated on the contract drawings.

**2.5 Finishes**

- A. Finish the surface of floor panels with floor covering material as indicated on the contract drawings. Where floor coverings are by the access floor manufacturer, the type, color and pattern shall be selected from manufacturer's standard. All areas to be furnished with laminated floor panels must be maintained at ambient temperature between 50° to 90° F and at humidity level between 20% to 80% relative and shall remain within these ranges through installation and occupancy.

**2.6 Fabrication Tolerances**

- B. Floor panel flatness measured on a diagonal: +/- 0.035" (0.88 mm)
- C. Floor panel flatness measured along edges: +/- 0.025" (0.635 mm)
- D. Floor panel width or length of required size: +/- 0.010" (0.25 mm)
- E. Floor panel squareness tolerance: +/- 0.015" (0.38 mm)

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**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 sealers, if used, shall be identified and proven to be compatible with pedestal adhesive. Verify that adhesive achieves bond to slab before commencing work.
- C. Verify dimensions on contract drawings, including level of interfaces including abutting floor, ledges and doorsills.
- D. The General Contractor shall provide clear access, dry subfloor area free of construction debris and other trades throughout installation of access floor system. Area to receive access floor shall be enclosed and be maintained at a temperature range of 35° to 95° F and a humidity range of 20% to 80% relative. All laminated floor panels shall be stored and maintained in this environment upon delivery to storage sites. Bare access floor panels must be stored in this environment at least 24 hours before installation begins.
- E. All floor panels shall be stored at ambient temperature between 50° to 90° F for at least 24 hours before installation begins. All areas of installation shall be enclosed and maintained at ambient temperature between 50° to 90° F and at humidity level between 20% to 80% relative, and shall remain within these environmental limits throughout occupancy.

**3.2 Installation**

- A. Pedestal locations shall be established from approved shop drawings so that mechanical and electrical work can be installed without interfering with pedestal installation.
- B. Installation of access floor shall be coordinated with other trades to maintain the integrity of the installed system. All traffic on access floor shall be controlled by access floor installer. No traffic but that of access floor installers shall be permitted on any floor area for 24 hours to allow the pedestal adhesive to set. Access floor panels shall not be removed by other trades for 72 hours after their installation.
- C. Floor system and accessories shall be installed under the supervision of the manufacturer's authorized representative and according to manufacturer's recommendations.
- D. 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.
- E. Access floor installer shall keep the subfloor broom clean as installation progresses.
- F. Partially complete floors shall be braced against shifting to maintain the integrity of the installed system where required.

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- G. Additional pedestals as needed shall support panels where floor is disrupted by columns, walls, and cutouts.
- H. Understructure shall be aligned such that all uncut panels are interchangeable and fit snugly but do not bind when placed in alternate positions.
- I. Finished floor shall be level, not varying more than 0.062” (1.57 mm) in 10 feet (3.04 m) or 0.125” (3.175 mm) overall.
- J. Acceptance: General contractor shall accept floor in whole or in part prior to allowing use by other trades.

### End ###