

Tate Access Floors, Inc.
WC5000 FSC Access Floor Panel
Heavy Duty Bolted Stringer Understructure System

Notice:

If you are using MasterFormat 2004 Edition, the proper section number to use is "Section 09 69 00, Access Flooring", which appears below.

If you are continuing to use MasterFormat 1995 Edition, the proper section number to use is "Section 10270, Access Flooring". Please change the section number below if required.

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, floor coverings, understructure and various electrical, data and communication accessories.

1.2 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 26.

1.3 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 relative humidity levels between 20 to 80%. All floor panels shall be stored at ambient temperatures 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 relative humidity levels between 20% to 80% 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.

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 Product Marking

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- A. Floor panels shall be identified with manufacturer's name, product identification, and country-of-origin.

1.7 Performance Requirements

- A. **Design Load:** Panel supported on actual understructure (the system) shall be capable of supporting a safe working load or design load of 1250 lbs. 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 at www.tateaccessfloors.com and click on Technical Resources)

- 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 supported on actual understructure (the system) shall be capable of supporting a uniform load of 400 lbs./ft² placed on the entire area of the panel without yielding and generating a permanent set of no more than 0.010" once 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.

- D. **Rolling Load:** Panel supported on actual understructure (the system) 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. Note: wheel 1 and wheel 2 tests shall be performed on two separate panels.

Wheel 1: Size: 3" dia x 1 13/16" wide

Load: 1200 lbs. Passes: 10

Wheel 2: Size: 6" dia x 2" wide

Load: 600 lbs. Passes: 10,000

- E. **Impact Load:** Panel supported on actual understructure (the system) shall be capable of supporting an impact load of 150 lbs. dropped from a height of 12 inches onto a one square inch area (using a round or square indenter) at any location on the panel.
- F. **Panel Drop Test:** Panel shall be capable of being dropped face up onto to a concrete slab from a height of 36", after which it shall continue to meet all load performance requirements as previously defined.
- G. **Panel Cutout:** Panel with an 8" diameter interior cutout supported on actual understructure shall be capable of maintaining its design load strength anywhere on the panel without the use of additional supports.
- 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.

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- I. **Axial Load:** Pedestal support assembly shall provide a minimum 5000 lb. axial load without permanent deformation.
- J. **Overturning Moment:** Pedestal support assembly shall provide an average overturning moment of 1000 in-lbs. 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.
- K. **Stringer Concentrated Load:** Stringer shall be capable of withstanding a concentrated load of 450 lbs. placed in its midspan on a one square inch area using a round or square indenter without exceeding a permanent set of 0.010” after the load is removed.

1.8 Design Requirements:

- A. Access floor system, where indicated on the design documents, shall consist of modular and removable steel claded woodcore panels supported by adjustable height support pedestal assemblies with bolted (snap on) stringers.
- 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.

1.9A 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.

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

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- A. Access floor system shall be manufactured by Tate Access Floors, Inc. and shall consist of Woodcore WC5000 FSC access floor panels supported by a heavy duty stringer understructure system.
- B. Manufacturer shall be FSC Certified to contribute to LEED MR Credit 7: Certified Wood. Documentation from manufacturer required prior to approval.
- C. Alternative products shall meet or exceed all requirements as indicated herein and must receive prior written approval by the architect or designer.

2.1 LEED

- A. MR Credit 4: Recycled Content: Access floor system shall contain recycled content such that the post-consumer and pre-consumer content constitute at least 15% and 50% respectively, of the total value of the materials in the system. Documentation from manufacturer required prior to approval.
- B. MR Credit 7: Certified Wood: Panel shall be manufactured of FSC certified particle board, and verified by a current Chain-of-Custody certification number. Documentation from manufacturer required prior to approval.

2.2 Support Components

Pedestals:

- A. Pedestal assemblies shall be corrosive resistant, all steel welded construction, and shall provide an adjustment range of +/- 1" for finished floor heights 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 height setting and prevents vibration displacement.
- C. Hot dip galvanized steel pedestal head designed to accept a bolted stringer grid shall be welded to a threaded rod which 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.
- D. 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" or greater). Note: This prevents the assembly from inadvertently losing its leveling adjustment when panels 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 and shall be designed to engage the head assembly.

Stringers:

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- A. Manufacturer's modular steel stringer system, designed and fabricated to bolt to the pedestal head and to form a grid pattern with members under each edge of each floor panel and with a pedestal under each corner of each floor panel.
- B. Stringers shall be individually and rigidly fastened to the pedestal with one machine screw for each foot of stringer length. Connections depending on gravity or spring action are unacceptable.
- C. Steel stringer shall have hot dip galvanized coating. Zinc electroplating shall be prohibited on stringers and stringer fasteners.
- D. Gasket tape shall be factory applied to top surface of grid to provide a quiet sound absorbing seal.
- E. Stringer grid shall be 4' stringers in a basketweave configuration ensuring maximum lateral stability in all directions. (Also available in 2' x 4' and 2' x 2' grid patterns.)

2.3 Panel Components

Floor Panels:

- A. Wood core panels shall be steel covered composite core panels consisting of 1" thick high density particleboard or medium density fiberboard core, laminated to top and bottom face sheets of hot dip galvanized steel sheet. Enclose edges of core with upturned, die formed edge of bottom sheet.
- B. Fabrication Tolerances: Fabricate panels to the following tolerances with squareness tolerances expressed as the difference between diagonal measurements from corner to corner.
 - 1. Plus or minus 0.015" (0.38mm) of required size
 - 2. Squareness tolerance of plus or minus 0.020" (0.50mm) unless tolerances are otherwise indicated for a specific panel type.
- C. Perforated Airflow Panels: Perforated steel airflow panels designed for static loads of 1000 lbs. shall be interchangeable with standard field panels and shall have 25% open surface area with the following air distribution capability:
 - 1. Panel without damper: 784 cfm at 0.1-inch of H₂O (static pressure).
 - 2. Panel with damper at 100% open position: 652 cfm at 0.1-inch of H₂O (static pressure).
- D. Grate Airflow Panels: Die cast aluminum grate panels designed for static and rolling loads shall be interchangeable with standard field panels. Grate panels shall have 56% open area with the following air distribution capability without a damper: 1884 cfm at 0.1-inch of H₂O (static pressure). Grate panels shall have the following load bearing capacities:
 - 1. Design Load: Panel supported on actual understructure shall be capable of supporting a safe working or design load of 1000 lbs. placed on a one square inch area, using a round or square indenter, at any location on the panel without yielding.
 - 2. Uniform load: 250 lbs./ft.²
 - 3. Safety Factor: (2) Times Design Load
 - 4. Impact load: 100 lbs.

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5. Rolling Load: Grate 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. Note: wheel 1 and wheel 2 tests shall be performed on two separate panels.

Wheel 1: Size: 3" dia x 1-13/16" wide Load: 1000 lbs. Passes: 10

Wheel 2: Size: 6" dia x 2" wide Load: 800 lbs. Passes: 10,000

2.4 Accessories

- A. UL listed Power, Voice & Data Servicers shall be provided in locations as detailed on the contract drawings. High capacity 11 ¼ inch square PVD Servicers shall be capable of accommodating four duplex receptacles and three knockouts for standard voice/data faceplates or Tate voice/data interface plates (or grommets interface plates). Standard capacity 7-5/16 by 6-15/16 inch PVD Servicers shall be capable of accommodating two duplex receptacles and two Tate voice/data interface plates (or grommets interface plates). 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 lid shall be capable of withstanding without failure a load of 800 lb.
- B. Provide manufacturer's standard steps, ramps, fascia plate, perimeter support, and grommets where indicated on the contract drawings.
- C. 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.
- D. Provide _____ panel lifting devices.
- E. 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 temperatures between 50° to 90° F and at relative humidity levels between 20% to 80%, and shall remain within these ranges through installation and occupancy.
- 1.) Plastic Laminate: High-pressure laminate floor covering shall meet requirements of NEMA LD3, and shall conform with one of the following grades: Grade HDH (1/8"/ 3.0mm) or Grade HDM (1/16"/ 1.5mm). Manufacturer's standard edging shall be inter-locked with top sheet and captured by up-turned edge of bottom steel sheet.
- 2.) High-pressure laminate floor coverings shall have an edge condition that is integral to the tile. Separate edge trim pieces are not acceptable.

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- 3.) Surface to Ground Resistance of Standard High Pressure Laminate Anti-Static Covering: Average test values shall be within the range of 1,000,000 ohms (1.0×10^6) to 20,000 megaohms (2.0×10^{10} ohms), as determined by testing in accordance with the test method for conductive flooring specified in Chapter 3 of NFPA 99, but modified to place one electrode on the floor surface and to attach one electrode to the understructure. Resistance shall be tested at 500 volts.
- 4.) Panels to be provided bare, with standard hot dip galvanized finish.

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.
- E. Area to receive and store access floor materials shall be enclosed and maintained at ambient temperatures between 35° to 95° F and relative humidity levels between 20 to 80%. At least 24 hrs. before installation begins, all floor panels shall be stored at ambient temperatures between 50° to 90° F and relative humidity levels between 20% to 80% 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.

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- E. Access floor installer shall keep the subfloor broom clean as installation progresses.
- F. Partially completed floors shall be braced against shifting to maintain the integrity of the installed system where required.
- G. Additional pedestals as needed shall support panels where floor is disrupted by columns, walls, and perimeter 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" in 10 feet or 0.125" overall.
- J. Inspect system prior to application of floor covering and replace any flooring panels that are cracked, broken and structurally damaged and do not comply with specified requirements.
- K. Acceptance: General contractor shall accept floor in whole or in part prior to allowing use by other trades.

End