

# All Steel 1500 Panel - 24" Heavy Duty Bolted Stringer Understructure

## 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.

#### 1.2 Related Sections

- A. General contractor shall provide clear access, dry secure storage, and a clean sub-floor area which is free of construction debris and other trades during installation of the access floor system. Area to receive the access floor shall be enclosed and be maintained at a temperature range of 40° to 90° F and a humidity range of 20% to 70% relative.
- B. Concrete sealer shall be compatible with pedestal adhesive, see Division 3.
- C. Electrical contractor shall provide necessary material and labor to electrically connect the access floor to the building, see Division 16.

#### 1.3 References

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

#### 1.4 Performance Requirements

##### **Pedestals:**

- A. **Axial Load:** Pedestal assembly shall provide an 8000 lb. axial load without permanent deformation.
- B. **Overtopping Moment:** Pedestal assembly shall provide an average overturning moment of 1000 in-lbs. when glued to a clean, sound, uncoated concrete surface.

##### **Stringers:**

- A. **Mid-Span Concentrated Load:** Stringer shall be capable of withstanding a concentrated load of 450 lbs. placed in the mid span stringer center on a one inch area using a round or square indenter without exceeding a permanent set of 0.010 inches after the load is removed.

##### **Floor Panels:**

- A. **Concentrated Load:** Panel shall be capable of supporting a concentrated load of 1500 lbs. placed on a one square inch area, using a round or square indenter, at any location on the panel with a maximum beam deflection of 0.100 inches. Panel shall not exceed a permanent set of 0.010 inches, after the load is removed.

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- B. **Uniform Load:** Panel shall be capable of supporting a uniform load of 375 lbs. placed on a one square foot area at any location on the panel with a maximum beam deflection of 0.040 inches. Panel shall not exceed a permanent set of 0.010 inches, after the load is removed.
- C. **Ultimate Load:** Panel shall be capable of withstanding a minimum load equal 2½ times the panel's concentrated load rating applied onto a one square inch area, using a round or square indenter, at any location on the panel without failure. Failure is defined as the point at which the panel will no longer accept the load.
- 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. **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: 600 lbs. Passes: 10
Wheel 2:	Size: 6" dia x 1 1/2" wide	Load: 600 lbs. Passes: 10,000

- E. **Impact Load:** Panel and supporting understructure shall be capable of supporting an impact load of 150 lbs. dropped from a height of 36 inches onto a one square inch area, 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", after which it shall continue to meet all load performance requirements as previously defined.

### 1.5 Design Requirements:

- A. Access floor system, where indicated on the design documents, shall consist of modular and removable all steel welded 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 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.

### 1.6 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, by an independent testing laboratory, certifying that component parts perform as specified.

### 1.7 Submittals for Information

- A. Manufacturer's installation instructions and guidelines.
- B. Manufacturer's Owner Manual outlining recommended care and maintenance procedures.

## PART 2 - PRODUCTS

# All Steel 1500 Panel - 24" Heavy Duty Bolted Stringer Understructure

## 2.1 Manufacturers

- A. Access floor system shall be as manufactured by Tate Access Floors, Inc. and shall consist of the All Steel 1500 panel supported by a bolted stringer understructure system. System is Distributed by Pugliese Interior Systems, Inc. 1 Bendix, Irvine, CA. 92618, (949) 837-9194.
- B. Alternative products shall meet or exceed the feature requirements as indicated herein and the performance requirements as outlined in section 1.4 and must receive prior written approval by the architect or designer.

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

### Stringer:

- A. Stringers shall support each edge of panel.
- B. Stringer shall be galvanized steel and shall have a conductive material for sound deadening.
- 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 or spring action are unacceptable.
- D. Stringer grid shall be 4' stringers in a basketweave configuration ensuring maximum lateral stability in all directions.

## 2.3 Panel Components

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## Floor Panels:

- A. Panels shall consist of a top steel sheet **welded** to a formed steel bottom pan. **Mechanical or adhesive methods for attachment of the steel top and bottom sheets is unacceptable.**
- B. Panel shall have an electrically conductive epoxy paint finish.

## 2.4 Accessories

- A. Service outlets boxes to be provided in locations and as detailed on the contract drawings. Outlets shall be UL listed access floor boxes capable of accommodating power, voice, and data cables and termination points. The service outlet box shall be a drop-in design having a hinged Lexan lid with cable hooks and capable of supporting a 1,000 lb. concentrated load.
- 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 Task Air Modules, grilles, diffusers and perforated floor panels) 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.
- B. Vinyl edge trim for the tile coverings shall be mechanically locked and bonded to the panel surface and flush with the surface covering.

## 2.6 Fabrication Tolerances

- A. Floor panel flatness: 0.030" in any direction.
- B. Floor panel width or length from specified size: +/- 0.010"
- C. Floor panel squareness: +/- 0.015"

## PART 3 - EXECUTION

### 3.1 Examination

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- 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. If other than manufacturer's recommended adhesives or sealers are used, 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.

### 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. Traffic shall not be permitted on any floor area for 24 hours to allow the pedestal adhesive to set.
- 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.
- 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" in 10 feet or 0.100" overall.
- J. Acceptance: General contractor shall accept floor in whole or in part prior to allowing use by other trades.

### End ###