

**SECTION 09 69 00  
ACCESS FLOORING**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. Access flooring shall consist of a series of modular, removable, interchangeable panels on an elevated support system forming an accessible underfloor cavity to accommodate electrical and mechanical services. System shall be gravity-held panels on stringerless understructure.

**1.2 RELATED WORK**

- A. Section 26 05 33, RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS.  
B. Section 27 05 33, RACEWAYS AND BOXES FOR COMMUNICATION SYSTEMS SECURITY.

**1.3 DESIGN CRITERIA**

- A. Structural Performance per CISC A/F: Provide access flooring systems capable of withstanding the following loads and stresses within limits and under conditions indicated, as determined by testing manufacturer's current standard products according to referenced procedures in CISC A/F, "Recommended Test Procedures for Access Floors":
1. Ultimate-Load Performance: Provide access flooring systems capable of withstanding a minimum ultimate concentrated load equal to value obtained by multiplying specified concentrated floor panel design load by a factor of 2.5, without failing, according to CISC A/F, Section II, "Ultimate Loading." Failure is defined as the point at which access flooring system will not take any additional load.
  2. Rolling-Load Performance: Provide access flooring systems capable of withstanding rolling loads of the following magnitude applied to non-perforated panels, with a combination of local and overall deformation not to exceed 1.02 mm (0.040 inch) after exposure to rolling load over CISC A/F Path A or B, whichever path produces the greatest top-surface deformation, according to CISC A/F, Section III, "Rolling Loads."
- B. Pedestal Assembly:
1. Pedestal Axial-Load Performance: Provide pedestal assemblies, without panels or other supports in place, capable of withstanding a 22. kN (5000 lbf) axial load per pedestal, according to CISC A/F, Section V, "Pedestal Axial Load Test."
  2. Pedestal Overturning-Moment Performance: Provide pedestal assemblies, without panels or other supports in place, capable of withstanding an overturning moment per pedestal of 113 N x meters (1000 lbf x inches) , according to CISC A/F, Section VI, "Pedestal Overturning Moment Test."

3. Provide a means of leveling and locking the assembly at a selected height which requires deliberate action to change height setting and which prevents vibrating displacement.
4. Height between the finish floor and topside of panel :
  - a. Not more than 2.5 inches.

B. Panels:

1. All panels shall be interchangeable except those altered to meet special conditions.

C. Installed access floor shall be level within plus or minus 1 in 2000 (0.060 inches in 10 feet), and plus or minus 2.5 mm (0.10 inches) over the entire area. Floor assembly to be rigid, free of vibration, rocking panels, rattles and squeaks.

D. Static Electricity Control: The access flooring system will resist the passage of static electricity as documented by the manufacturer. Exposed metal will not be allowed at the wearing surface of the floor that may allow the passage of static electricity.

E. Flame Spread Rating: Provide assembly flame spread of 25 or less using ASTM E-84 test method.

#### 1.4 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Samples: Full sized floor panel and each understructure component.
- C. Shop Drawings:
  1. Floor panel layout, including ramp location.
  2. Detail components of assembly, anchoring methods and edge details, including cut-out details, method of grounding.
- D. Manufacturers' Literature and Data: Access floor.
- E. Manufacturers' Certificates: Flame spread rating.
- F. Floor System Test Reports: Submit certified test reports, from a testing laboratory satisfactory to the Government, attesting that the floor system proposed for installation meets all specified requirements. Submit test reports with shop drawings.

#### 1.5 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. American Association of Textile Chemists and Colorists (AATCC):
 

134-11.....Electrostatic Propensity of Carpets
- C. Architectural Aluminum Manufacturers Association (AAMA):
 

2604-10.....High Performance Organic Coatings on Aluminum Extrusions and Panels.

- D. American Society for Testing and Materials (ASTM):
  - E84-10.....Surface Burning Characteristics of Building Materials
  - E648-10.....Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source
  - F150-06.....Electrical Resistance of Conductive and Static Resilient Flooring
  - F1066-04 (R2010).....Vinyl Composition Floor Tile
  - F1700-04 (R2010).....Solid Vinyl Tile
- E. National Association of Architectural Metal Manufacturers (NAAMM):
  - AMP 500 Series.....Metal Finishes Manual
- F. National Electrical Manufacturers Association (NEMA):
  - LD-3.1-05.....Application, Fabrication, and Installation of High-Pressure Decorative Laminates
- G. Ceilings and Interior Systems Construction Association (CISCA):
  - CISCA 2004.....Recommended Test Procedures for Access Floors
- H. Underwriters Laboratory (UL):
  - 94-96 (R2010).....Tests for Flammability of Plastic Materials for Parts in Devices and Appliances

## **PART 2 - PRODUCTS**

### **2.1 FLOOR COVERING**

- A. Access flooring based on KIVA Low Profile (2.5" high) Access Flooring - A Division of Byrne Electrical Specialists, 320 Byrne Industrial Drive, Rockford, MI 49341 Phone 561 997 2670 or equal. Alternate flooring systems shall maintain the 2.5" maximum height from sub-floor to top of access flooring panel and meet the requested requirements within this specification.

### **2.2 FLOOR PANELS**

- A. Construct panels to be uniform in face dimensions, within a tolerance of plus or minus 0.38 mm (0.015 inches) of required size and be square within a tolerance of plus or minus 0.38 mm (0.015 inches), and flatness within a tolerance of plus or minus 0.5 mm (0.02 inches). Design individual floor panels to be easily placed and removed, without disturbing adjacent panels or understructure, by one person using a tool furnished by the access floor manufacturer. Panels shall be a maximum of 600 mm by 600 mm (24 inches by 24 inches) in size.
- B. Floor Panels: Panels will be from one manufacturer, be able to connect to pedestal system without modification as recommended by manufacturer and construction as described below:

1. Fiber Cement Board core panels not less than 3/4" thick. The completed panels will have a flame spread rating of 25 or less when tested in accordance with ASTM E84.

### **2.3 CUT-OUTS**

- A. Fabricate cut-outs in floor panels to accommodate cable penetrations and service outlets where shown or specified. Provide reinforcement or additional support to make panels with cut-outs perform the same as solid uncut panels. Fit cut-outs with manufacturers standard grommet. For cut-outs larger than maximum size grommet, trim edge of cut-outs with plastic trim, molding and/or gaskets having tapered top flange. Provide removable twist close covers for grommets.

### **2.4 PEDESTAL BASE ADHESIVE**

- A. Type recommended by manufacturer.

### **2.5 RAMPS**

- A. Bolt, ramps to framing. Install ramp shoes to meet main and raised access floor.
- B. Ramps: Manufacturer's standard ramp construction of width and slope indicated, but not steeper than 1:12 of same materials, performance, and construction requirements as access flooring.

## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

- A. Concrete sealers if used shall be identified and proven to be compatible with pedestal adhesive.
- B. Prior to installation, subfloor shall be dry and free of any surface irregularities that could reasonably be anticipated to adversely affect access flooring system appearance or performance.
- C. Clear the area in which the floor system is to be installed of debris. Clean floor surfaces and remove dust before the work is started.

### **3.2 INSTALLATION**

- A. Layout floor panel installation to keep the number of cut panels at the floor perimeter to a minimum. Scribe panel assemblies at perimeter and around column to provide a close fit with no voids greater than 6 mm (1/4 inch) where panels abut vertical surface.
- B. Secure bases of pedestals to the structural subbase with an adhesive or mechanical fasteners in full and firm contact with the subbase. Set pedestals plumb, and in true alignment.
- C. Provide auxiliary framing around columns and other permanent construction, at sides of ramps, at free ends of floor, and beneath floor panels that are substantially cut to accommodate utility systems.
- D. Construct floor panels to lie flat without warp or twist and bear uniformly on supports without rocking, and without edges projecting above the floor plane. Panels to interlock with supports in a manner that will preclude lateral movement.

- E. Provide free ends of floor with positive anchorage and rigid support where floor system does not abut wall or other construction.

### **3.3 CLEANING**

- A. Remove debris accumulated during installation from beneath the raised floor system. Immediately after completion of the floor installation, apply floor cleaner in accordance with the floor covering manufacturer's instruction. Do not allow any cleaner to remain between individual panels.

### **3.4 PROTECTION**

- A. Cover cleaned floors with clean building paper before construction traffic is permitted. Remove protective covering at completion of Work.

### **3.5 LIFTING DEVICES**

- A. Provide four floor panel lifting device for each individual floor area.

### **3.6 EXTRA STOCK**

- A. Furnish six floor panels and six complete pedestal assemblies and store where directed by the COR.

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