

**Guide:**

**Red – Architectural specifications**

**Blue – System specific specifications**

**Black – General information and informatory specifications**

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**Access Floors: Architectural Specifications**

**Part A: General**

**1 System Description**

- 1.1 The raised floor installation should consist of 600x600mm modular interchangeable, isotropic steel panels with a minimum of 144 welds (SF range) per panel. The panels should be supported by a steel understructure, in accordance with the specification.
- 1.2 All components of the access floor system are of steel or aluminium construction except for panel's cementitious core, surfacing materials and gaskets between the panel and the supports.
- 1.3 The complete floor system shall be sturdy, rigid and free of overall rocking, rattles, squeaks and noises. The finished floor shall be level within 1.5mm in any 3.0m direction and within 2.5mm over the total floor.
- 1.4 The system shall be electrically conductive for dissipation of static electricity whilst having enough electrical resistance to provide protection against electrical shock in order to comply with SABS 0123:2001-"The control of undesirable static electricity".
- 1.5 The construction of the raised access floor system and the materials and components used therein shall comply with all local codes and laws regarding fire, safety and health.
- 1.6 All components should be coated in an epoxy (powder) covering and the substructure be electro galvanized (Alternatively all system components {panels and understructure} should be electro coated)
- 1.7 The majority of the system components should be locally produced.
- 1.8 The manufacturer of the system should be a member of the Green Building Council of South Africa (GBCSA)

**2 Quality Assurance**

- 2.1 The manufacturing of the access floor components shall be under a stringent quality management system. All structural access floor components shall be supplied by one manufacturer to ensure compatibility and maintain the standards.
- 2.2 Method of testing concentrated, ultimate and rolling loads of access floor panels shall be in accordance with **SABS 1549:1993**. Tests shall be performed by an independent testing laboratory or by an accredited official in a laboratory with the relevant testing equipment and the calibration certificates thereof.
- 2.3 Installation of access flooring shall be approved by the general contractor before other trades are involved to maintain the integrity of the installed floor system. Traffic shall not be permitted on any floor area allowing for the pedestal adhesive to set.

**3 Submittals**

- 3.1 The successful sub-contractor must submit the following documentation within six months after adjudication of the tender or by negotiation:
  - 3.1.1 Certificates from the approved testing laboratory, showing compliance with the requirements of the load performance table or specified design loads as per point 2.2 above.
  - 3.1.2 Systems and components data sheets fully describing and specifying the performance of components and the overall system.
  - 3.1.3 Proof that the majority of the product (for the SF range) is manufactured in South Africa and that sufficient stock levels are kept in order to prevent attic stock holding requirements.
  - 3.1.4 The product carries a 10 year warrantee

## **4 Site Conditions and Delivery**

- 4.1 The general contractor shall provide a dry, secure storage and clean sub-floor which is free of dust, construction debris and other trades during the installation of the access floor.
- 4.2 Materials shall be delivered in original, unopened packages clearly labeled with the manufacturer's name and item description. Material packages shall be distributed around the area where they will be used to avoid overstressing the sub-floor and to facilitate installation.
- 4.3 The building shall be enclosed and the temperature shall be maintained between 5°C and 30°C and a max of 75% Relative Humidity.

## **Part B: Products**

### **1 Access Floor Panels**

- 1.1 All panels should consist of an epoxy powder coated painted steel panel filled with a non-combustible cementitious compound.
- 1.2 Acceptable panel tolerances
  - 1.2.1 Size and squareness 0-0.5mm.
  - 1.2.2 Surface flatness within 0.5mm
  - 1.2.3 Warpage within 0.25mm

### **2 Cut out panels**

- 2.1 All cut-outs should not be closer to the panel edge than 75mm.
- 2.2 All cut-outs to be capped with protective trim, metallic tape or a sealant like "NS4" from "Duram".

### **3 Finishes**

- 3.1 Bare panels are to be used where the floor is to be covered in loose lay carpets with the required backing.
- 3.2 In data and server environments a High Pressure Laminate (HPL) of thickness 1,3mm ABET COLOUR 577 shall be factory bonded to the surface of the access floor panel. The HPL shall be of the integral trim design.

### **4 Understructure**

- 4.1 The understructure shall be a positive loc system (with the head equipped with a locating pin in order to ensure a positive lock to the panel) to a finished floor height –FFH- as specified. For a FFH of 750mm and higher, heavy duty bases must be specified.
- 4.2 The understructure system shall consist of a e-coat painted and factory assembled pedestal base and pedestal head, which shall be capable of supporting an actual load of not less than 22.7kN.
- 4.3 A corrosion resistant nut shall be provided which shall allow for the adjustment of the pedestal assembly over a range of 30mm without rotation of the pedestal head. The nut shall be prevented from rotating using a locking nut.
- 4.4 For a stringer system, the pedestal head shall be designed to receive a snap loc stringers, which when assembled, shall provide a completely rigid assembly even when eight abutting access floor panels are removed.
- 4.5 Stringers shall consist of a galvanized steel channel section with a provision for a snap-on attachment to the pedestal. Each stringer shall be provided with a PVC gasket on the top surface.
- 4.6 Additional pedestals to be provided to cut –out panels to maintain integrity depending on their size
- 4.7 The base of the all pedestals to be fixed to the sub-floor by means of a 2 part epoxy adhesive and additional mechanical fixing on two opposite sides of the plate with approved steel concrete anchor for finished floor heights of 750mm and above.
- 4.8 Perimeter pedestals to be used along perimeter walls and columns with stringers screw fixed into the perimeter heads.
- 4.9 All understructure should be multifunctional. This means that the system be able to transform from a freestanding system to a snaplock system, without changing the understructure, by simply adding a stringer to the multi functional head.
- 4.10 The understructure should be able accommodate all the various load type panels, i.e. Solidfeel SF15, 20, 25, 45 and 70, without replacing any of the understructure components.

## 5 Base plate & Tube

5.1 Material: Cold Rolled steel

5.2 Base plate dimensions

- Standard Pedestal: 1.8 x 100 x 100mm
- Heavy Duty Pedestal: 3 x 125 x 125mm

5.3 Tube dimensions

5.4 Outside diameter -27mm

5.5 Wall thickness- 2mm

5.6 Length – depends on floor height

## Part C: Execution

### 1 Inspection

- 1.1 Examine structural sub-floor for unevenness, irregularities and dampness that would affect the quality and execution of the work. Do not proceed with the installation until structural floor surfaces are level, clean and dry.
- 1.2 Traffic shall not be permitted on any floor area for a period of 24 hours, allowing for the pedestal adhesive to set.
- 1.3 Concrete sealers, if used, shall be identified and proven to be compatible with pedestal adhesive and bond to slab.
- 1.4 Verify dimensions on contract drawings, including level of interface such as abutting floor, ledges and door sills.
- 1.5 It is recommended that the main contractor makes allowance for re-screeding of floor, power-floated for areas more than 30m<sup>2</sup> and steel-floated for areas less than 30m<sup>2</sup>.
- 1.6 Setting out of the access floor installation shall be in accordance with the Architect's approved grid layout
- 1.7 During the progress of the works, the subcontractor shall protect his work and report in writing to the main contractor any damage caused to his work by others. Only the subcontractor shall have access to the plenum [floor void] and will only have permission to uplift and replace panels for other sub-trades on written instruction of the main contractor
- 1.8 Work of all sub-trades in the plenum [floor void] to be completed and tested to the satisfaction of the contractor before the raised access floor installation commences

### 2 Acceptance criteria

- 2.1 The complete floor system shall be sturdy, rigid and free of overall rocking, rattles, squeaks and noises. The finished floor shall be level within 1.5mm in any 3.0m direction and within 2.5mm over the total floor.
- 2.2 The floor level test shall be done strictly with an appropriate laser machine provided by the contractor
- 2.3 Completed floor to be inspected by architect prior to any traffic and loading is placed on the completed floor
- 2.4 Floor to be vacuum cleaned and be free of any rubble, dirt or dust.
- 2.5 A guarantee to be supplied of the installed access floor system for a period of 10 years from the date of issue of the First delivery [practical completion] certificate.
- 2.6 A manual detailing installation care and maintenance to be supplied
- 2.7 Spare panels and panel lifting device to be supplied
- 2.8 A set of shop drawings showing details of the installed access floor system including the method of dealing with perimeter edges, expansion joints and other items.
- 2.9 Load performance test(s) to conform to the manufacturer's load performance tables and carried out in accordance with the **SABS 1549**

2.10 The access floor components and installed access floor system shall conform to the requirements of the Tolerance and limits table below:

<b>TOLERANCE AND LIMITS TABLE</b>	
<b>Description</b>	<b>Tolerance/Limit</b>
Panel size	600X600mm $\pm$ 0-0.5mm
Panel squareness	$\pm$ 0.50mm
Panel flatness	$\pm$ 0.50mm
Installed access floor level	1.50mm in any 3m direction 2.50mm over entire floor
Variation in height between adjoining panels	0.50mm
Max. depth of panel and pedestal head assembly	$\pm$ 40mm

PROJECT: .....

All access floor components should conform to the attached “**Access Floors: Architectural Specifications**”.

Alternatives that does not conform to **all** the attached specifications above will not be accepted

### **General office area**

#### ***Panels***

The access floor panel should be able to bear a minimum of:

- .....kN concentrated load
- .....kN Uniformly distributed load

The panels must have a safety factor of 3 (three)

Panel finish should be a bare, powder coated or electro-coated finish.

#### ***Understructure***

Should be a Free Standing system with a positive lock between the panel and the pedestal head to a FFH of .....

### **Server and Data room**

#### ***Panels***

(Panel to meet loads specific to the equipment to be installed on the floor)

The access floor panel should be able to bear a minimum of:

- .....kN concentrated load
- .....kN Uniformly distributed load

The panels must have a safety factor of 3 (three)

Panel finish should be an ABET High Pressure Laminate in the colour ..... which is factory bonded to the panel.

#### ***Understructure***

Should be a Snap lock Stringer system with a positive lock between the panel and the pedestal head to a FFH of .....

#### **Other:**

For FFH over 500mm:

- Only Snap lock system should be used

For FFH over 750mm:

- pedestals with a heavy duty base with a base plate of at least 125mm x 125mm x 3mm should be screw fixed to the floor.
- Stringer should be mechanically fixed into the head
- Only Snap lock system should be used

For FFH over 1000mm:

- pedestals with a heavy duty base with a base plate of at least 125mm x 125mm x 3mm should be screw fixed to the floor.
- Stringer should be mechanically fixed into the head
- Only Snap lock system should be used
- Cross bracing should be considered (discussed with the installer)

All panels should be totally interchangeable without changing of the understructure.