

# FS RAISED ACCESS FLOOR SOLUTIONS

<b>PRODUCT BRAND</b>	<b>FS RAISED ACCESS FLOORING SYSTEMS</b>
<b>APPLICATION</b>	<b>FS800 STEEL CEMENTITIOUS RAISED ACCESS FLOOR FOR COMMERCIAL OFFICE BUILDING OR EQUIPMENT ROOM</b>

## **Specification Details**

<b>Panel Type</b>	<b>FS800</b>
<b>Understructure Type</b>	Cornerlock, Freelay Corner Support, Cornerlock Clip-on Stringered, Cornerlock Bolt-On Stringered & Stringered Freelay (50mm to 2.500mm FFH)

## **Description of Access Floor System**

The FS800 Access floor will provide a stable platform suitable for the general office & equipment room environments. The floor panels will be constructed utilizing draw quality steel for the bottom pan and full hard steel for the top sheet. The panel will be fully spot welded together (minimum 64 welds in each dome and 20 welds along each flange)

The panel will be die cut to size, phosphate coated (or equivalent) and epoxy powder coated to provide adequate corrosion protection. The panels will be corner locked into place providing equipotential bonding or they can be gravity held with or without stringers.

The cross-head or flat-head pedestal head will provide support for the panel under the flange and picture frame. The pedestal head will also capture the access floor panel providing location and additional safety after the corner lock screws are removed.

The raised access floor system will be capable of withstanding various duty static/dynamic loads experienced in the general office and equipment environments.

## **Objectives Summary**

<b>Panel:</b>	Manufactured from cold rolled steel sheet <ul style="list-style-type: none"><li>• Top = Full Hard Steel 85-95 RhB (SPCC or Better)</li><li>• Bottom= Draw Quality (ST14 or better)</li><li>• The Base panel will utilize the FS type A bottom design and incorporate the Corner Lock Feature in conjunction with the positive location details.</li><li>• FS600 – FS800 = Steel Gauges: top 0.6-0.8mm and bottom 0.7-0.8mm</li></ul>
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<b>Cornerlock:</b>	The panel will be manufactured with four Cornerlock holes to allow the panel to be fixed to the pedestal head. The Cornerlock screws will also provide positive electrical bonding.
<b>Panel surface Coatings:</b>	Steel Substrate is to be finished with a zinc phosphate coating (or equivalent) before Epoxy Powder coat is applied to the external surface of the sized panel.
<b>Surface Colour:</b>	Dark to Light Grey (Epoxy Powder Coat paint)
<b>Core:</b>	Portland cement and water with foam additive to adjust core density. The core material must have recycled content. The panel must be filled with zero voids to eliminate weak spots. The core material must not break down causing internal cracking noise under panel load.
<b>Core Hardness:</b>	Minimum – 13 to 20 Mpa (compression Strength) this is dependant on panel grade.
<b>Pedestal Head:</b>	<ol style="list-style-type: none"> <li>1. Aluminum Die cast head with Cornerlock feature and positive location tab details. Zinc plated steel stud and anti vibration nut assembled and detent feature. The Steel stud will be sized to accommodate existing pedestal base.</li> <li>2. Aluminum Die cast head with Cornerlock feature and positive location tab details. The pedestal head will allow Clip-on stringer to be fixed. Zinc plated steel stud and anti vibration nut assembled and detent feature. The steel stud will be sized to accommodate existing pedestal base.</li> <li>3. Flat steel pedestal head will accommodate stringers and allow the Cornerlock function. Zinc plated steel stud and anti vibration nut assembled and detent feature. The steel stud will be sized to accommodate existing pedestal base.</li> </ol>
<b>Pedestal Base:</b>	The pedestal base must accommodate the pedestal base stud referred to above. FFH = 100 to 1200mm
<b>Pedestal Head Gasket:</b>	A Cornerlock Pedestal Head Gasket of suitable rubber construction with permanent attachment to the pedestal head is required only when a Clip-On stringer is attached. This will allow the panel corner to be supported after the stringer is attached.
<b>Pedestal Gasket:</b>	A freelay Pedestal Head Gasket of suitable rubber construction with permanent attachment to the Cornerlock pedestal head is required. This will provide an isolation barrier between panel and pedestal head. The gasket materials will have an electrical resistance of $<10^4 \Omega$

<b>Stringer Gaskets:</b>	Stringer gasket must be flexible and clip onto the stringer. They must be manufactured utilizing conductive polyethylene materials and have an electrical resistance of $<10^4 \Omega$
<b>Stringers:</b>	The surface coating of Clip-On and Bolt-On stringer must not promote the formation of zinc whiskers. Need to nominate stringer size to accommodate panel depth and flange.
<b>Environment:</b>	All materials must be environmentally friendly, non hazardous, low emission, no CFC and low impact. There shall be no CO2 emissions during or after the production process of any component, No VOC (Volatile Organic Compounds) allowed during the life cycle of the product. Panel and understructure system shall be required to have a minimum recycled content of 40%.
<b>Manufacture:</b>	The access floor panels and substructure must be manufactured and quality controlled utilizing a recognized quality system. Reference samples must be kept for five (5) years.
<b>Panel Shape:</b>	The access floor panel must be die cut to control size, shape and squareness within the tolerance range of "MOB PF2 PS" Platform Floors (Raised Access Floors) Performance Specification.
<b>Stability:</b>	The access floor panel and system will remain stable and alter the performance characteristics when exposed thermal and humidity change.
<b>Effects:</b>	The access floor panel and supporting system shall be resistant to the growth of fungi and micro organisms and attack by insects. The floor system shall be designed to resist vermin attack or infestation. The floor components shall not give off any odours or toxicity.
<b>Fire:</b>	<p>the access floor panel and system will be fire resistant. The test and performance requirements will be in accordance with</p> <ul style="list-style-type: none"> <li>• British Standard 476 : Part 7: 1997 (To determine the tendency of the surface of material of a material or a combination of materials to support the spread of flame across its surface and to classify the surface)</li> <li>• British Standard 476 : Part 6 : 1989 (Fire propagation for Products)</li> <li>• British Standard 476 : Part 4 : 1970 (Fire Test on Building Materials and Structures-Non-combustibility Test for Materials)</li> </ul>

<b>Surface Finish:</b>	The access floor shall be capable of having Carpet tile, High Pressure Laminates (HPL), Vinyl, Linoleum and hard services such as stone and ceramic finishes applied. Surface flatness to within 0.25mm
<b>Tolerances:</b>	<p>Panels Size = 599.75 x 599.75 +/- 0.25mm (Main Panel size)</p> <p>Panels Size = 599.75 x 799.75 +/- 0.25mm (Alternative size)</p> <p>Panels Size = 599.75 x 299.75 +/- 0.25mm (Alternative size)</p> <p>Panel Depth = &gt;30.5mm (dimensioned from under flange to bottom of picture frame) this dimension must be controllable and repeatable and becomes a major feature of the installed access floor system.</p>
<b>Cutting:</b>	The access floor panel must be able to be cut on site with standard cutting tools. Dust extraction may be needed in isolate areas. Dust from cutting must not be hazardous to the operator or those in close proximity to the operation.
<b>Installation:</b>	The access floor will be rigid, free from vibration and rocking panels within a 3.0mm level over the entire floor area. The access floor pedestals must have a minimum of +/- 25mm of adjustment. Panels will be accurately cut to fit around all permanent features.
<b>Antistatic:</b>	The access floor panel and supporting under structure will provide a dissipative path to earth for the control of static build-up. The general range is $1 \times 10^9$ to $1 \times 10^{11}$ ohms is acceptable.
<b>Design Life:</b>	The access floor system must be capable of withstanding the day to day operating load and conditions of the general office and equipment room environments. The acceptable design life of 25 years is preferred. The core material must not deteriorate or breakdown overtime.
<b>Equipotential Bonding</b>	The Cornerlock access floor system must be capable of being electrical bonded so all panels and pedestals have an electrical contact of less than $<0.01 \Omega$ .
<b>Air Leakage:</b>	Air Leak on Cornerlock access floor systems should be minimal and restricted were possible. Air leakage on Clip-On stringered or Bolt-On Stringer understructure systems should be restricted to $< 0.5l/s$ per $m^2$ according to MOB PF2, January 1990 for Air Leakage Rate Test.
<b>Sound Transmission:</b>	The floor system shall have a low airborne transmission of sound.
<b>Recycle:</b>	The access floor panels and substructure must be able to be recycled.
<b>Perforated Airflow Panels:</b>	Perforated steel airflow panels designed for static loads of 1000 lbs. shall be interchangeable with standard field panels and shall have 22% open surface area with or without adjustable damper.

**Extruded aluminum air grill:** The extruded aluminum air grill can be interchangeable with full or 1/2 – cut standard field panels. The air grill is with or without a damper.

**Performance:** The raised access floor will have a safety factor of X 3.

The raised access floor will be subjected to general office and equipment room environments. Work stations, Partitions, Racking and filing system will generate static loads. Dynamic loads will be aligned with frequent foot traffic at lift lobbies, corridors, walkways and infrequent loads.

## **PERFORMANCE REQUIREMENTS**

The raised access floor system shall meet or exceed all of the Specific Performance Requirements set out below:

### **General**

All components shall be protected against corrosion with the manufacturers standard factory applied protective finishes.

### **Concentrated Load**

The access floor system shall be capable of accepting a point load, over 25mm x 25mm area, of 3.6 kN respectively with a maximum deflection of 2.50mm by CISCA.

### **Rolling Loads**

The access floor system shall sustain the following rolling loads with a maximum total permanent deformation of 1.0mm in the top surface based on the following dynamic load tests by CISCA:

See attached load performance specification

### **Uniform load:**

Panel supported on steel block shall be capable of supporting a uniform load of 13.59 kN/sqm transmitted by air bag or water bag and places on the entire area of the panel of FS800 with a maximum deflection of 2.50mm and generating a permanent set of no more than 0.25mm once the load is removed. Note: The uniform load of a raised access floor panels as specified herein should not be confused with the “uniform live load” as specified in seismic area applications. The test accords to CISCA.

### **Ultimate Load**

The access floor system shall accept minimum FS800 10.8 kN point load over 25mm x 25mm area without collapse according to CASCA.

### **Impact Load**

An impact load imposed on the access floor system by dropping a 40kg sandbag from 1000mm height to 500mm dia. Area shall not cause structural failure according to MOB PF2 PS testing methods.

### **Pedestal Load**

The support pedestals shall individually be capable of sustaining a 22.5 kN axial load for five minutes without loss of function or structural failure by CISCA.

### **Stringer Concentrated Load**

Stringer shall be capable of withstanding a concentrated load of 450 lbs. places 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 by CISCA.

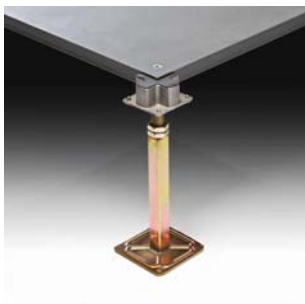
### **Electrical Resistance**

The antistatic requirements for the access floor will be measured in accordance with MOB PF2 PS: Clause – T43.00. Both surface and bulk electrostatic resistance shall fall in the range of  $1 \times 10^6$  and  $10 \times 10^{11}$  ohms.

### **Dimensional Tolerances**

Panel squareness shall be within +/- 0.25mm. Panel dimensions shall be within +/- 0.25mm of normal size. Concavity or Convexity of panels shall not exceed 0.75mm. The tests are according to MOB PF2 PS. PANEL BACK AND SIDE ELEVATION.

**See Product Specification on next page in tabular Format.**



Freestanding Access Floor System



FS 800 Bolt-On Stringer System

## SPECIFICATION DATA FOR THE FS800 ACCESS FLOOR PANEL

PRODUCT DESCRIPTION			
BRAND FS	FS800		
Performance	Standard	Unit	RESULT
Panel Structure	TOP AND BOTTOM STEEL WELDED PANEL FILLED WITH CEMENT		
Concentrated Load	CISCA	kN	3.6
Ultimate Load	CISCA	kN	10.8
Safety Factor	CISCA	No.	3 X
Impact Load	CISCA	Kg	60
Uniform Load	PSA MOB PF2	kN/ m2	13.6
Rolling Load X 10 Passes	CISCA	kN	3.1
Rolling Load X 10.000 Passes	CISCA	kN	2.3
Fire Rating	BS 476 Part 4	Non-Combustable	
	BS 476 Part 6	Pass	
	BS 476 Part 7	Class 1	
Panel Size	PSA MOB PF2	mm	599.70 X 599.70mm
Panel Thickness	PSA MOB PF2		32.00mm Minimum
Panel Weight	PSA MOB PF2	Kg	12 Kg
Panel Surface Flatness	PSA MOB PF2	mm	0.75
Panel Squareness	PSA MOB PF2	mm	Plus/Minus 0.25
Electrical Resistance (HPL Top)	PSA MOB PF2	Ohm	< 10 to the power of 10
Air Leakage (With Stringer)	PSA MOB PF2	L/s per m2	0.35
Sound Installation	BS EN ISO 14012	dB	40
Walking Load at 100 Kg	1.00mm max. Deflection		0.65mm Maximum Deflection
Welding times between top and bottom steel sheet	72 X at centre domes and 56 x at panel edges		
Recycled Content	45% Minimum Recycled Content		