

PRODUCT BRAND UNIFLOOR™**APPLICATION** UAL 1500 DI-CASTING ALUMINUM RAISED ACCESS FLOOR FOR INDUSTRIAL CLEAN-ROOM**Specification Details**Panel Type **UAL1500**

Understructure Type Cornerlock, Freelay Corner Support, Cornerlock Clip-On Stringered, Bolt-On Stringered & Stringered Freelay (50mm to 2,500mm FFH)

Description of the Access Floor System

The UNIFLOOR™ UAL 1500 access floor system will provide a stable platform suitable for the industrial clean-room and data center environments. The panel comprises of a high strength die-casting aluminum structure. The top face is then covered with the required laminate finish.

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 positive 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 clean-room environments.

Objectives Summary

Panel: Manufactured from die-casting aluminum materials.

Panel weight About 9kg per panel.

Cornerlock: The panel can optionally be manufactured with four (4) Cornerlock holes to allow the panel to be fixed to the pedestal head. The Cornerlock screws will also provide positive electrical bonding.

Panel Surface Coatings: Bare/Epoxy coating/Anodizing/Ni-Cr plate

Pedestal Head: 1. Aluminum or steel round flat head with location gasket for free standing with panel. Aluminum or zinc plated steel stud and anti vibration nut assembled and detent feature. The aluminum or steel stud will be sized to accommodate existing pedestal base.

2. Flat aluminum or steel pedestal head will accommodate stringers. Aluminum or Zinc plated steel stud and anti vibration nut assembled and detent feature. The aluminum or steel stud will be sized to accommodate existing pedestal base.

Pedestal Base: The pedestal base must accommodate the pedestal head aluminum or steel stud referred to above. FFH = 50mm to 2,500mm

Pedestal Gasket: A Freelay Pedestal Head Gasket of suitable rubber construction with permanent attachment to the pedestal head is required. This will provide an isolation barrier between panel and pedestal head. The gasket materials will have an electrical resistance of $<10^4 \Omega$ Stringer Gaskets: Stringer gaskets must be flexible and clip onto the stringer. They must be manufactured utilising conductive polyethylene materials and have an electrical resistance of $<10^4 \Omega$

Stringers: The surface coating of Clip-On and Bolt-On stringers must not promote the formation of zinc whiskers. Need to nominate Stringer size to accommodate panel depth and flange.

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| Environment: | All materials must be environmentally friendly, non hazardous, low emission, no CFC and low impact. There shall be no CO ₂ emissions during or after the production process of any components. 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% . |
| Manufacture | The access floor panels and substructure must be manufactured and quality controlled utilising a recognised quality system. Reference samples must be kept for five (5) years. |
| Panel Shape | The access floor panel must be formed/machined to control size, shape and squareness within the tolerance range of "MOB PF2 PS" Platform Floors (Raised Access Floors) Performance Specification |
| Stability: | The access floor panel and system will remain stable and not alter the performance characteristics when exposed thermal and humidity change. |
| Effects: | 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. |
| Surface Finish | The access floor shall be capable of having Carpet tile, High Pressure Laminate (HPL), Vinyl, Linoleum and hard surfaces such as stone and ceramic finishes applied. Surface flatness to within 0.25mm |
| Size Tolerances | Panel Size = 599.75 x 599.75 +/- 0.25mm (Main Panel Size) Panel Thickness = 50mm |
| Cutting | The access floor panel must be able to be cut on site with standard cutting tools. Dust extraction may be needed in isolated areas. Dust from cutting must not be hazardous to the operator or those in close proximity to the operation. |
| Installation | 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. |
| Conductivity | 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 1×10^4 to 1×10^6 Ohms is acceptable. |
| Design Life | 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 over time. |
| Air Leakage: | Air leakage 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 < 0.5 l/s per m ² according to MOB PF2 PS, January 1990 for Air Leakage Rate Test. |
| Sound Transmission: | In accordance with BS EN ISO 14012, Airborne sound insulation: 40dB and Impact sound insulation: 72dB |
| Recycle: | The access floor panels and substructure must be able to be recycled. |
| Performance | The raised access floor will have a safety factor of 2 times the concentrated (design) load, and be capable of meeting 1500lb static and related dynamic loads per Cisca Recommended test procedures for access floors or MOB PF2 PS/SPU : Platform floors (raised access floors). The raised access floor will be subjected to industrial clean-room and data center 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 rolling 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 UNIFLOOR™ UAL 1500 access floor system shall be capable of accepting a point load over 25mm x 25mm area, of 6.7KN respectively with a maximum deflection of 2.50mm by MOB PF2 PS/SPU : Platform floors (raised access floors).

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 2008:

- UAL 1500
 - 1250lb for 10 passes - $\varnothing 3"$ x 1 13/16" wheel.
 - 1000lb for 10,000 passes – $\varnothing 6"$ x 2" wheel.

Ultimate Load

The access floor system shall accept minimum 2 times point load over 25mm x 25mm area without collapse according to MOB PF2 PS/SPU for UAL - 1500 grade panel in 5 minutes.

Impact Load

An impact load imposed on the access floor system by dropping a 70kg 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 following axial loads for five minutes without loss of function or structural failure by CISCA 1986-87.

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| Standard(aluminum) | 5.4KN | Heavier(aluminum) | 6.7KN |
| Standard(steel) | 10.0KN | Heavier(steel) | 11.0KN |

Stringer Concentrated Load

Stringer shall be capable of withstanding a concentrated load of 200 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 by CISCA2008.

Electrical Resistance

The conductivity requirement 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 1×10^4 and 1×10^6 Ohms.

Dimensional Tolerances

Panel squareness shall be within -0.25mm . Panel dimensions shall be within -0.25mm of nominal size. Concavity or convexity of panels shall not exceed 0.75mm. The tests are according to MOB PF2 PS.