

Access Flooring System

Underfloor concrete shall be cleaned and sealed after all major underfloor work has been done, including installation of the access floor system itself.

The access floor shall be a minimum of 450 mm (18 in) above the slab. When determining the minimum raised floor height for an air plenum, the mechanical designer shall analyze the height required achieving the desired air distribution.

Considerations shall include all under-floor airflow obstructions such as network cabling pathways, power systems and pathways, and cooling system piping.

Raised floor heights of 900 mm (36 in) are common.

Performance specification	Minimum	Recommended
Rolling Load (Access floor panel) Local surface deformation 0.5mm, total permanent set 1mm	567kg	680kg
Impact load Drop weight, dropped from 305mm height on 645mm local surface with deformation 1.5mm	68kg	79kg
Concentrated load Load on 645 mm ² point with maximum deflection 2mm anywhere on the panel	567kg	680kg
Uniform load Load rating of access floor system, including panels, pedestals and stringers	732kg/m ²	1221kg/m ²

The building's structural system supporting the access floor must support the access floor and all imposed loads.

The assembly shall be leveled and locked at a selected height, requiring deliberate action to change the height setting and preventing vibration displacement.

Pedestals shall be secured to the slab using a method acceptable to the access floor manufacturer and Rwanda Standard Board. This is typically performed using bolts, adhesives, or seismically isolated floor systems.

Stringers shall be used for all access floors exceeding the height of 500 mm (20 in).

All tiles shall be supported at all four sides/corners, and the tile surface shall have anti-static properties in accordance with IEC 61000-4-2(International Electro technical Commission's immunity standard on Electrostatic Discharge (ESD)).

A structural engineer shall be consulted to provide a recommended maximum number of contiguous tiles and stringers that can be removed at any one time, and this information shall be incorporated into the operational guidelines for the data center.

For higher power density equipment where the underfloor space is used for cooling, the access floor should be a minimum of 900 mm (36 in) above the slab.

If the location has seismic activity, the access floor selected should be designed by the manufacturer for seismic applications, installed in accordance with the manufacturer's instructions, and certified by a professional structural engineer.

Additional structural and operational criteria/factors to consider should include:

- Panel drop tests
- Maintaining panel integrity for a given cut-out size
- Pedestal axial loads
- Pedestal overturning moment
- Stringer mid span concentrated loads
- Permanent sets and deformations of any system components
- Pedestal bases should be glued directly to the concrete slab and not to the epoxied/painted slab

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