Raised Floor System

KEPBER

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Raised Access Floor

Steel Concrete Composite Raised Access Floor

KEPBER ,Technology from Germany: Raised access floors have become an integral part of the flexible modern office environment, accommodating a heavy reliance on technology through the concealment of data, telecommunication and power sources and allowing the refurbishment or reconfiguration of spaces with minimum disruption according to evolving business requirements.

System application areas.

Facilities with a high volume of services or in rooms that house technical equipment that requires special ventilation.
Commercial applications: offices, libraries, museums, schools, shopping centres, etc.
Technical applications: telecommunications/electricity plants, control rooms, laboratories, data centres, etc.

Advantages.

- Ability to hide away all types of ugly and dangerous cables, pipes etc under the floor.
- Improved installation efficiency in comparison to conventional floors.
- Easy to take with you when relocating offices.
- Option of rerouting services following installation of floor.

Advantages over other raised access floor systems.

- Able to withstand a high mechanical load.
- The potential for combining different structures, as required in each particular case.
- A high resistance to fire under laboratory tests.
- Very low dimensional tolerances, between +0.1 and -0.2 mm. This means that the panels can easily be interchanged.
- Cores made of high-performance materials with very high densities.
- Anti static, Fire proof, Water proof, Dust proof.

Standard comply.

- ISO 9001, guaranteeing quality controls during each stage of the manufacturing process.
- British MOB/PF2 PS/SPU, American CISCA(JS/T10796-96), Japan JAFA standard of Raised access floors.
- Class 1 of the European Norm (UNI EN 12825), British 476 part 4:1970, American ASTM E84-01 of Fire protection rating .

Materials.

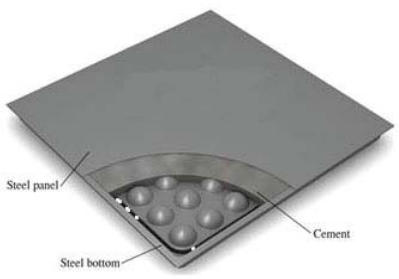
- The panel is made from high quality deep-rolled steel sheet, steel forming pump and connecting which is punched, spot-weldedat 6 sides and coated with epoxy powder to prevent rusting, The panel is filled with lightweight cement inside. After being kept for a period of time, if forms a stable support structure. The top steel sheet of the panel is stuck with anti-wear and antistatic high pressure laminate (HPL). Anti-static steel raised floor is installed with stringer and pedestal.

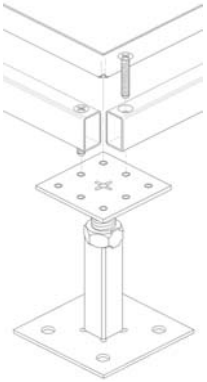
Technical Specification

Size (mm)	System Resistance	Fire protection	Tolerance		
			Panel thickness	Level	Width and Length
600x600x35	$1x16^6 – 2x10^{10}$ Ω	Class 1	+0.30 mm	<0.6 mm	-0.2 ~ 0.0 mm

Model Type	Concentrated Load (load/in²)			Rolling Load	Ultimate Load (load/in²)		Uniform Load (load/m²)		Impact Load	Dynamic load test	
	LB	N	Kg	N	LB	kN	N	Kg	N	10 times	10K times
FS-800	≥800	≥3350	≥363	≥2670	≥2550	≥11.25	≥16100	≥1642	≥536	3560	2670
FS-1000	≥1000	≥4550	≥450	≥3560	≥3002	≥13.35	≥23000	≥2347	≥670	4450	3560
FS-1250	≥1250	≥5560	≥567	≥4450	≥3752	≥16.68	≥33000	≥3367	≥780	5560	4450
FS-1500	≥1500	≥6675	≥670	≥5340	≥4473	≥19.89	≥34500	≥3520	≥1005	6675	5340

** Deflection 0.0866”/2.2 mm





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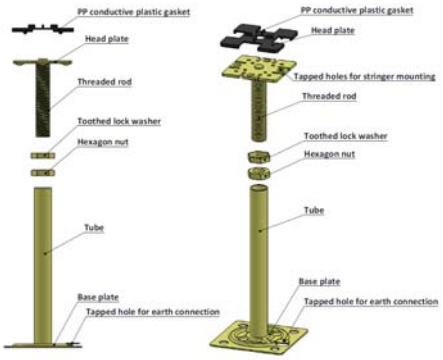
Pedestal

This is the complete vertical, adjustable supporting structure to the raised floor panels. The pedestals are normally bonded to the sub floor using an epoxy resin based adhesive with mechanical fixings also provided if required. The pedestal assembly provides vertical adjustment of 30-40 mm to allow the raised floor to be installed flat and level despite undulations in the sub floor. The pedestal head provides panel location and also when required a means of fixing the panel to the pedestal head. Typical floor heights from 10 -150 cm. Pedestal for Raised access floor flat head pedestal steel flat head 75x75x2 mm. Steel pipe with screw diameter 18mm thickness of pipe 1.2mm, Bottom plate 95x95x2 mm. It has one a fix a nut lock in the tube and has one of removeable nut lock to adjust. A load bearing capacity is not less than 20KN (25 or 30 KN on requirement).

Stringer

This is a horizontal component that connects pedestals together. It connects to the pedestal head and is used to provide additional lateral support at greater floor height and/or increase the structural performance of the raised floor system

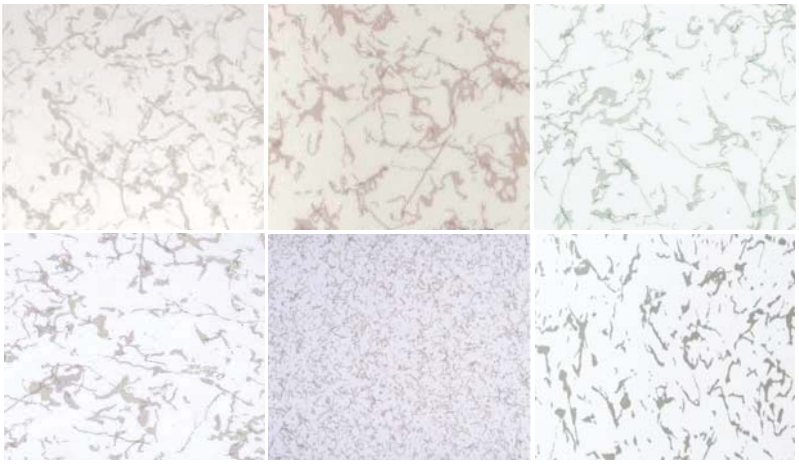


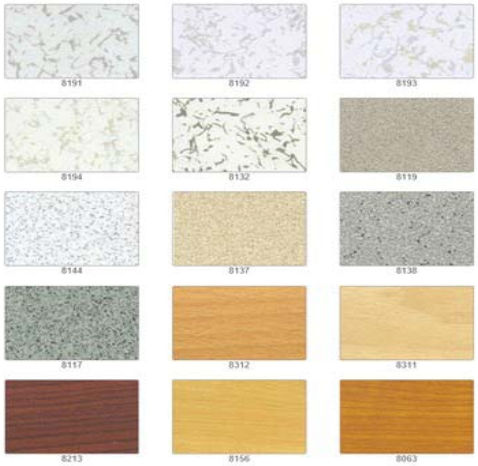
High Pressure Laminate

High Pressure Laminate is the top surface selected for use on raised access floors. It is commonly referred to as HPL. HPL is available in a wide variety of colors. High pressure laminate is used on access flooring around sensitive equipment because of its excellent ability to dissipate static electricity. The additional use of anti-static coatings is not necessary. Don't ever let anyone put wax or an anti-static coating on your access floor.

Standard grades of laminated floor tile have a volume resistance in the range of 5 x 10 to 2 x 10 ohms at 500 volts when tested at 50% RH and 72 F. Typical values for volume resistance will be in the 10 ohm range, depending on the laminate thickness. Once installed, the floor's static performance will be regulated by how clean the panels are kept. If you install the floor and never maintain it, then you are setting up your facility for static problems. HPL must be kept clean and free of residuals in order to perform. In addition, the floor's electrical properties will be affected by humidity, adhesives used, panel paint system and the overall continuity to ground.

High Pressure Laminates are made up of layers of decorative and kraft paper, saturated with high performance resins, and fused at high temperatures and pressure. It has many different thickness available, 0.8, 1, 1,2, 1.5, 2 mm. The actual decorative layer is the same for either thickness. The difference between the thicknesses is the number of kraft paper used under the decorative layer. (Standard HPL thickness is 1.2 mm)





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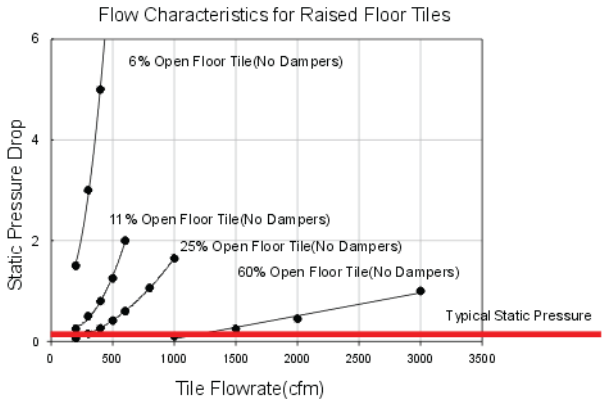
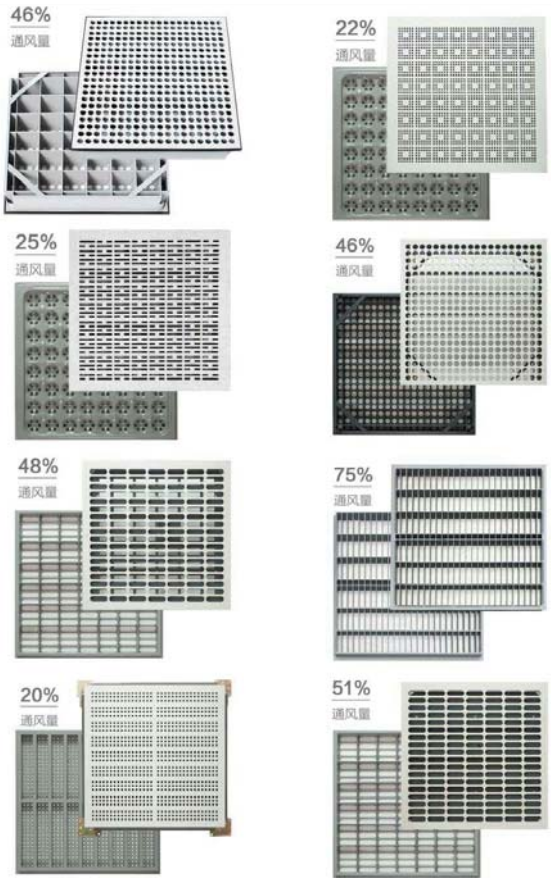
Perforated raised floor

This is the standard perforated air flow raised floor panel, composed of two steel sheets welded together and enclosing a grid metal sheet. Both top sheet and bottom sheet are punched with ventilation holes to allow for easy air flow. The perforated raised floor tiles are coated with epoxy powder after have been phosphorated to protect against corrosion. More specifically, the anti-static high pressure laminate (HPL) tiles and PVC tiles are lined with a black conductive vinyl trim serving as the edging. The perforated panel can be equipped with a damper which allows for air volume adjustment if necessary within the range of 18-75%. This panel system is compatible with the HPL/PVC type steel cement infilled panel system.





1) They Help Optimize Air Flow

In every work setting, proper airflow is essential to maintaining overall health standards as well as worker comfort and energy levels. Perforated and Grated Raised Floor Tiles. Raised floor systems are designed to accommodate perforated and/or grated floor panels as a means to direct airflow with minimal disruption between the supply (which is generally located in the ceiling space) and the return (which would be located under the floor).
Such systems are particularly beneficial in data centers and clean room applications which maintain meticulous temperature control measures, contamination control measures, air particle sizing, and laminar air flow requirements. The benefits also extend to any space where air conditioning can be situated below the floor, particularly as a means to eliminate problems with excessive condensation from overhead HVAC systems.

2) Increase Available Space

In just about any industry or business capacity, bulky utility systems can be effectively situated under the raised access floor. The realized space-savings can leave more room for staff and production equipment and potentially reduce the need for costly expansions.

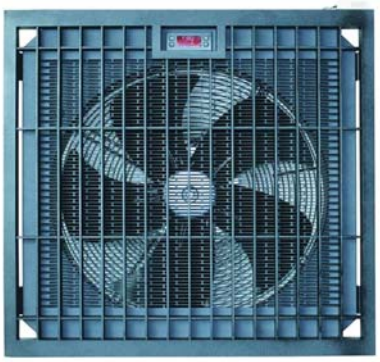
With utilities and support systems neatly organized below the floor, routine systems maintenance can be performed at virtually any location through movable access panels. This helps to eliminate constrictions on the work floor and limit disruptions to the general work environment.

Raised Access Floor

Performance Accessories Raised Access Floor

AIR booster raised floor

Air Booster Floor is a flexible for cooling data centers with high-density loads. Integrated within a raised floor and EC fan to increase air flow to front of the rack, it allows the cold air produced by the Air cooling unit to be air flow direction to front of the rack. Air Booster Floor guarantees an efficient operation of the rack units at the design conditions. Variable air flow EC fan air directly to the thermal load of the rack cabinet, provide a real-time response according to the sensor monitoring device installed in cabinets. With the assistance modules, providing the refonn plan for raised access floor. For high-density rack without investing a lot of money for the use of ground facilities renovation. Provide intelligent air flow, matching intelligent and efficient EC fan, Swiss inlet temperature sensor, accurate to the speed 1 rpm. To achieve the most accurate air, In ensuring optional sever operating conditions to maximize energy savings.



VAV Damper raised floor

The Underfloor temperature control VAV damper is used to Provide sufficient air to accommodate the peal energy demands of the rack.resulting in wasted bypass air and over-cooling during all less than peal conditions.
The damper measures the incoming air temperatures at the face of the rack and adjusts the VAV damper to control the air flow and ensure thet the temperature at the face of the rack is never above the maximum allowable set point provided by the user.
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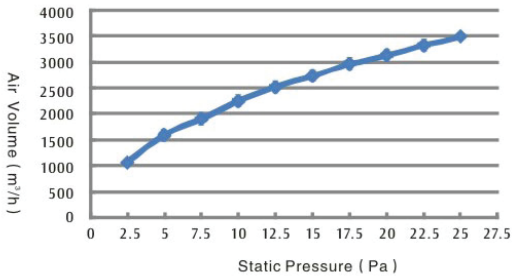

Brush grommet

Data centers require large amounts of cool air to maintain optimal temperature to keep servers functioning properly.
Cool air migration or leakage through cable openings in data center floors bypassing servers can lead to a drastic inefficient use of cool air and wasted energy dollars.