# DYNAMIC RAISED FLOOR SOLUTION

Bergvik Iso Floor

BERGVIK
CREATING NEW DIMENSIONS

Bergvik Iso Floor is totally different to traditional Data Centre pedestal raised floor systems.

It is a dynamic raised floor system that uses a prefabricated steel substructure that provides greater stability and uses fewer pedestals. As a result the stability of the floor is no longer reliant on the floor tiles, enabling the floor space to be treated as its own entity allowing it to be fully optimised.
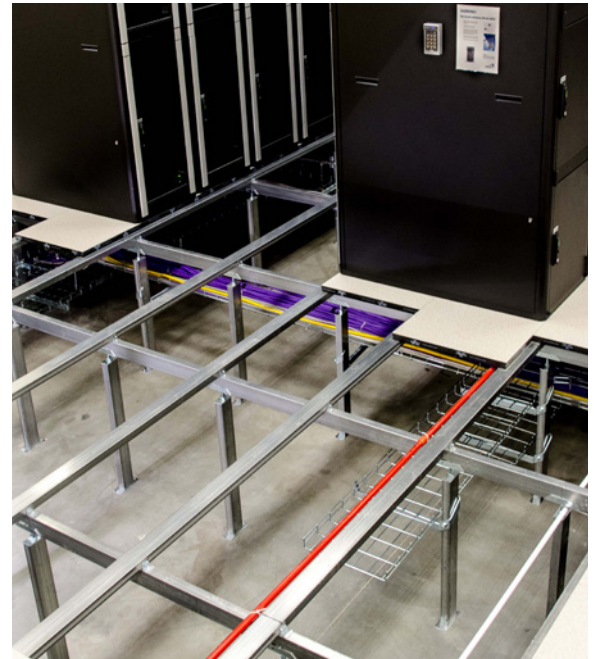
Key Features

- High Lateral Stability
- Reduce Installation
- Greater Capacity
- Fewer Grounding Points

DESIGN
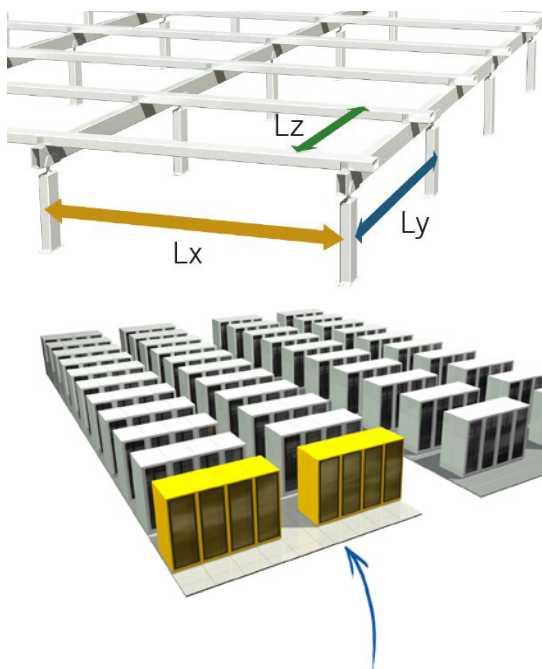
Central to Iso Floor's design is its steel sub-structure.

Built from 80mm x 40mm steel tubing the structure uses up to 70% fewer pedestals than a traditional floor.

The design utilises primary and secondary beams. The distances between these and the pedestals calculates the weight loading. This enables heavier equipment to be placed directly onto the floor without the need for expensive equipment stands; it is simply a case of adding additional pedestals and beams.

As the floor tiles are treated as a separate entity, the floor area can be optimised to fully utilise the space. Bergvik produce floor tiles in various sizes, this allows them to reduce tile blocking (where a rack blocks access to the plenum across two tiles). By optimising the space up to 25% more equipment can be installed.

The flexibility Iso Floor provides enables the raised floor to adapt to changing demands.

Design Gains

- The client could choose/decide to re-route cable trays as the pedestal legs do not have to be positioned at 600mm intervals (maximum 1200mm for pedestals on the Bergvik system).
- No strengthening stringers need to be used with the Bergvik Iso Floor. Standard stringers are usually removed by cabling contractors and not replaced (or they fall into the void where they are left).
- No additional sub-floor bridging is required due to the flexible pedestal placement of the Bergvik system.
- All floor components are guaranteed zinc whisker free, preventing any future risks.
- Point load is distributed across the secondary beams and not directly onto the four pedestal corners (stronger flooring solution).
- The Bergvik Iso Floor solution removes the chance of damage ESD caps and clips which is a factor on standard flooring installations.
- Multi-size floor panel offerings provide an option for equipment layout to be changed at the point of installation.
- More than 3 floor panels can be removed in one consecutive area as the strength is in the Bergvik frame and not the panel itself. It is strongly recommended that no more than three floor panels in one consecutive area are lifted on a standard raised access floor installation.

Iso Floor Features & Benefits

- Rapid deployment of Iso Floor reduces installation cost.
- High lateral stability means that all panels can be removed without the risk of the floor shifting.
- Floor heights available from 300mm to 2400mm in non-seismic zones.
- Up to 25% more equipment on the same footprint compared to traditional pedestal floors.
- Up to 70% fewer pedestal supports than with conventional static floors.
- Fewer pedestals increases plenum space for optimised cable management & improved airflow.
- Iso Floor can handle heavy loads such as: UPS, CRAC or SANs directly to the floor without separate stands.

- Custom size floor panels will optimise the data centre or telecom room with any cabinet depths.
- Panels are therefore fully removable in the aisles, making it easier for service and supplementation of equipment.
- Unique system flexibility means future equipment expansion (life cycle) can be built into the floor design.
- All equipment mounted on the floor can be bolted directly to the Iso Floor structure.
- Two grounding points, in opposite corners of the substructure, sufficiently with an extra wire required for each additional 100m^2.
- Highly wear resistant floor panels are direct laminated to prevent delamination.
- Laminate is resistant to harsh solvents.

Installation Gains
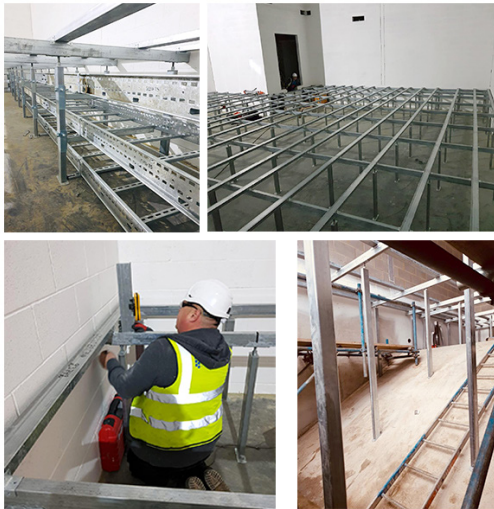
- The Bergvik pedestal feet would not need to be installed in the existing pre-determined position, meaning any damage to the floor substrate would not impede the installation.
- Installation by experienced technicians with further specialism in Data Centre decontamination and contamination control.
- The Bergvik frame system can be installed inside a live floor void while the existing pedestals remains in place (up to a point in the programme where the existing pedestals will be removed).

Reliability Gains
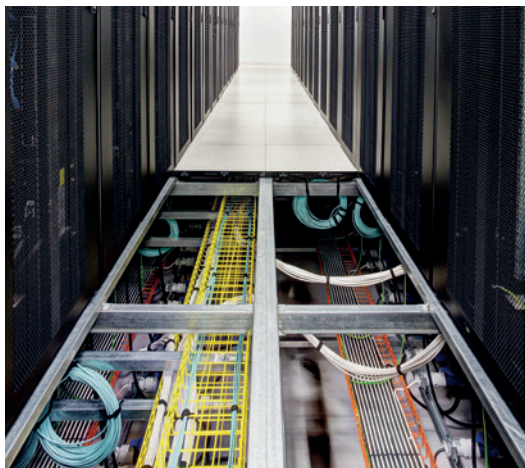
- No liquid epoxy resin is required for the Bergvik installation, this reduces the risk of exposing live cables and services to a hardener solution (accidental spillage and COSHH management).
- No drilling of the sub structure is required for mechanically fixing the Bergvik pedestals to the floor, this is done via a 'Hilti fixing' which reduces air borne contamination into the live Data Centre environment.
- The system does not require the pedestal heads to be 'glued/locked into position' as standard installations do (removing the risk of using adhesives in the live Data Centre environment). The Bergvik system will not create rocking panels through the movement of the pedestal head.

- Design solutions available for all seismic zones. NEBS tested seismic bracing frames for zones 3-4 will integrate with the floor mechanics.
- Standard 5 year warranty to back Bergvik quality.
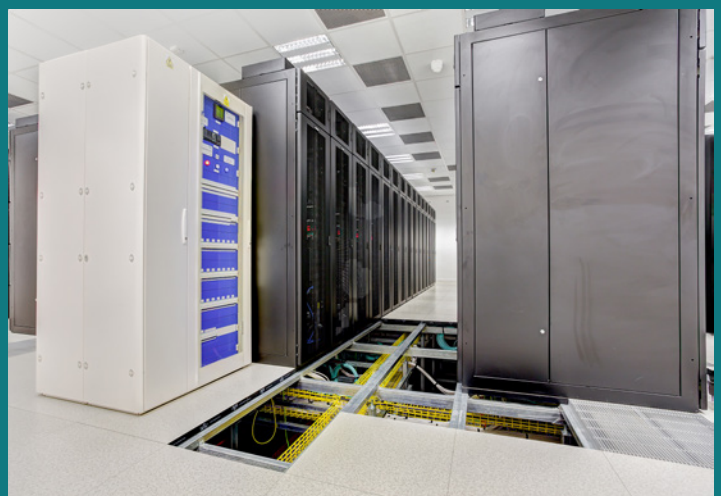
Reporting Gains

- The air quality will be measured daily throughout the project (Data Centre) to ensure the cleanliness ratings are not being impeded by the works, all air quality information will be tracked and reported to the client.
- The air quality will be tested on the final day of the project and an ISO certificate produced to show conformance to 14644-1 (this will show that the works have not impeded the original air quality).

Project Gains

- When replacing existing flooring on a live Data Centre, the Bergvik solution will be installed at a faster program than changing the floor for a standard pedestal and panel system.
- The installers will vacuum the entire sub-floor structure as the install progresses, removing all traces of particulate matter. The installers are experienced in Data Centre cleaning/decontamination processes.

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