

A FULLY FLEXIBLE AND RIGID RAISED FLOOR SYSTEM

# ISO FLOOR

FOR ELECTRICAL EQUIPMENT ROOMS

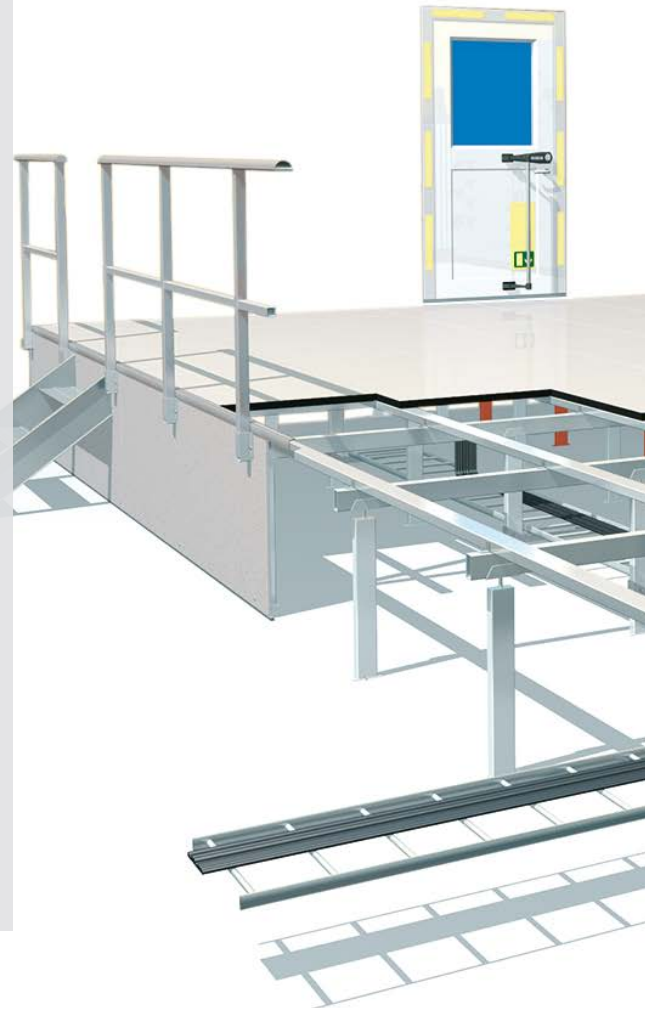




*The Bergvik floor system with its highly modular and solid steel substructure*

*meets our static and dynamic load requirements. Bergvik provide floor layout drawings fully adapted to our equipment layout, and once we approve the layout drawings, Bergvik sends out their certified installers to install the floors. The short lead-times, together with the high level of service Bergvik provides, have convinced me and Eskom that we have the right raised floor partner.*

**Dawie Naude**, Architect  
SUBSTATION CIVIL ENGINEERING, ESKOM

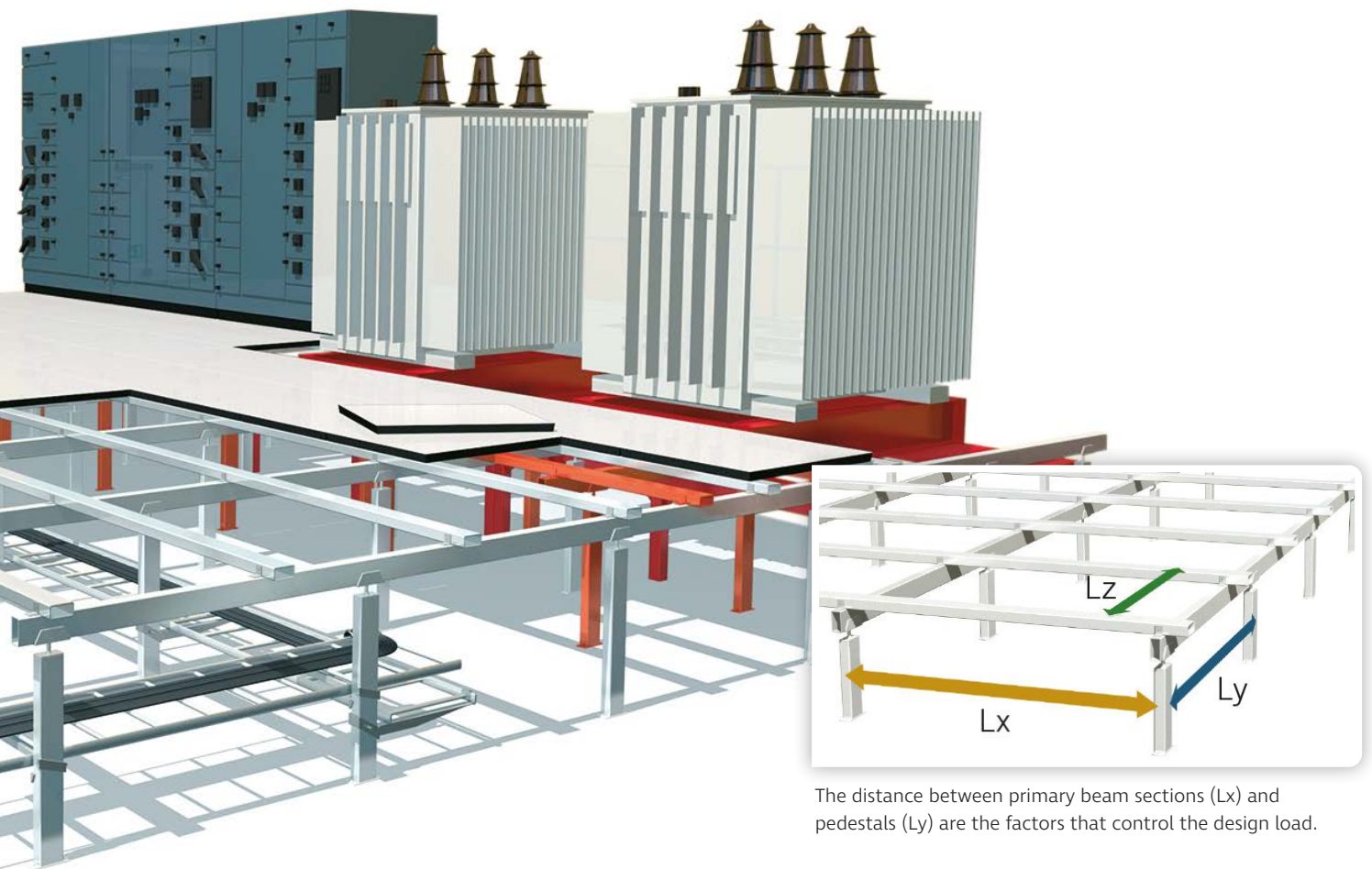


## THE COMPLETE SOLUTION

**Bergvik's Iso Floor is known in the market as the premier solution for Power Generation, Transmission and Distribution Sub stations and all other types of Electrical Equipment Rooms with heavy equipment. Iso Floor is a superior raised floor system that can be adapted to the conditions you have within your project and can handle pretty much any heavy loads. Its modularity allows the end user extra time to negotiate the purchasing of high cost equipment such as Switch-gears, UPS and Transformers since the floor is fully modular and can easily be adapted afterward as well if needed!**

Every project is designed by Bergvik in 3D CAD and are always available for review by the customers.

- Full stability from 300 – 2100mm FFH
- Can be installed in two deployments due to the rigid and self-supporting steel sub-structure. Panels can be installed at a later stage. No other raised floors offer this value-added feature.
- Standard panel size is 600x600 mm, but to achieve an optimized equipment layout and full access to the under-floor plenum, Iso Floor also offer panel sizes from 315-1200 mm.
- All heavy equipment is supported directly by the modular and self-supporting sub-structure. No costly and bulky equipment stands are needed.
- Tested and approved in accordance with EN 12825
- Up to 70% fewer pedestals than with conventional 600x600 mm grid floors. This means less obstruction and more space for cable management, etc.



The distance between primary beam sections ( $L_x$ ) and pedestals ( $L_y$ ) are the factors that control the design load.

# HEAVY EQUIPMENT? NO PROBLEM!

At the initial design stage, the modular Iso Floor substructure and floor panels can easily be adapted to suit various equipment types and density layouts. This leaves all floor panels accessible in aisles and pathways and provides full and continuous access for changes or additions to the under-floor area. There is also no need to install separate floor stands to mount the Electrical Equipment onto as it all sits on the Iso Floor substructure.

Iso Floor's flexible design allows for uniform distributed load up to  $50 \text{ kN/m}^2$ . The distance between the primary beam sections ( $L_x$ ) and pedestal placement on each primary beam ( $L_y$ ) are the factors that decide the uniform distributed design load. The distance between the secondary beam sections ( $L_z$ ) are normally 600 mm or based on the floor panel size specified.

The  $L_z$  distance can also be reduced if a reinforced path is required to transport or support heavy Transformer loads or the like. Floor layouts can even be designed around the large bulky cable runs and mechanical piping or ductwork rather than the other way around. This makes for a strong, flexible, easy to design, easy to install, cost effective and aesthetically pleasing solution for both below and above the floor level.

For extremely heavy load areas, that may require support for up to 14,000 kg, a separate modular transformer support stand can be integrated into the floor system. The simple and yet modular design of the Iso Floor system is "designer and installer friendly," allowing the end user the benefit of extra time if needed to make changes and decisions regarding the installation and the equipment.

# QUICK AND EASY INSTALLATION

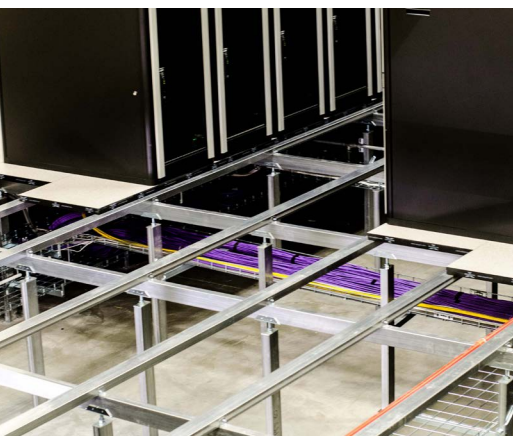
Every project is designed and communicated with the client to simplify the installation stage. Bergvik always provide CAD-drawings for review to our customers.

All deliveries include all pedestals needed for your floor height, and 80x40 mm beam sections can be pre-cut to the correct length based on approved project drawings if needed. This provides a quick and easy installation.

Installation can be performed in 2 (two) stages. The first stage is without panels due to the rigid Iso Floor design. This provides opportunities for other subcontractors to do their installations before floor panels are installed. Other subcontractors can utilize the Iso Floor sub-structure to support cable management, fire suppressant, etc as well. These installations are attached to the floor sub-structure using Bergvik's quick mounting cable ladder Holder Clamp (see page 6 for more information about our accessories).



Transformer Room at Karolinska Hospital with reinforced Iso Floor Substructure supporting 16 Transformers with a total weight of 120 ton.



# HIGH QUALITY FLOOR PANEL WITH DURABLE FINISH

The core of Bergvik's standard floor panels consist of a 38 mm high density particle board. A more moisture resistant panel core, classified V313, can also be ordered. To maximize the access to the under-floor plenum around equipment, we offer floor panels in customized sizes, from 315x600 mm and up to 1200x600 mm. Bergvik panels have a unique direct laminate finish process, which means that it's laminated directly to the panel core, preventing any de-lamination. Other manufacturers glue their laminate, which could cause de-lamination. Bergvik laminate panels are antistatic, extremely durable and easy to clean.

The Bergvik panels are also fully recyclable and environmentally friendly.

As standard we offer the M335 Granite laminate finish, with H818 Alder and A0040 Oak laminate finishes as alternatives.



## Bergvik laminate floor panel benefits

- Custom made panel sizes for maximum optimization
- High mechanical strength
- Easy to handle due to it's light weight
- Easy to clean and very resistant to harsh chemicals and battery acid
- Fulfills flame spread requirements in accordance with ASTM-E84
- Direct lamination process provides long life span to the panels
- Environmentally friendly and fully recyclable



*The flexibility of the floor due to the different sized floor panels makes cabling and maintenance simple and easy! Bergvik always has good service and is a safe and reliable supplier, and that is what makes us choose Bergvik.*

**Kent Häggman**  
PROJECT MANAGER - GOODTECH  
PROJECT & SERVICES

# TAKE THE WORRY OUT OF THE DESIGN PROCESS!

Bergvik takes the worry out of the design process. We custom design the floor for every project to provide our customers with the quality they expect and deserve. Your equipment layout can be decided at the design stage and the floor is designed to adapt to your optimized equipment layout.

Through Iso Floor's flexibility and ability to use custom sized panels, Bergvik can provide the Iso Floor with your dream layout without adapting to a 600x600 mm floor grid.

By using Iso Floor, the hot and cold aisles can be adjustable to get up to 25% more Server Racks on the same floor space, in comparison to traditional 600x600 mm grid floors.



## TO CONSIDER FOR SPECIFICATION

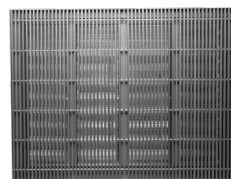
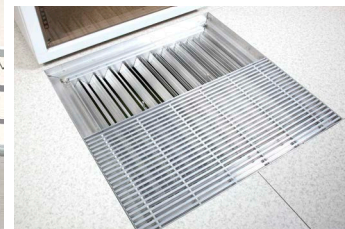
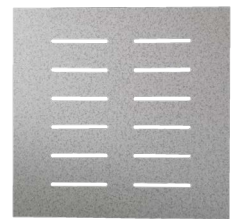
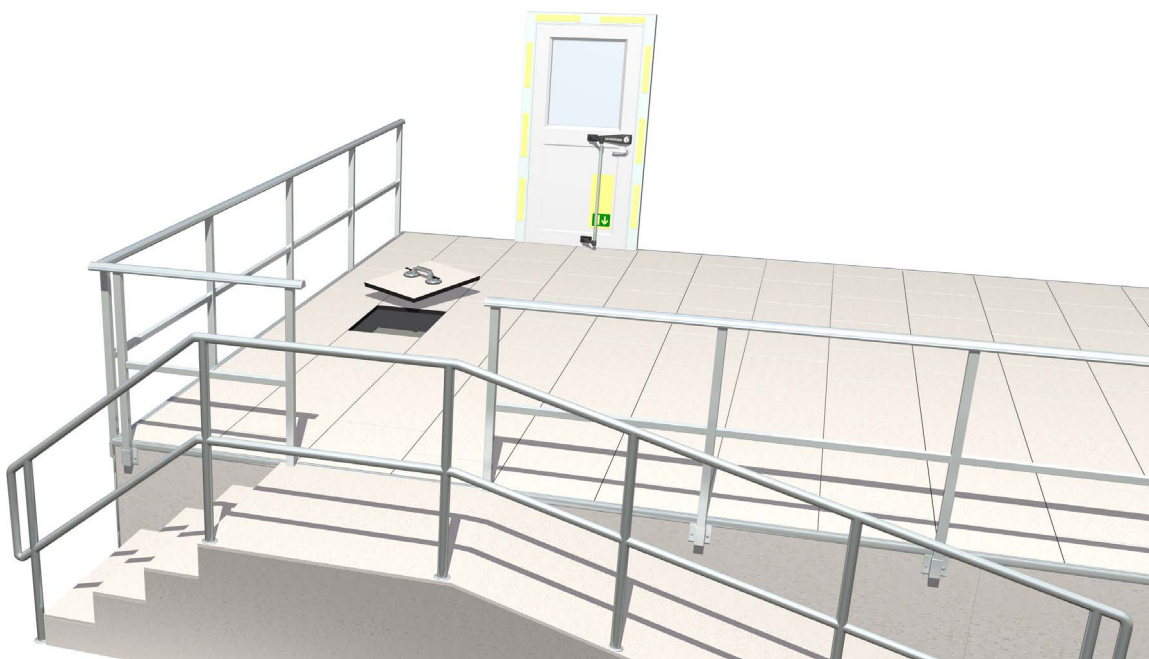
- If raised access floor should be dimensioned for a higher UDL than 10 kN/m<sup>2</sup>
- If the raised access floor should be delivered with step-less Holder Clamps for installation of cable ladder brackets, pipes etc.
- That panel covering shall be Bergvik antistatic direct laminate
- That floor panels shall be delivered in the appropriate sizes, adapted to the aisle widths so that no floor panels gets locked-down
- That complete Auto-Cad drawings or optional Revit model shall be delivered with the project
- That a load calculation specific for the project shall be included in the delivery



# COMPLETE RANGE OF ACCESSORIES

Bergvik offers a complete range of accessories and options for our raised floor systems. These typically include panel lifters, stairs, handrails, ramps, border fascia panels, cable seals and grommets. Our popular Holder Clamp, which can be quickly mounted to a floor pedestal, provides simple and varied options for installation of cable ladders, cable trays, chiller piping, fire suppressant piping, smoke detectors, etc.

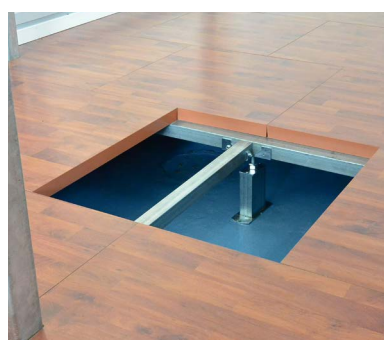
As part of our accessory range, we also offer various forms of airflow panels and grilles, as well as panels made of different materials and sizes. We can also provide cover kick plates for protection of vertically mounted cable ladders, threshold transition plates, vertically mounted emergency door openers and earthing bars. Contact us for specific data cut sheets on the listed accessories.



## ISO FLOOR COMPACT

Bergvik's Iso Floor Compact is an alternative to Iso Floor for floor heights FFH 200–400 mm if you have a limited building/ceiling height.

In general, Iso Floor Compact can achieve the same load specification as our standard Iso Floor, using secondary stringers directly supported by pedestals using a type 80 head brackets without the primaries, thereby decreasing the overall profile design height from 160 mm down to 80 mm.



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## CUSTOM MADE SOLUTIONS WITH THE HIGHEST QUALITY

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Coordinating with Bergvik is worry free. We custom design the floor for every project if needed, in our CAD software, to provide customers with the quality they expect and deserve. This means that your equipment layout can be decided at the design stage and the floor is designed to adapt around your optimized project design. Additionally, a standard 5-year warranty on the floor is priceless.

Bergvik was founded in 1970. Through all the years, we have exported our floors to more than 100 countries around the world.

Today we design and deliver fully modular and technical floors like Iso Floor, HiFlex Floor, Tech Floor and our proven secure Seismic Bracing Frames. As well as the structural ceiling system - Iso Flex-Grid.

### Our products

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#### ISO FLOOR



Raised floor for data centres and power distribution rooms with unique flexibility.

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#### HIFLEX FLOOR



High-built power distribution floor as an alternative to concrete beams.

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#### SEISMIC BRACING



Bergvik's seismically secure raised floor that protects critical electrical equipment.

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#### ISO FLEX-GRID



A load-bearing ceiling system that is both a dropped ceiling and a support grid in one cost effective solution.

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#### TECH FLOOR



An economical standard grid floor system for installation in offices and communication centres.

