



# HIGH BAY RACKING



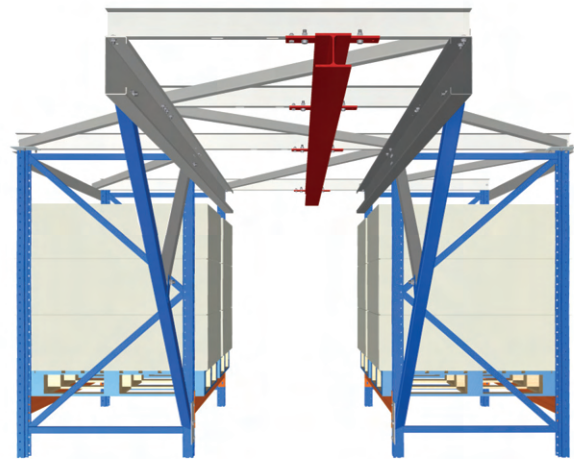
The high quality pallet storage system serviced by cranes.

# HIGH BAY PALLET RACKING

Pallet racking serviced by cranes requires special arrangements for tolerances in manufacturing and erection. Perfect positioning and levelling are vital for such installations. The cranes are running on a floor mounted rail and stabilised at the top of the mast by a top guide rail. The pallets can be placed "single deep", "double deep" or "multi-deep".

## BASIC CRANE CHARACTERISTICS

- Crane height: distance from highest point of the floor to the top-tie
- Height of the bottom level and the top-level
- Crane aisle width: distance between the front of opposite pallets
- Design of the run-outs at both ends of the aisle
- Type of top rail and its fixation
- Crane horizontal forces in z- and x- directions
- Racking classes:
  - 100: crane operated without fine-positioning system at the unit load
  - 200: crane operated with fine-positioning system at the unit load



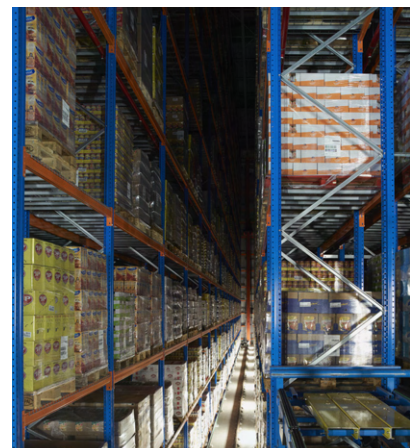
Run out assembly

## SPECIAL ARRANGEMENTS FOR CRANE OPERATED SYSTEMS

### ERECTION TOLERANCES

The erection tolerances depend on the racking class (FEM 9.831).

- X-direction
  - Length of up to 40 m: rack length  $\pm 20\text{mm}$
  - More than 40 m: rack length  $\pm 0.05\%$  of overall length
- Y-direction
  - Class 100: All beam-levels within  $\pm 5\text{mm}$
  - Class 200: First beam-level within  $\pm 5\text{mm}$
  - Other beam-levels within  $\pm 10\text{mm}$
- Z-direction
  - The outer extremity of the uprights must lie within  $\pm 15\text{mm}$



### ( CLEAR BENEFITS FOR EVERY APPLICATION )

- › Complies with the European FEM and EN regulations quality assured to ISO 9001.(BQA N° 019 QMS)
- › Computer aided design ensuring the best solution for every application, including static calculation

- › All components have been thoroughly tested in specialized laboratories.
- › Fully automated production to a high quality standard and in a cost-effective way



## MEZZANINE CONSTRUCTION

The modular mezza-stow flooring system can be applied in most situations. Mezzanine constructions are often needed at the front and rear zones to support the conveyors. They can also serve as visitor's or maintenance platforms.

### STRUCTURAL DESIGN OF THE RACKING

The structural calculation is based on the FEM 10.2.02 - norm.

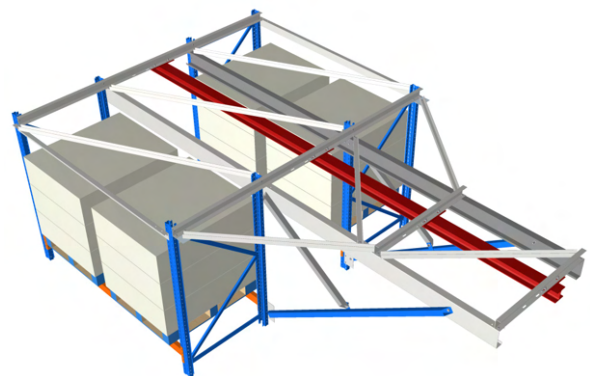
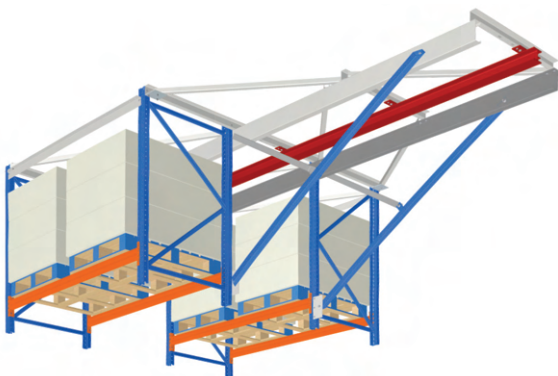
In particular the allowed frame deformations in x- and z-direction, which take into account the initial out-of-plumb, the horizontal forces imposed by the crane and the pallet loads.

The beam deflection depends on the applied racking class:

Class 100:  $L/300$  or max. 10mm // class 200:  $L/200$  or max. 15mm.

### ACCESSORIES

- The frames are top-tied by a portal beam.
- At both ends run-outs are provided.
- The racking is braced in horizontal and vertical planes.
- The footplates are fine adjusted and supported by a non-shrinkage grouting.
- Safety fencing with interlock-doors and back cladding ensure safe working conditions.
- At the P&D-locations mezzanine constructions are often needed to support the conveyors.
- Visitor's platforms.
- Maintenance platforms.





**we rack the world**

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