

stow
MEMBER OF AVERYS GROUP

HIGHBAY RACKING

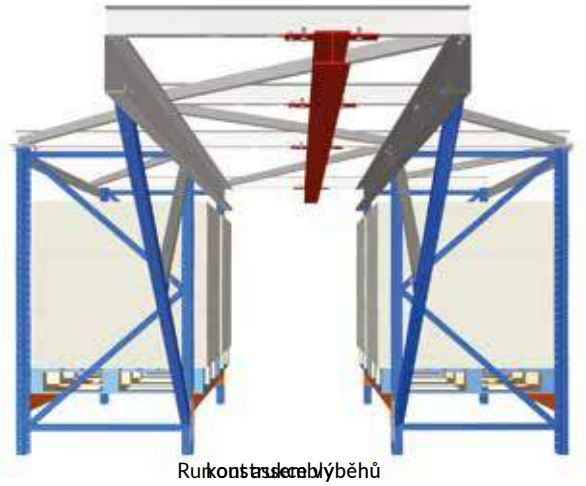
The high quality pallet storage system serviced by cranes.

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” or “double 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-outs at both ends of the aisle

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 ± 20mm
  More then 40 m: rack length ± 0.05% of overall length
- Y-direction Class 100: All beam-levels within ± 5mm
  Class 200: First beam-level within ± 5mm
  Other beam-levels within ± 10mm
- Z-direction The outer extremity of the uprights must lie within ± 15mm





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.

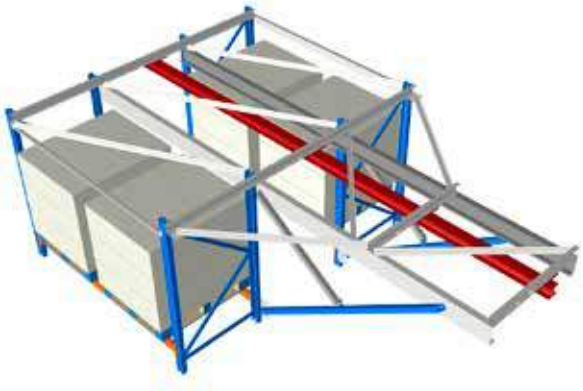
STRUCTURAL DESIGN OF THE RACKING

The structural calculation is based on the FEM 10.2.02 – norm.
In particular the allowed frame deformations in x- and z-direction, wich 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.





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WE RACK THE WORLD

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