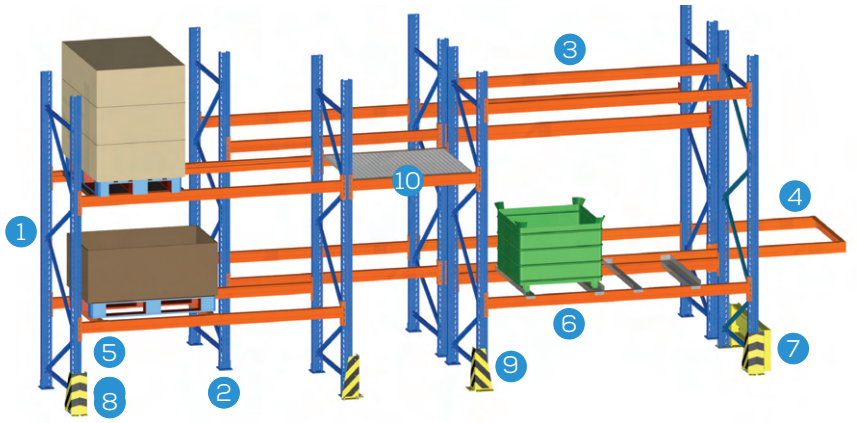
PAL RACK®

stow

The high quality pallet storage systems for goods of all sizes and weights.

CONVENTIONAL PALLET RACKING

The Stow Pal Rack® system consists of a full range of basic components and accessories to fulfill all of your requirements. The system is designed for the optimised storage of goods of all sizes and weights. All components have been thoroughly tested in specialised laboratories to determine their mechanical properties. These are used to calculate the safe load capacity of each component and ensure that they meet the stringent requirements of the FEM code for pallet racking.



1. The frame
2. The footplate
3. The beam
4. The pick & deposit station
5. The pallet support
6. The container support
7. The frame protector
8. The upright protector
9. The corner protector
10. Fall through protection

THE FRAMES

The bolted frames, in lengths of up to 15m in painted or galvanized finish, are composed of 2 uprights and a number of diagonals. The wide range of types of frames allows the rack construction to be optimized for heights of up to 40m and bay-loads of up to 45 T.

Type	Width	Depth
PNFB 12, 13	85	65
PLFB 15, 16	100	65
PLFB 17, 18	120	65
PLFB 29, 30, 31, 32	120	92
PLFB 33, 34, 35	140	92

(CLEAR BENEFITS FOR EVERY APPLICATION)

- Complies with the European FEM and EN regulations; quality assured to ISO 9001.
- 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

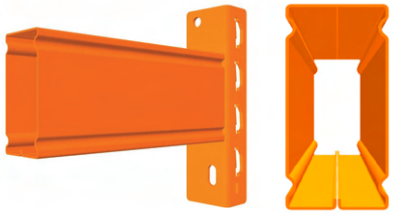
THE END CONNECTOR

The boltless connection allows a quick and efficient assembly. The stability of the unbraced rack is determined by the properties of the connector. The connector is made of high quality micro-alloy steel. The safety pin prevents accidental dislodge of the beam.

THE BEAMS

Several types of beams are available, to suit all possible configurations:

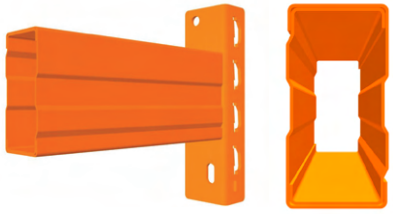
THE COLD-FORMED TUBE BEAM



Type	Width	Depth
PNB 0486	60	50
PNB 0488	80	50
PNB 0480	100	50
PNB 0471	110	50
PNB 0472	120	50
PNB 0485	125	50
PNB 0413	130	50
PNB 0414	140	50
PNB 0415	150	50

This tubular beam section is reinforced at both top and bottom avoiding local damage when loading heavy pallets.

THE BOX – BEAM



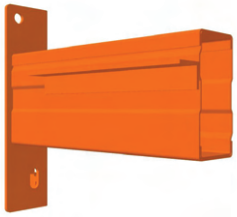
Type	Width	Depth
PNB 0441	110	50
PNB 0442	120	50
PNB 0443	130	50
PNB 0444	140	50
PNB 0445	145	50
PNB 0446	160	50

The beam is composed of two cold-formed C-profiles. It is very resistant to torsion and provides great stiffness in both horizontal and vertical directions, with a load bearing capacity of up to 4.8 tonnes per beam level.

THE SHELF – BEAM FOR PICKING LEVELS

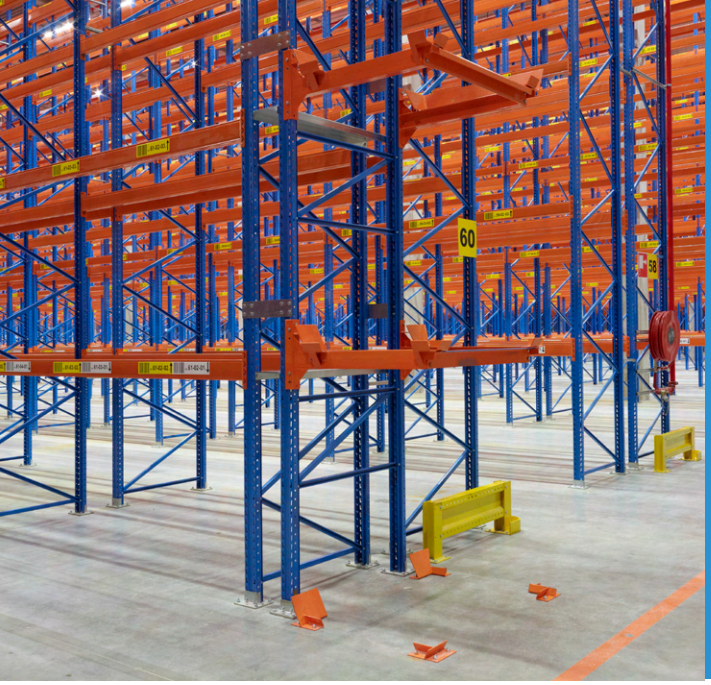
LIGHT LOADS

The light duty beam with integrated connector is equipped with a standard edge for shelves or panels of 28 mm thickness.



HEAVY LOADS

The box-beam with step-down welded L-profile.The shelves are flush with the top of the beam.



THE PICK & DEPOSIT STATION

The Pick & Deposit station serves as an interface between the pallet handling equipment (such as VNA-trucks) and the trucks used for in- or outbound. The Station can be equipped with a centering device for a more accurate positioning of the pallets.

THE ACCESSORIES

THE FOOTPLATE AND LEVELLING PLATE

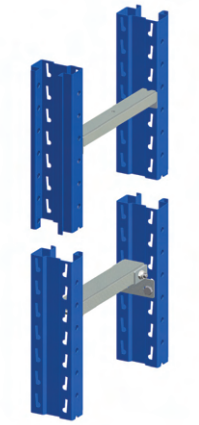
A range of dedicated footplates have been designed for specific applications: VNA-applications, High-Bay systems, etc... The load bearing capacity depends on the effective area of the footplate as well as the type of concrete slab.
The racking is adjusted by means of levelling plates, in accordance with the applied regulations. After levelling, the racking is anchored.

THE CONTAINER SUPPORT

The container support is equipped with a side guidance and optionally with an integrated back-stop. It is recommended for safe storage of metal containers.

THE PALLET SUPPORT BAR

The pallet support bar is used to support pallets of poor quality or when pallets are placed with the 1200mm side facing the aisle. A pair of galvanised cold-rolled pallet supports can take a load of up to 1200 kg.



THE ROW SPACER

In double racks row spacers are installed between each pair of frames, these can also be used for fixing the sprinkler fire protection system.

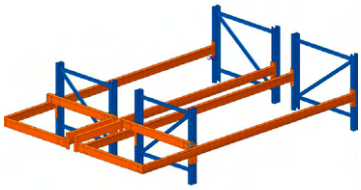
For some applications single uprights are used in combination with frames. These are connected with the so-called “in-on” - row spacers.

THE SPRINKLER SYSTEM

The sprinkler system is connected on the row spacers, which link the two frames of the double rack. The flue between the pallets depends on the local regulations (often 150 mm).

THE PICK AND DEPOSIT STATION

The Pick & Deposit Station is installed at the end of the racking aisles.



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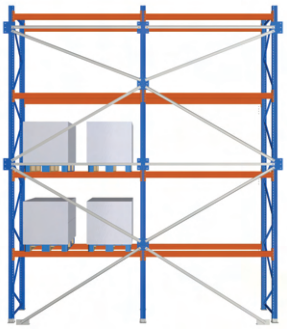
STRENGHTENING METHODS

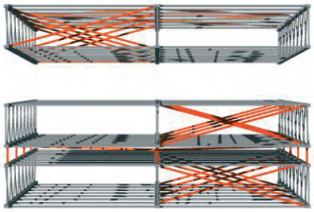
1. Adding bracing in the down-aisle direction of the racking will increase the load capacity of the frames. 2. When the single rack is too slender it is connected to the adjacent double rack by means of a top-tie. 3. Inductive guidance or the rail guidance is used with “very narrow aisle” trucks.

1. THE BRACED RACKING

Adding bracing in the down-aisle direction of the racking will increase the load capacity of the frames. For AS/RS-systems the bracing is needed to meet the assembly tolerances.

The vertical bracing (called the spine bracing) is located at the back of the rack. It works in the xy-plane. The horizontal bracing (called the plan bracing) is located in between two beams giving stability in the xz-plane.

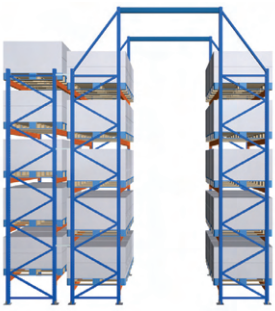




top view of the braced single and double rack

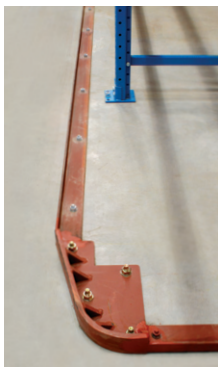
2. TOP-TIED RACKING

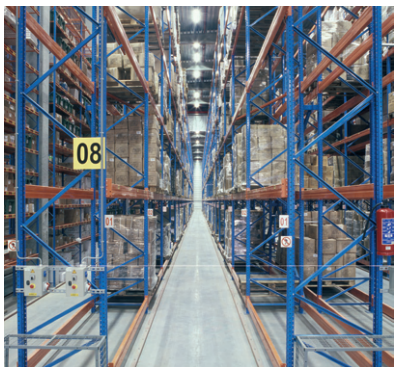
When the single rack is too slender it is connected to the adjacent double rack by means of a top-tie. The top-tie is mounted on extended front uprights.
For automated racking the top-tie is also used to support the top-rail.



3. VERY NARROW AISLE RACKING

This type of racking is operated with “very narrow aisle” trucks. They are guided through the aisle, allowing faster and easier operation. Inductive guidance often replaces the rail guidance. The design of the ground guidance depends very much on the type of lift-truck. The low guidance profiles allow placing pallets on the floor, the high guidance profiles require extra bottom beams.





RACK PROTECTION

Protection of the racking against collision from a fork lift truck is important. The expected lifetime will be extended and repairs limited. A number of basic protectors are available and for specific applications dedicated protectors have been developed, for example fall through protectors.

THE PROTECTORS

THE CORNER PROTECTOR

The corners of the racking are vulnerable to damage caused by collisions. The corner protectors are anchored on both sides of the upright.

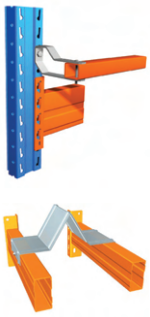
THE FRAME PROTECTOR

Constant traffic around the end-frames or the frames at the cross aisles often causes damage to the racking. The Stow frame protector is built with a sigma main beam, supported by two end protectors. For longer runs intermediate supporting brackets are mounted.

THE UPRIGHT PROTECTOR

The upright protector will reduce the damage caused by impact loads. Especially for installations with fast moving products or heavy products, upright protectors are essential for the safety and lifetime of the racking.

PUSH THROUGH PROTECTORS



Push through protectors can be used in single and double entry racks. They are often used to protect the wall of the building, for instance in cold-stores, or to guarantee the space between the pallets in double racks for the sprinkler fire protection system. The stop beam can also be used to fix cladding on the back of the racking.

SPECIFIC CUSTOMISED PROTECTORS

EXAMPLES:

- Fall through protectors above passages.
- Wheel stops at the front of carpet racks or live storage systems.
- Full length upright protectors, often used for carpet racks and racks with a high risk of collision.

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