

A2. Drive-in racking

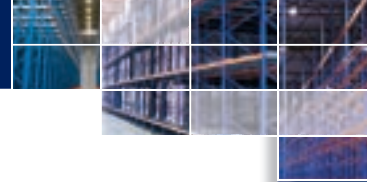


A2





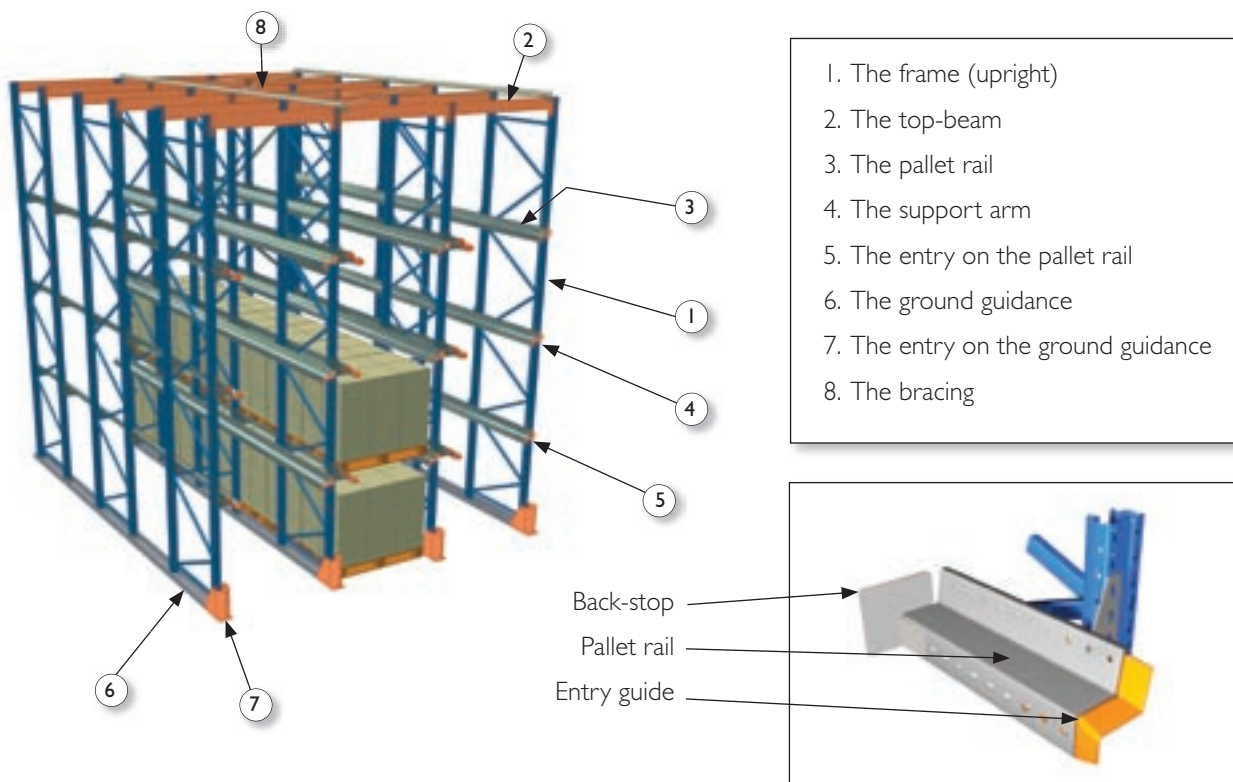
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A2

Drive-in racking

Drive-in racks are designed for storing large quantities of similar pallets and increase the storage space utilisation compared to conventional pallet racking systems. This is achieved by eliminating picking aisles. The system provides safe block stacking of goods, which are too fragile or unstable to be stacked one on top of the other.



Stow's Pal Rack Pallet racking system is particularly suitable to build drive-in installations. With upright widths of up to 140mm, Stow is able to build very high installations. The most important features are:

- The arms, combining a rigid connection and a fast and easy installation. They are hooked in the frame, which is continuously perforated at a pitch of 50mm. The height partitioning of each lane can be set individually!
- The pallet rails, incorporating strength with excellent pallet guidance.

Drive-in racking is loaded and unloaded according to the LIFO (last in, first out) principle. Drive-through installations are loaded and unloaded according to the FIFO (first in, first out) principle. Ground rails are recommended to guide the truck or pallets and to protect the installation.

Drive-in racking can be subdivided in three types, based on the load and unload procedure and the accessibility: SINGLE DRIVE-IN, DOUBLE DRIVE-IN and DRIVE-THROUGH.

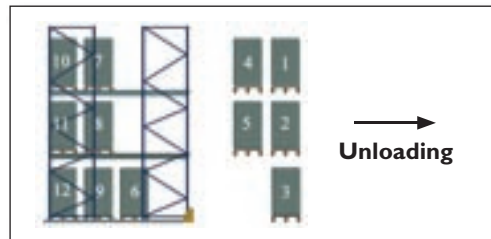
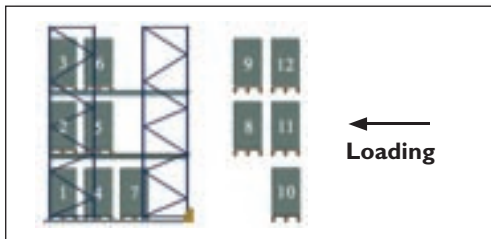


DRIVE-IN & DOUBLE DRIVE-IN

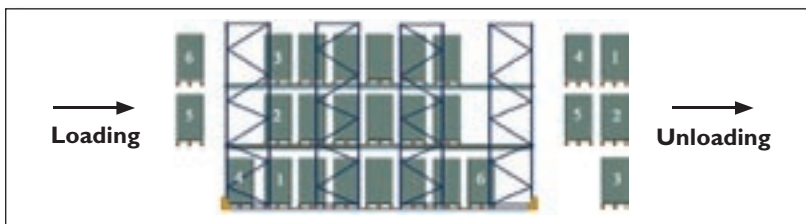
For Drive-in racking the loading sequence is shown in the figure below.

The first pallet is placed at position 1 and the rack is loaded from the bottom to the top and from the back to the front. The unloading follows the inverse procedure, from the front to the back, from top to bottom. The loading and unloading sequence follows the LIFO principle (Last In, First Out).

In **double Drive-in** installations the load and unload sequence is the same as in a single Drive-in racking. It is composed of two Drive-in racks, placed back to back.

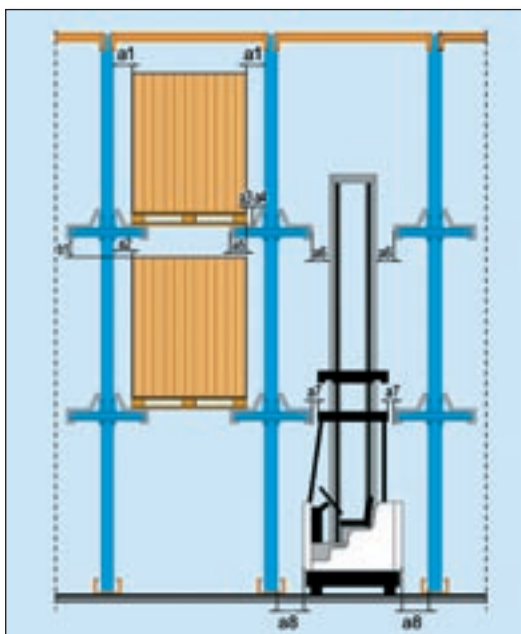


DRIVE-THROUGH



In Drive-through installations loading and unloading happens from opposite sides, according to the FIFO principle (First In, First Out).

Drive-in configuration



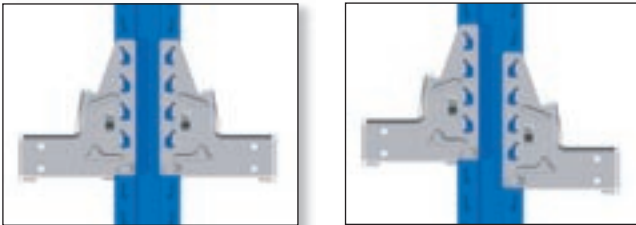
The clearances for the pallets and the handling trucks are very important and must comply with FEM-regulations.

Dimensions: according FEM 10.3.02

- $a1 \geq 75 \text{ mm}$
- $a2 \geq 50 \text{ mm}$
- $a3 \geq 50 \text{ mm}$
- $a4 \geq 50 \text{ mm}$
- $a5 \geq 20 \text{ mm}$
- $a6 \geq 100 \text{ mm}$
- $a7 \geq 75 \text{ mm}$
- $a8 \geq 75 \text{ mm}$
- $b1 \geq 100 \text{ mm}$

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DRIVE-IN ARM DESIGN



The height partitioning can be set per drive-in lane.

The standard lane width

- Pallet width = 1200mm → Lane width = 1350mm
- High and deep drive-in systems or for pallets with max. 50mm overhang: an extra of 50mm should be added → Lane width = 1400mm

DRIVE-IN RAIL DESIGN



The specially designed rail offers a safe and smooth surface. The rail can be produced in lengths of up to 9m, so almost no rail connections are needed. This special design ensures that it is hardly sensitive to torsion under load, allowing bigger spans between two supporting arms.

The brightly colored entry guide, the side guidance and the end-stop help the driver to position the pallet quickly and accurately.

DRIVE-IN GROUND RAIL DESIGN

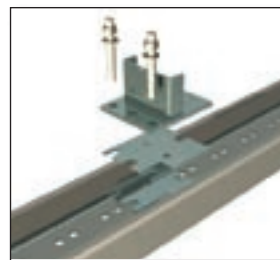
Productivity and safety are increased by the use of high visibility upright guards and ground rails. The entry guides are not connected to the ground rails, allowing quick replacement in case of damage. Thanks to the shape of the entry guide damage to the pallets at ground level during storage or retrieval is avoided.



Ground rail profile



Entry guide



Footplates and ground rail are anchored together



MIDDLE OR END STOPS

The middle or end stops are used to protect the wall or to position the pallets correctly in the lanes.