



DRIVE-IN/DRIVE-THRU PALLET RACK

interlake
 **MECALUX**

Drive-In/Drive-Thru Pallet System

The Drive-In/Drive-Thru system is ideal for storing homogeneous products, with a large number of pallets per SKU.

The Drive-In/Drive-Thru system maximizes the use of space within a warehouse holding up to 75 percent more pallets than standard pallet rack. Products stored in a loading lane should have the same SKU to avoid unnecessary pallet handling.

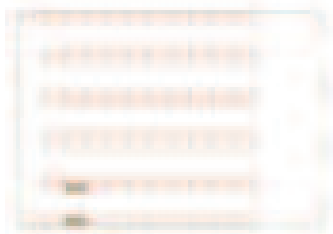
With the load raised slightly above the level on which it is to be deposited, forklifts enter the system and deposit pallets on support rails. This action is repeated at various levels for positioned at various levels. This system offers a highly dense storage option.

The depth of each lane will depend on the number of pallets per SKU, the occupied space, and the length of time they will be stored.

The Drive-In/Drive-Thru Pallet Rack system is highly customizable. If your ideal solution is not found in this catalog, please contact an Interlake Mecalux representative to evaluate further options.



Drive-In/Drive-Thru's capacity is greater than in Selective's, as reflected below. The diagrams show the same place with three different distributions and different capacities.



Selective distribution:

The total square footage of this warehouse is 2,814.96 ft². Its storage capacity is **306 pallets per level**



Drive-In/Drive-Thru distribution:

Using the same square footage, but now with an increased storage capacity of **522 pallets per level**



Combined Drive-In/Drive-Thru with Selective Distribution:

Has a storage capacity of **383 pallets per level** (200 Drive-In/Drive-Thru pallets and 183 Selective pallets)

Rack load management for the Drive-In/Drive-Thru pallet system

Drive-In systems are the most typical way to manage compact storage loads. Pallets are loaded from back to front, creating a Last In-First Out system. (Figure 1).

Drive-Thru systems feature loads that are accessed from both sides. Pallets are unloaded in the same order in which they were loaded, creating a First In-First Out system. (Figure 2).

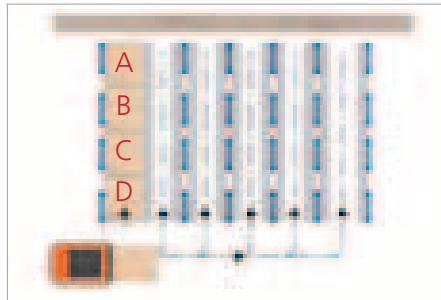


Figure 1
Drive-In Loading order: A, B, C, D
Unloading order: D, C, B, A
LIFO (Last In-First Out) System, the last load in is the first load out.

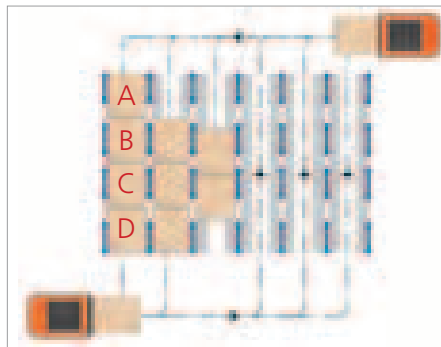


Figure 2
Drive-Thru Loading order: A, B, C, D
Unloading order: A, B, C, D
FIFO System (First In-First Out), the first load in is the first load to out.

Pallet Management

Because forklifts deposit the pallet on the Drive-In/Drive-Thru rack by setting its lower runners on the supporting rails, the stress on the lower runners is very high. Pallets that are used in this system should be in optimal condition to be able to withstand the additional stress.

In the drawings below, the proper method of pallet placement is shown (Figure 3).

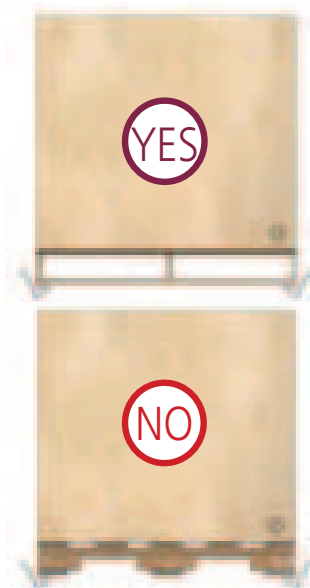


Figure 3

Pallets can only be placed in the opposite direction when their resistance, rigidity and the weight of the goods allow it. In addition, the forklift's ability to enter the lane should be checked.

If the goods overhang the pallet, the A and B dimensions of the pallet can be different from the A' and B' measurements of the goods. This will influence the dimensions of the racks and supports (Figure 4).

With this type of rack, it is not possible to automatically center the pallet, therefore the lift operator must be

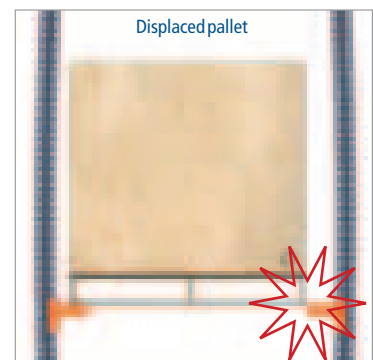


Figure 5

extremely careful when maneuvering inside the system. If a pallet is displaced, it risks damaging either the pallet or the product (Figure 5).

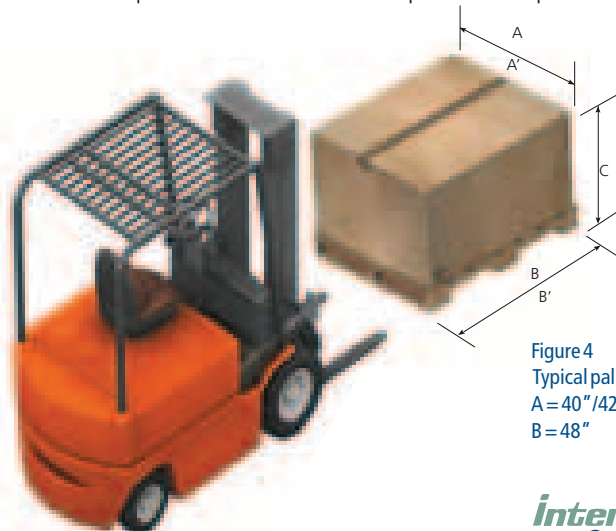
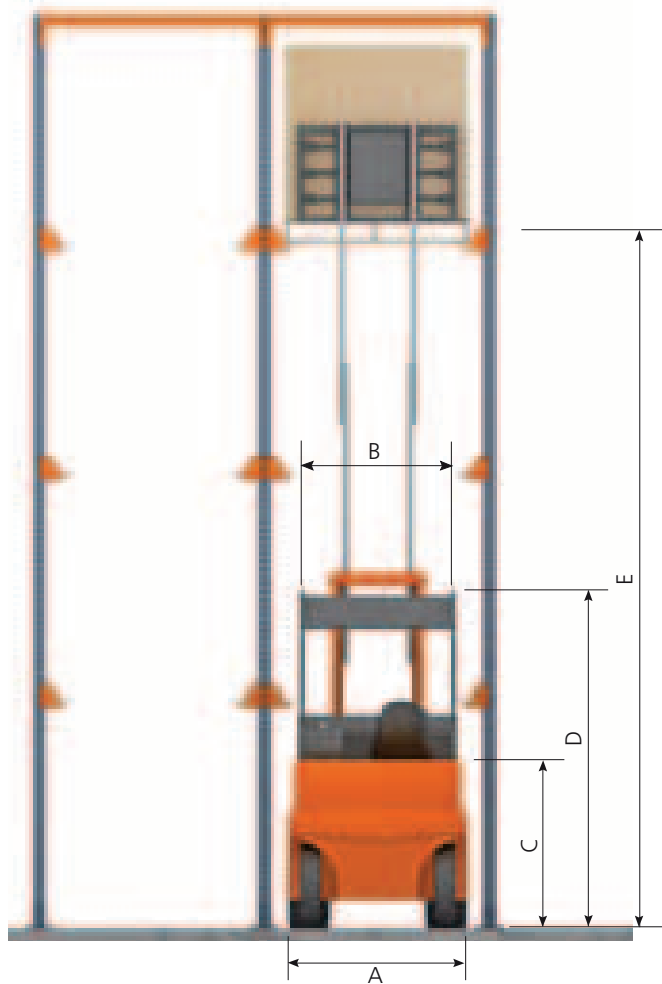


Figure 4
Typical pallet dimensions:
A = 40" / 42"
B = 48"



Forklift Clearances

When forklifts are moving inside the storage lanes, it is necessary to calculate the clearances needed for them to work safely. There are certain measurements which should be kept in mind when designing the system:

- A.** Total width of the forklift.
- B.** Protective structure for the operator.
- C & D.** Height of the base and forklift protector.
- E.** Maximum elevation height.



Figure 7: The stabilizing systems in Drive-Thru pallet rack include Rigid frames, Top tie beams and cross bracing, rigidity lanes.

Rack Stability

Rack stability must be guaranteed, both crosswise and lengthwise.

Longitudinal stability in the Drive-In/ Drive-Thru system is ensured through the rigidity of the frames and the diagonal bracing bars.

Transverse stability

Perpendicular to the storage lines, the transverse plane of the Drive-In/Drive-Thru system is stabilized with top tie beams and horizontal cross bracing. Drive-In uses vertical cross bracing along the back of the system as an additional means of adding transversal stability (Figure 6), while the Drive-Thru system frequently adds rigidity lanes also known as dead bays (Figure 5).

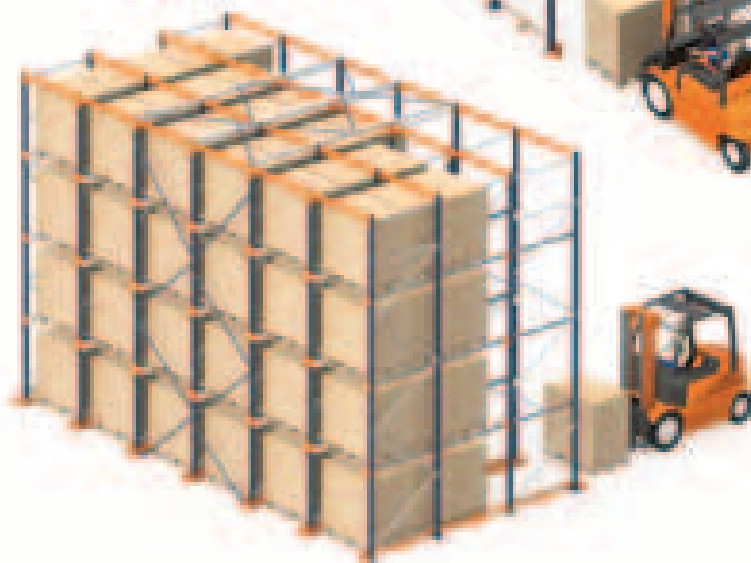
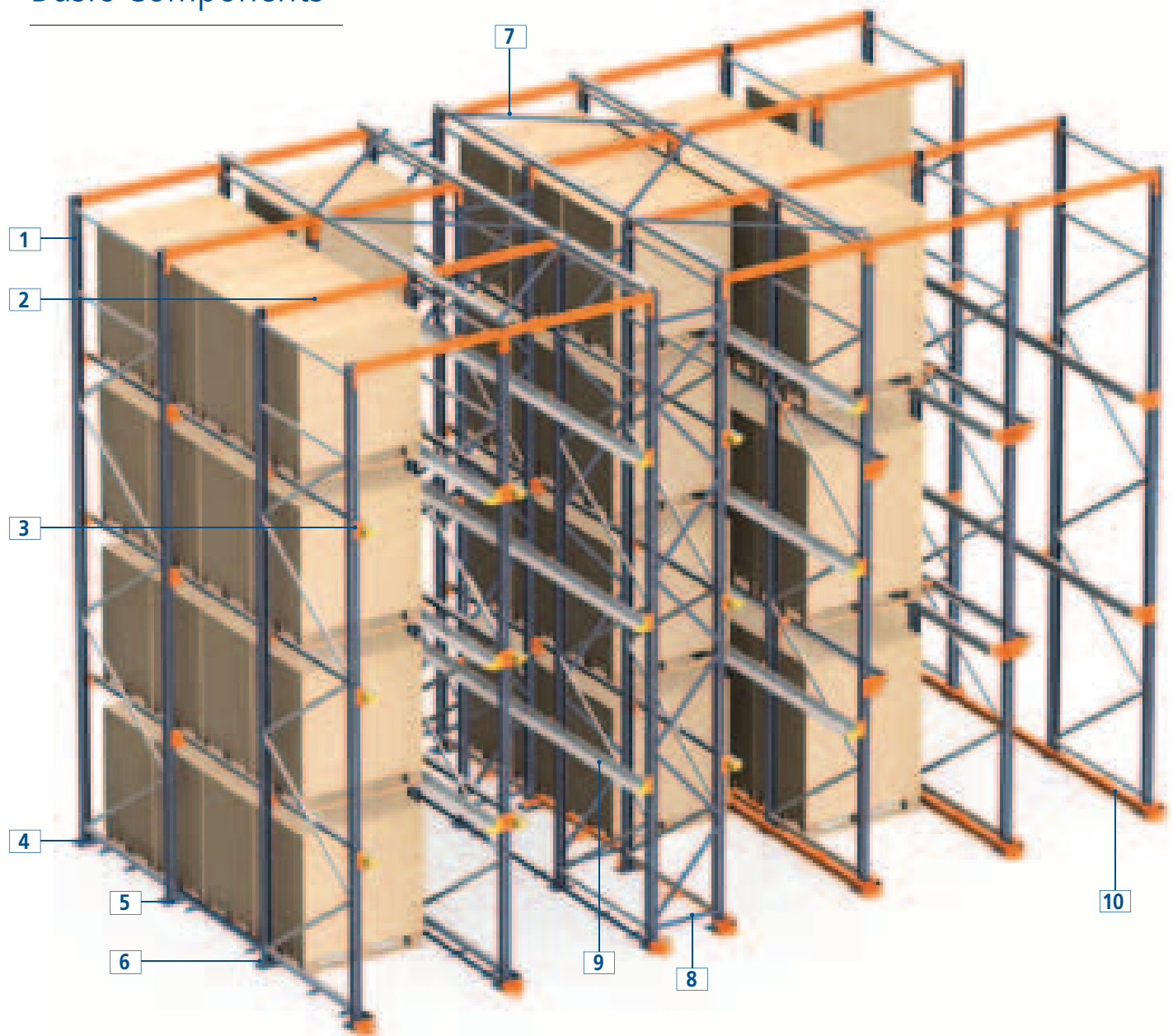


Figure 6: The stabilizing systems in Drive-In pallet rack includes Rigid frames, Top tie beams and cross bracing, vertical cross bracing along the back of the system.

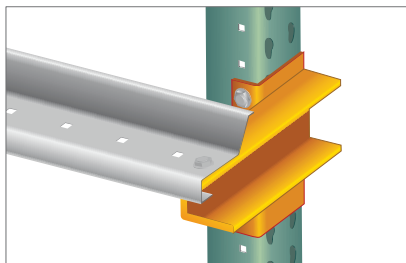
Basic Components



- 1/ Frame
- 2/ Top Tie Beam
- 3/ Arm
- 4/ Foot plate
- 5/ Shims
- 6/ Anchors
- 7/ Horizontal bracing
- 8/ Rigidity lane/Dead Bay - typical with Drive-Thru
Vertical Bracing - typical for Drive-In (Not shown in picture)
- 9/ Rail
- 10/ Guided Rails (Optional)

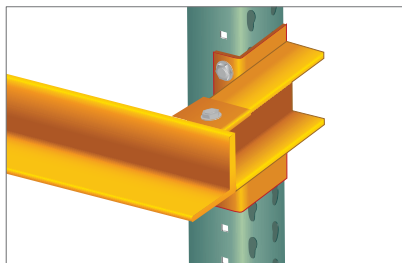


Welded Drive-In Rails



Pallet Support Rails

Interlake Mecalux support rails are designed to both stabilize the loads while also being adaptable to the type of pallet stored. There are various types of pallet supports available.

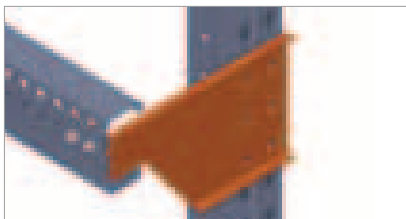


Structural Angle Pallet Support Rails

These support rails capture the goods, decrease the possibility of load displacement and eliminate pallet fall through.

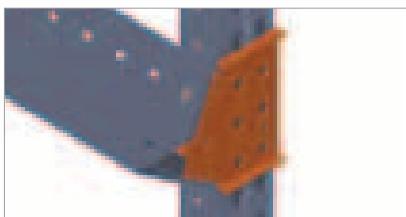


Bolted Drive-In Rails



C-Type Rails

These support the pallets without centering. They are used when the loads overhang the pallets. If bay width is significantly larger than pallet width, then safety angles must be added to prevent the pallet from falling through the arms.

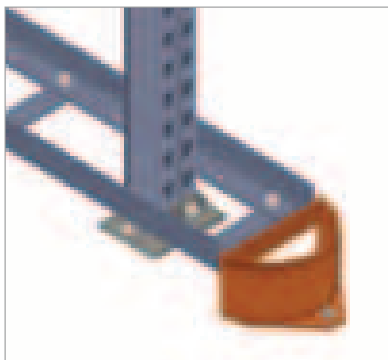
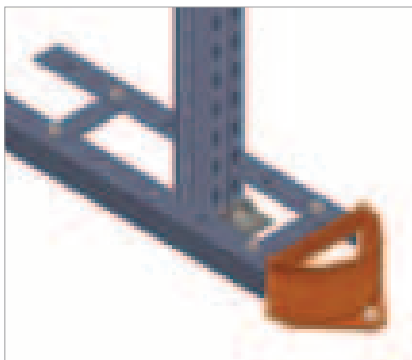


GP4 Type Pallet Support Rails

Pallet support rails like these are made of triangular-shaped steel enabling pallet centering with a minimum loss of space.

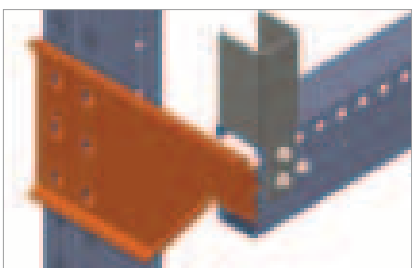


Accessories



Guide rails and post protectors

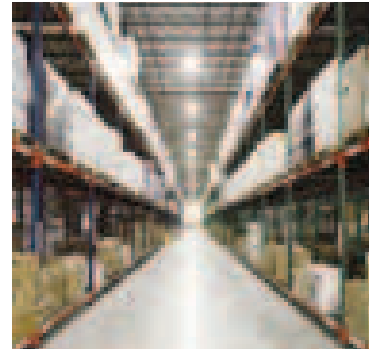
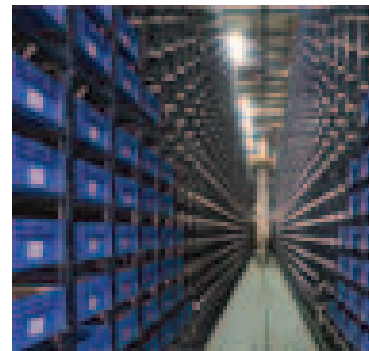
Protectors ease maneuvering with the forklifts as they move back and forth and reduce the possibility of accidental damage.



Pallet Stops

Pallet Stops are placed at the ends of rails to ensure pallets do not slide off the rail. These stops are manufactured in various models depending on rail type.





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