



# PALLET FLOW

*interlake*  
 **MECALUX**

# General Features of Pallet Flow

**Interlake Mecalux Pallet Flow is a first-in / first-out (FIFO) storage structure of up to four pallets deep that incorporate roller track sections placed on a sloped lane.**

Pallets are introduced into the highest end of the roller track sections and are moved by gravity toward the other end, where they will be picked.

Pallet Flow systems are ideal for the following areas where palletized products are handled:

- Perishable product warehouses
- Intermediate warehouses between two work areas
- Shipment areas in which a high turnaround is required for pallet extraction
- Holding warehouses (prepared orders, classification channels for automatic circuits, etc.)



## Advantages of this system

- **Perfect product turnover** using the FIFO system.
- **Maximum capacity** since it is a compact storage system.
- **Time savings when extracting pallets.** Easy location of any product reduces handling time on the forklift trucks, since the distances to be traveled are minimal.
- **Eliminates movement interference.** The loading aisles are different from the unloading aisles,

the forklift trucks deposit and extract pallets without interruptions.

- **Excellent stock control.** There is a single SKU in each loading lane.
- **Easy access** since all the SKUs are available in the same aisle.
- **Safe and reliable system.** The various elements comprising it have been designed in order to guarantee simple, reliable and safe handling.

- **Rapid recovery time.** Saves space, reduces handling time and practically maintenance free allows for a good return on investment, in the majority of cases, in the period of two to three years.

- **Adaptable** to suit client requirements and their load units.

- **Quick installation.**

## Perfect rotation

Pallet Flow allows for perfect stored product turnover by applying the FIFO (First In, First Out) system, in which the first pallet to go in is the first to leave.

When the first pallet is removed, the others advance one position, so the preceding pallet is always positioned at the front.

This feature makes it ideal for storing perishable products.

The operation of these shelves is very simple:

1. The construction system for Pallet Flow starts with the pallets placed in one side and removed from the opposite side.
2. The narrow side of the pallets is the side that is handled. The pallet deck boards rest perpendicularly on the rails or rollers, thus facilitating movement.
3. The channels slope slightly, so when the first pallet is removed, the rest move forward one position.
4. In order to choose the most suitable system, an analysis should be made of each customer's needs regarding capacity, number of SKUs and operating system.

## Special Design

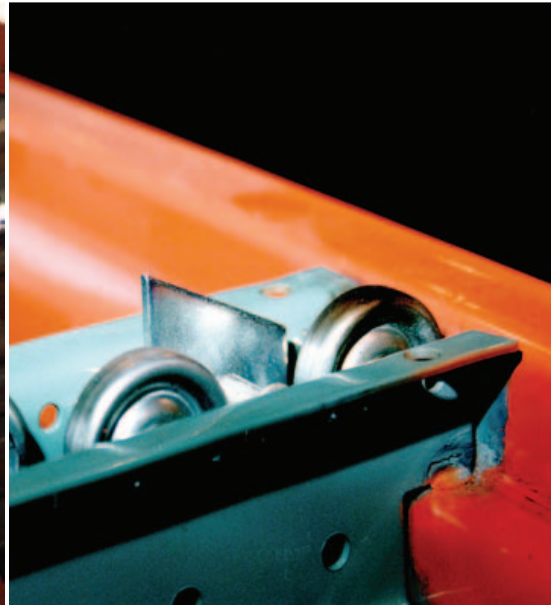
The standard Interlake Mecalux pallet flow design is suitable for systems of up to four pallets deep. Interlake Mecalux does not manufacture breaks, that is why depth limit is only four pallets deep.

Pallet Flow systems requiring lanes deeper than four pallets, such as those examples depicted below would have to be outsourced.

Contact Interlake Mecalux Sales Representative for availability, design and pricing information on all special designs.

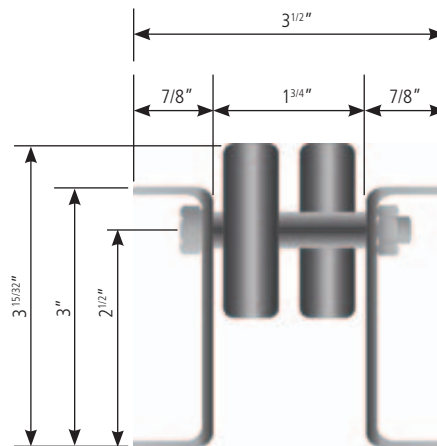
- Gravity is used to move pallets forward to the front of the picking aisle for easy retrieval and seamless replenishment
- Standard pallet rack frames are used to create the core structure which houses the pallet flow lanes
- Brakes and separators are used in typical deep lane pallet flow systems to help control the loads
- With the loads to be stored and moved in mind, rails with steel wheels are configured and spaced to create flow lanes for pallets
- Support beams are positioned at the optimal elevations to maximize storage space and ensure smooth and uninterrupted pallet flow





### Heavy Duty Staggered Flow Wheel Rail

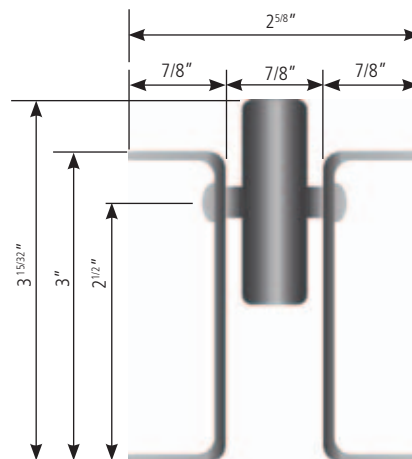
- 1-15/16" diameter zinc plated wheels on 1-1/2" centers is standard
- Capacity is 100 lbs. per wheel
- Frame is 3" x 7/8" formed steel channel
- Available in 11 ga. and 14 ga.
- Standard lengths are 96" thru 198" in 1/2" increments, 1-1/2" min. wheel centers
- Galvanized finish is standard ("Z" in pos. 12)
- Max. available rail length: 206"



\* Note: Alternative wheel centers are available in 1/2" increments above 1-1/2"

### Heavy Duty Single Flow Wheel Rail

- 1-15/16" diameter zinc plated wheels on 2 1/2" centers is standard
- Capacity is 100 lbs. per wheel
- Frame is 3" x 7/8" formed steel channel
- Available in 11 ga. and 14 ga.
- Standard lengths are 96" thru 198" in 1/2" increments, 2" min. wheel centers
- Galvanized finish is standard ("Z" in pos. 12)
- Max. available rail length: 206"

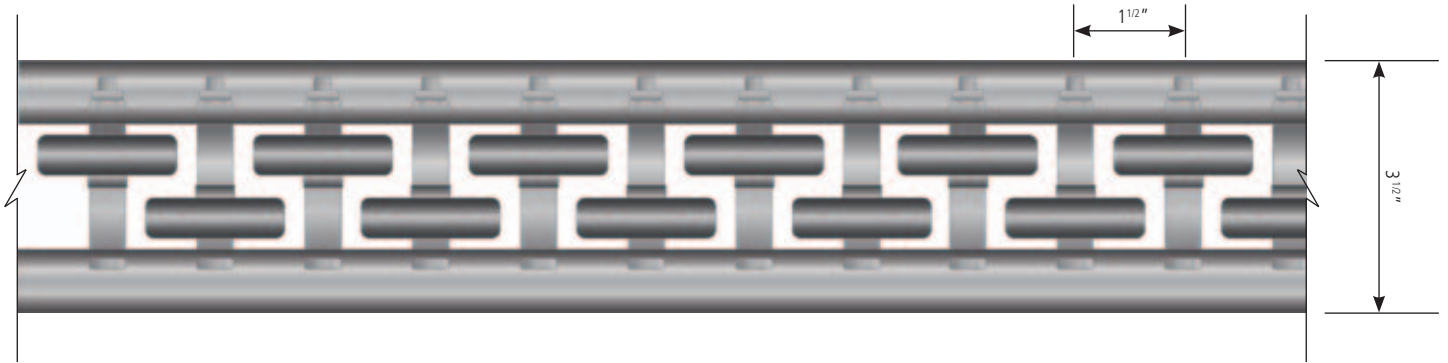


\* Note: Alternative wheel centers are available in 1/2" increments above 2".

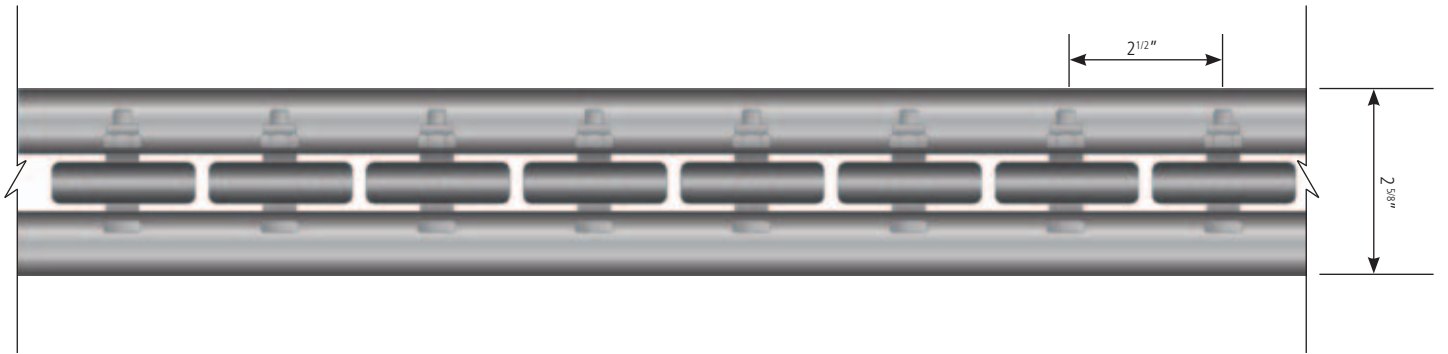
\* Any standard pallet placed directly on flow rail must be in good condition, with no loose boards or protruding nails.

The specifications of the components ensure that pallets move smoothly over the rollers.

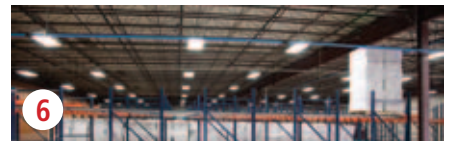
The alternating roller pattern of the Heavy Duty Staggered Flow Wheels are optimal for goods with irregular tread.



Plan view of Heavy Duty Staggered Flow Wheel Rail

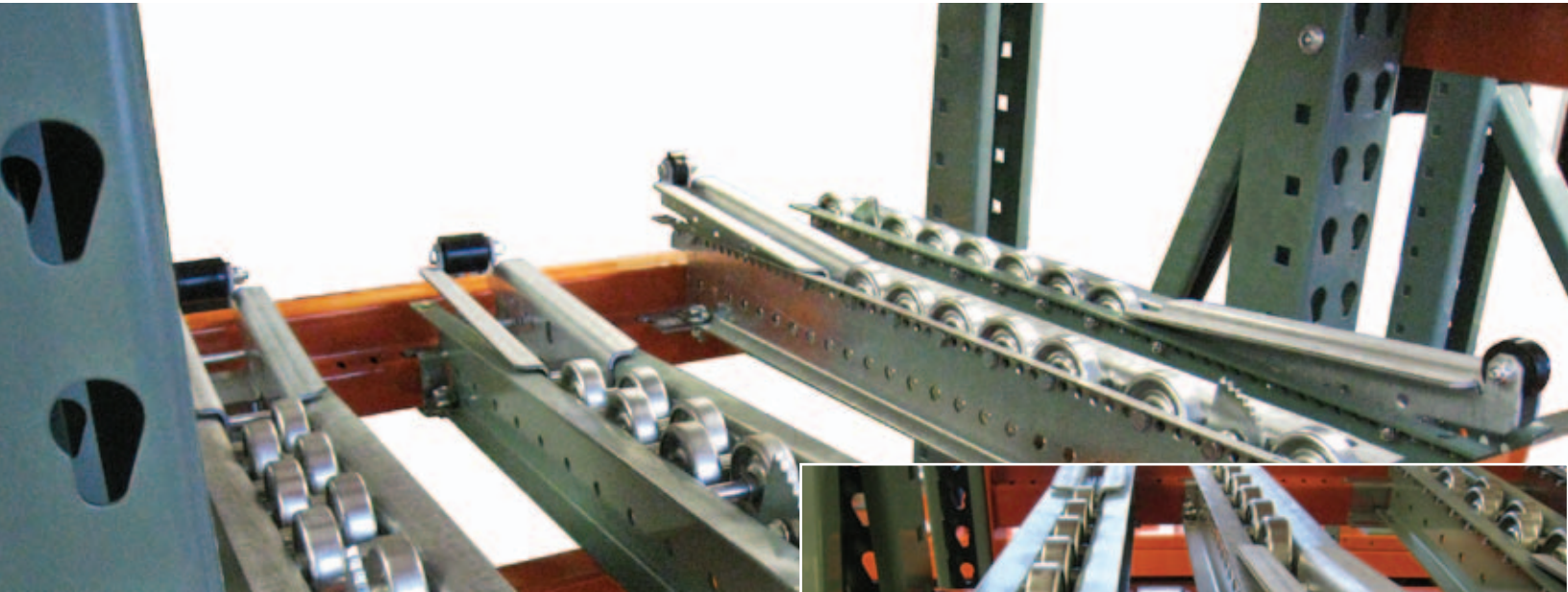


Plan view of Heavy Duty Single Flow Wheel Rail



Frame-by-frame view of Pallet Flow's initial load-in

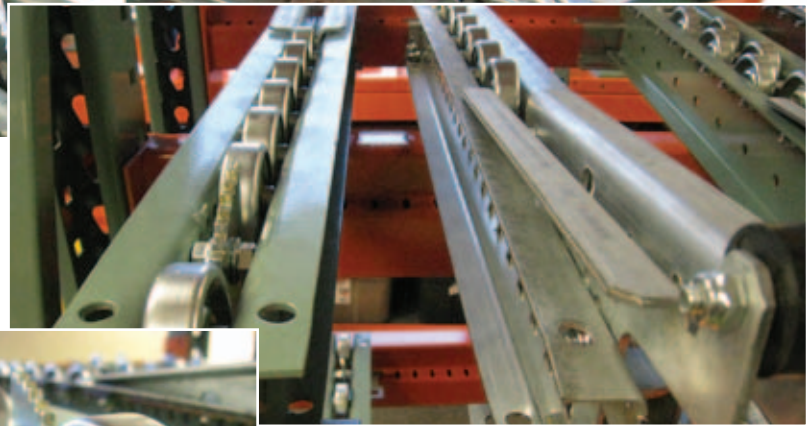
## System Usage



### Traditional system

This is the most commonly used FIFO system on the market. The pallet is introduced into the loading aisle and it slides, driven by gravity, on rollers towards the opposite side, where the unloading aisle is located.

Various lifting devices integrate easily with the product. Counter-balance forklifts, reach trucks, very narrow-aisle turret trucks, narrow aisled order picker lift trucks, stacker cranes, etc., all load and unload pallets smoothly from the smooth roller units.



### Roller Characteristics

The Push back rollers are metal or plastic wheels fitted into metal profiles. Mecalux offers alternating double wheels (top), single unit roller systems (second from top), or wheels with flanges.

**Single wheels** are used when the pallets move on both sides. The separation between wheels can be 1.30, 1.97 or 2.60 in., depending on pallet weight and quality.

**Alternating wheels** are ideal for pallets with an irregular surface for rolling.

**Wheels with flanges** are used mainly with boxes in order to guarantee an area of reliable rolling, often the side edges of the boxes themselves.

## Rack depth

Rack depth (measurement X) is obtained from adding the measurement of all the pallets, plus a variable tolerance which varies according to the number of pallets and the construction system (Figure 7).

The greater the number of pallets, the smaller the tolerance that must be accounted for.

If the load overhangs the pallet, this measurement must also be included.

The gradient of the slope should not be less than 3.4% nor greater than 3.7%.

The following drawing shows an example of rack depth with a pallet bottom of 47.24 inches (Figures 7 and 8).

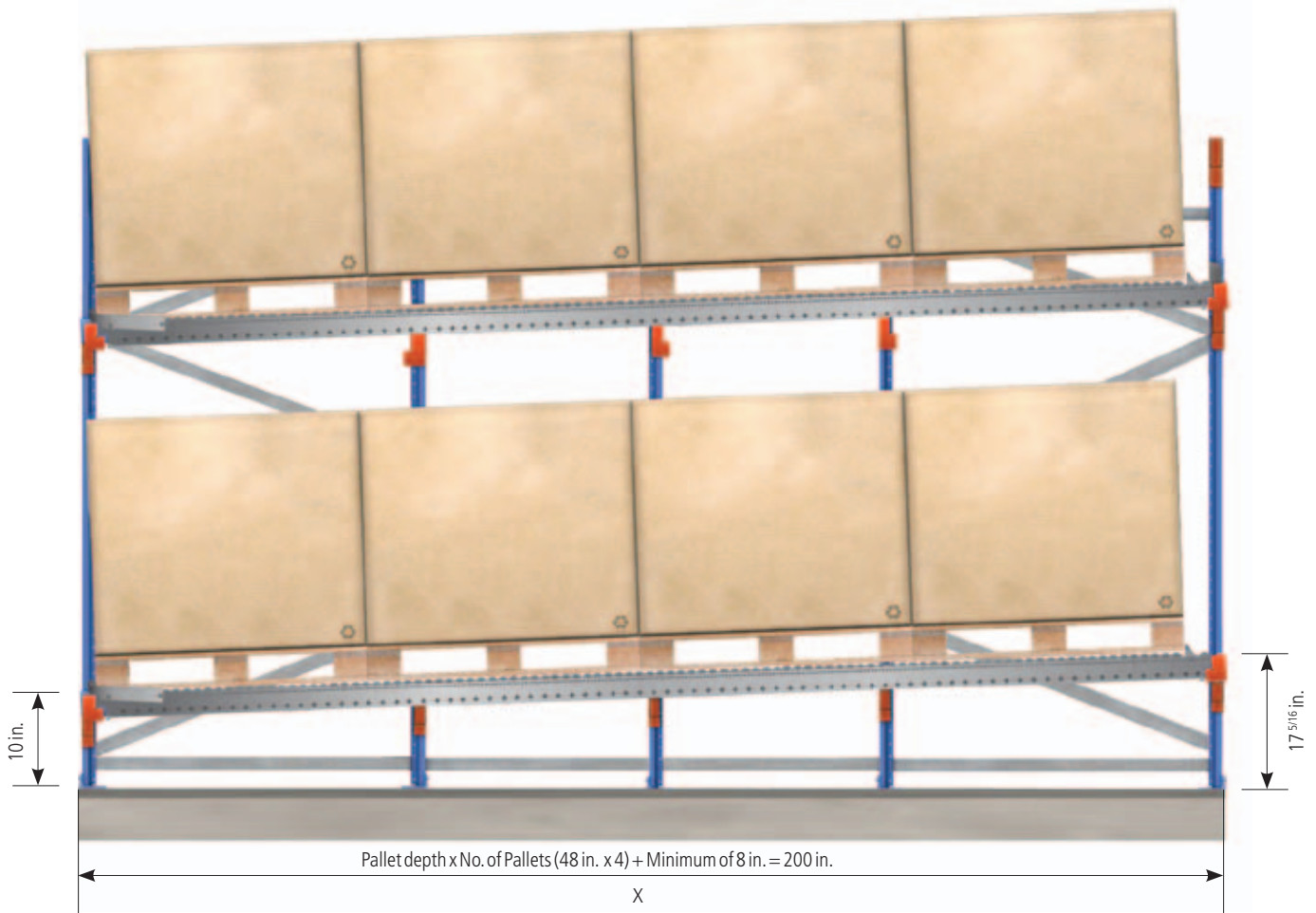


Figure 7. Example (minimum slope of 3.4% and a maximum of 3.7%)



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