



TORNVIG CHRISTENSEN 
MASKINER A/S

Storage Systems



We design, calculate and manufacture storage systems, going from the most basic to the most sophisticated and advanced solution.

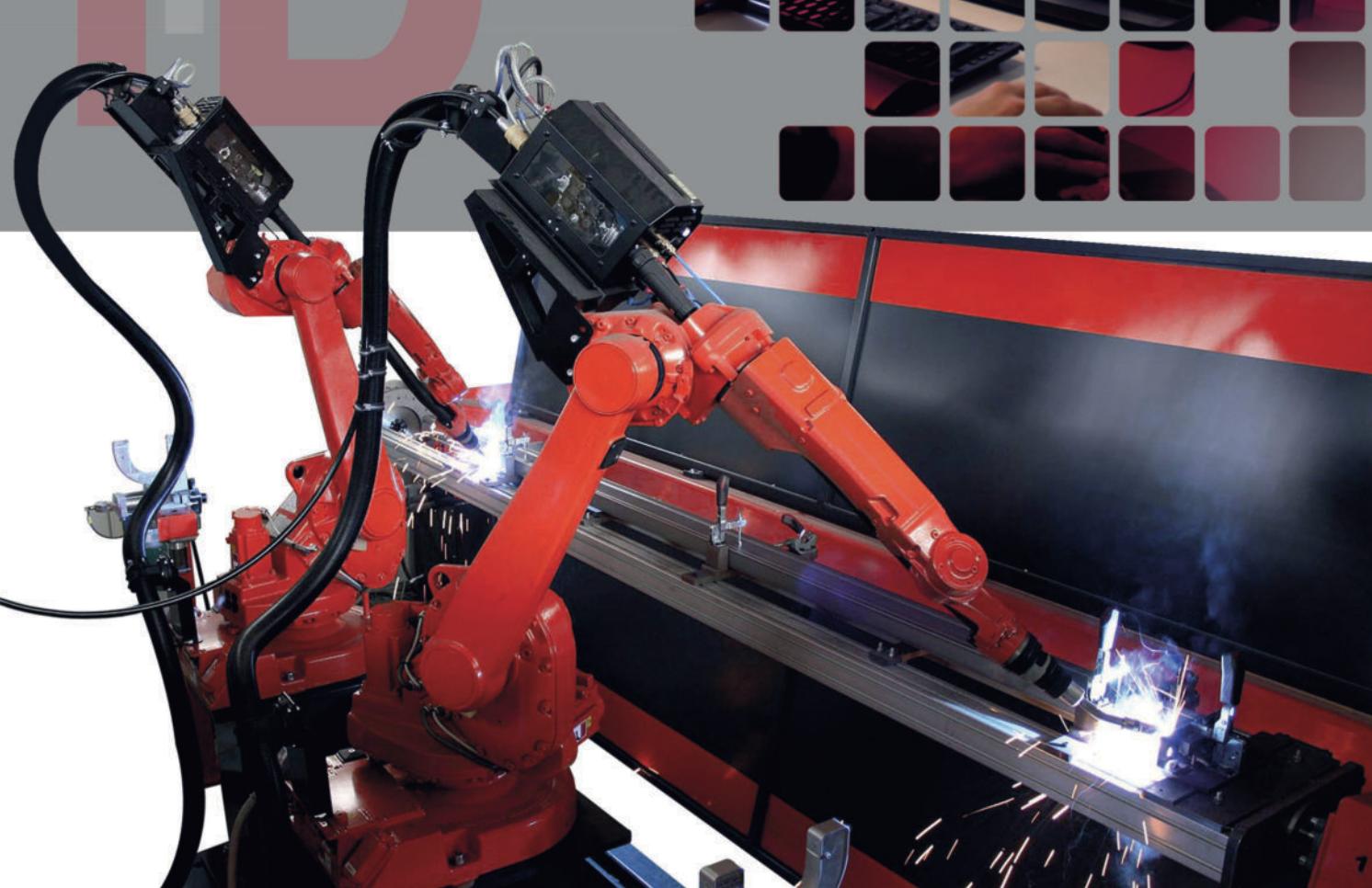
We guarantee the quality of our processes creating reliable products, to satisfy our customers storage needs.



Esnova Racks S.A. Head Office and Manufacturing Plant - 46.600 m²

INNOVATION

Innovation to develop new products and optimizing the existing ones.



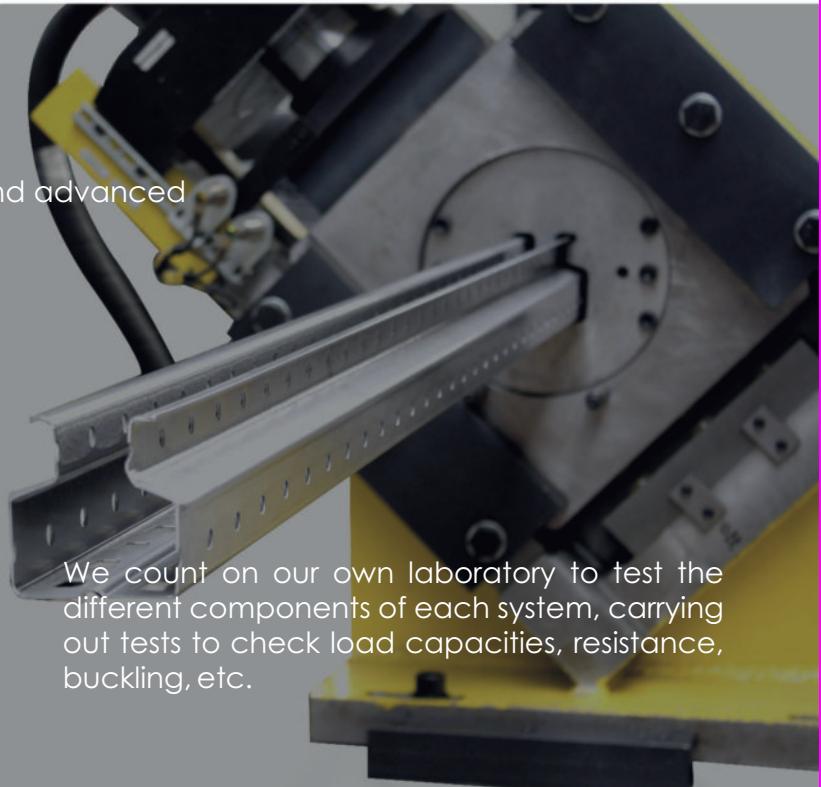
EXPERIENCE

We have a team with extensive experience in the logistics and handling industry.



TECHNOLOGY

Our machinery at your disposal.
We are equipped with the most flexible and advanced production systems.



We count on our own laboratory to test the different components of each system, carrying out tests to check load capacities, resistance, buckling, etc.

QUALITY

Quality as a priority standard is established on each and every process Esnova develops.

The group invests in quality and safety and also promotes environmental respect.

- Quality management system certification (ISO 9001).
- Environmental management system certification (ISO 14001).
- Occupational health and safety management system certification (OHSAS 18001).
- CE marking certification acc. UNE EN 1090.

- Member of the European Federation of Material Handling FEM/AEM.



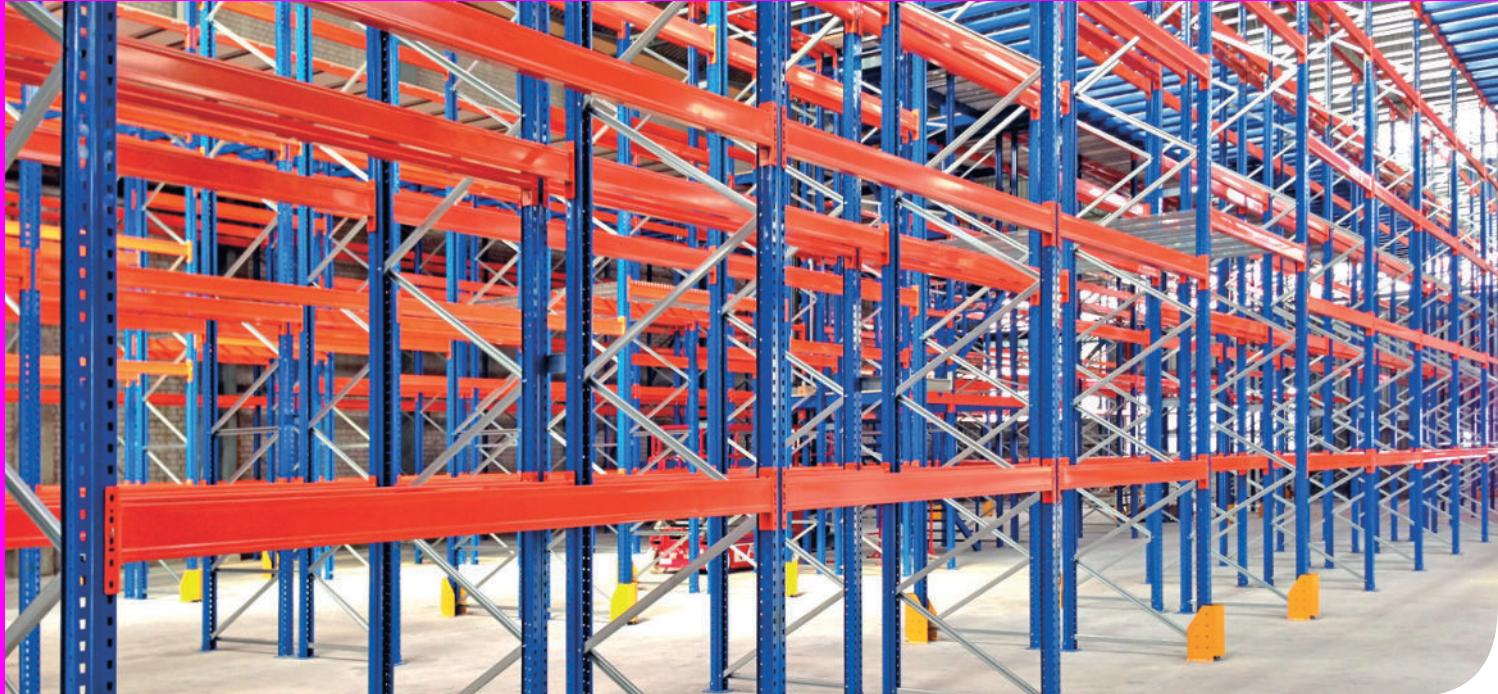


Pallet Racking

Ideal system for storage of palletized loads of multiple references.

- Direct access to every palette.
- It withstands heavy loads and reaches great heights.
- Adapts to your needs of storage-level area, dimensions, weights and volume of the goods.





PALLET RACKING SYSTEM

Industrial shelving system suitable for palletized goods of **multiple references**.

Characterized by being selective, it allows **immediate access** to all the loading units with no need to move or displace the other pallets, which favors the warehouse stock controls.

It is adaptable to the type of load to store, as they can be different sizes, containers, drums, pallets, it can be combined with shelves for picking, manual storage, pallet-drawers... It keeps the loads perfectly organized.



This is the storage option most universal and versatile that exists on the market, thanks to a wide range of products and accessories that facilitate the storage of all kinds of goods.

Furthermore, it's compatible with different models of lift systems (electric counter-balanced forklift, reach truck, stacker, bilateral tower, trilateral tower and trans-elevator).



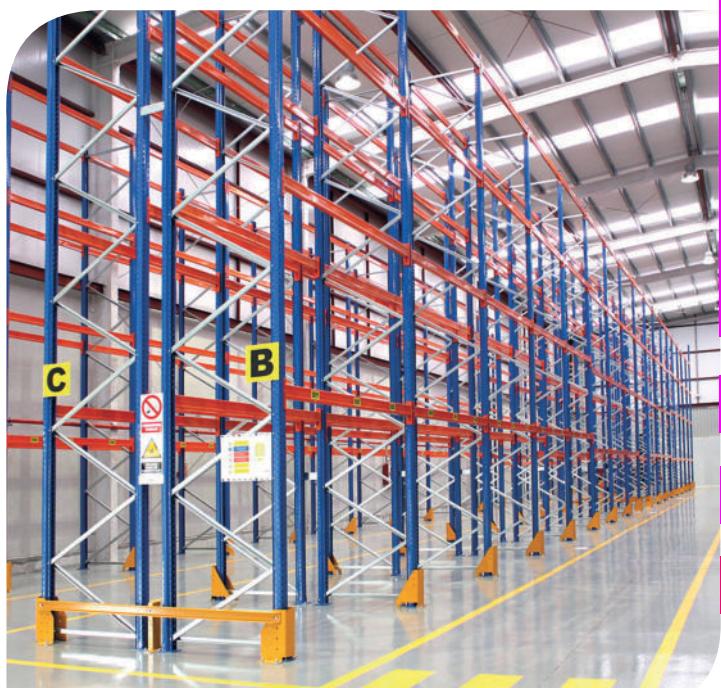
Being modular, **the installation is quick and easy**, as well as the replacement of parts and every types of expansions. You will be always in time to make changes in the installation according to your needs, allowing at all times the most suitable distribution.



Pallet racking system **adapts to any storage need**, and can have, for instance, double depth in the installation or allowing steps through thereof, etc...

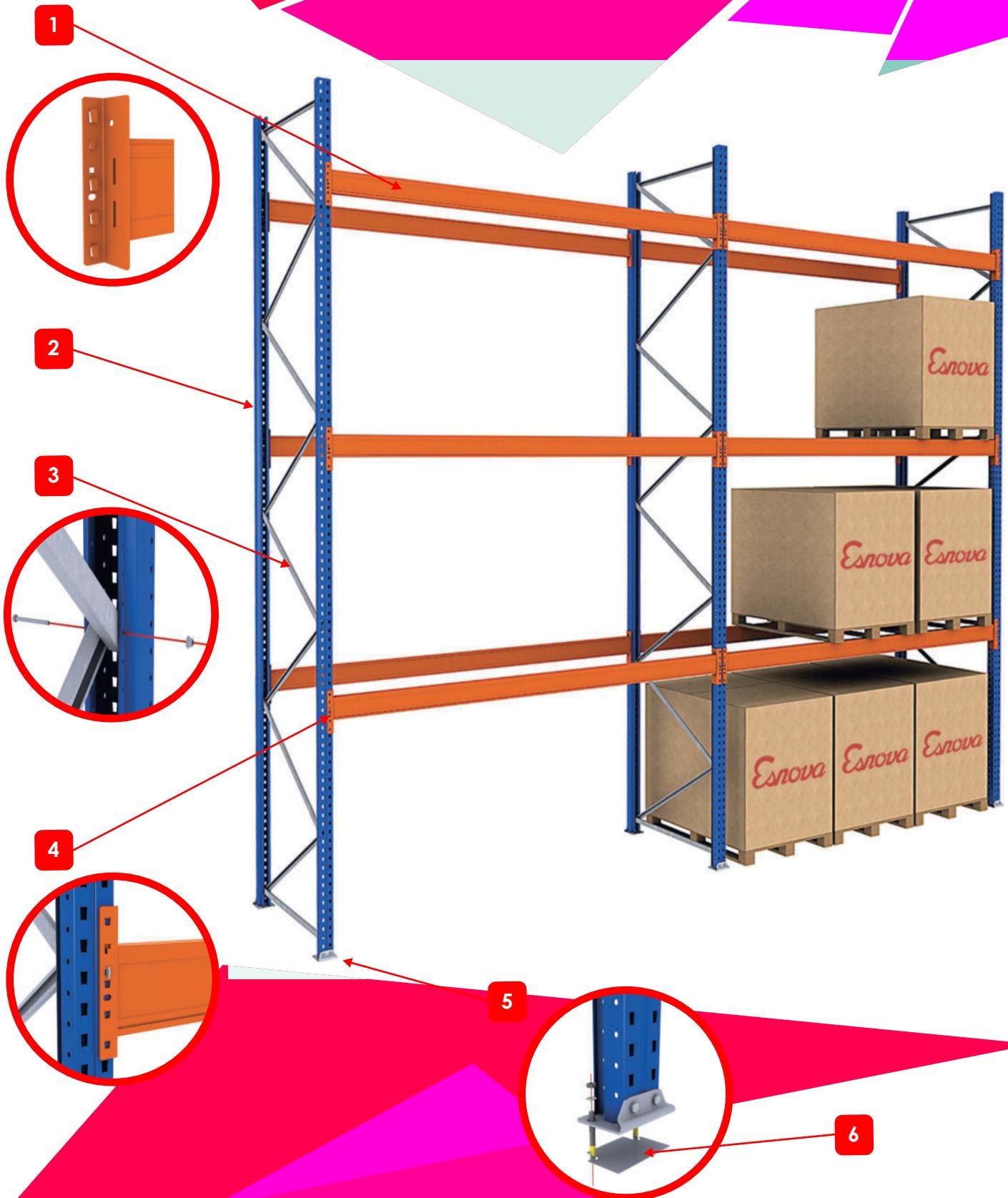
The shelving with double depth allows us to keep a larger number of pallets thanks to the elimination of the center aisle.

This option is recommended for products with various pallets by reference, as it's only possible to access directly to the first placed pallets.



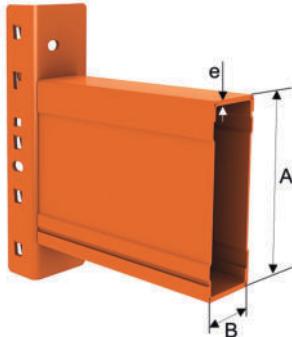
SYSTEM COMPONENTS

The structure of a Pallet Racking shelving consists of the following elements:





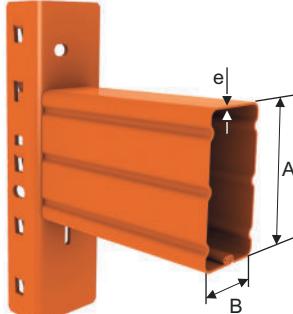
**EGN BEAM
FOR DUO CONNECTOR**



Dimensions* (A x B x e)	Connector
EGN 135x50x1,5	DUO
EGN 140x50x1,5	
EGN 140x50x2	
EGN 150x50x1,5	
EGN 150x50x2	
EGN 165x50x1,8	

*Dimensions in mm.

**LNS BEAM
FOR DUO CONNECTOR**



Dimensions* (A x B x e)	Connector
LNS 60x50x1,5	DUO
LNS 80x50x1,5	
LNS 100x50x1,5	
LNS 110x50x1,5	
LNS 120x50x1,5	
LNS 130x50x1,5	

*Dimensions in mm.

Best Performance up to
2700 mm beam length
and 1000 kg/pallet weight.



UPRIGHT ER

Standard finishing
Pregalvanized
Blue 5019

Medidas: ver página siguiente



**HORIZONTAL
DIAGONAL CZ**

Standard finishing
Orange 2004

4



**SAFETY
CLIP**

Standard finishing
Pregalvanized

5



PLK5



NBP4

**FOLDED BASE
PLATES**

Standard finishing
Pregalvanized

6

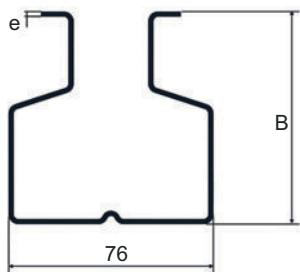


**SHIM
PLATES**

Standard finishing
Pregalvanized

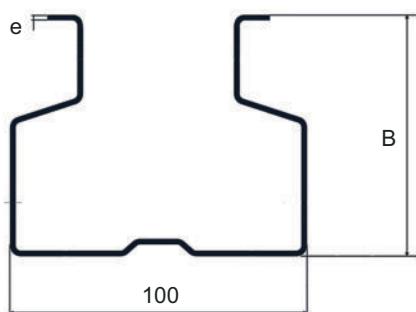
TYPE OF UPRIGHTS

UPRIGHTS 76M Y 76A



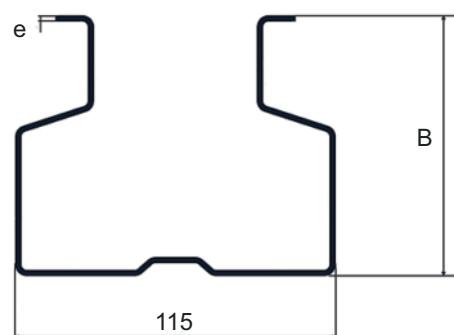
Description	Dimensions (76 x B x e)	Frame profile	Base
ER76M18	76 x 63 x 1,8		
ER76A18	76 x 79 x 1,8		NBP4
ER76A20	76 x 79 x 2,0		PLK5
ER76A25	76 x 79 x 2,5		

UPRIGHTS 100A Y 100B



Description	Dimensions (100 x B x e)	Frame profile	Base
ER100A18	100 x 81 x 1,8		
ER100A20	100 x 81 x 2,0		
ER100A25	100 x 81 x 2,5		
ER100B20	100 x 105 x 2,0		
ER100B25	100 x 105 x 2,5		
ER100B30	100 x 105 x 3,0		

UPRIGHTS 115C



Description	Dimensions (115 x B x e)	Frame profile	Base
ER115C25	115 x 126 x 2,5		
ER115C30	115 x 126 x 3,0		
ER115C35	115 x 126 x 3,5		

Frames

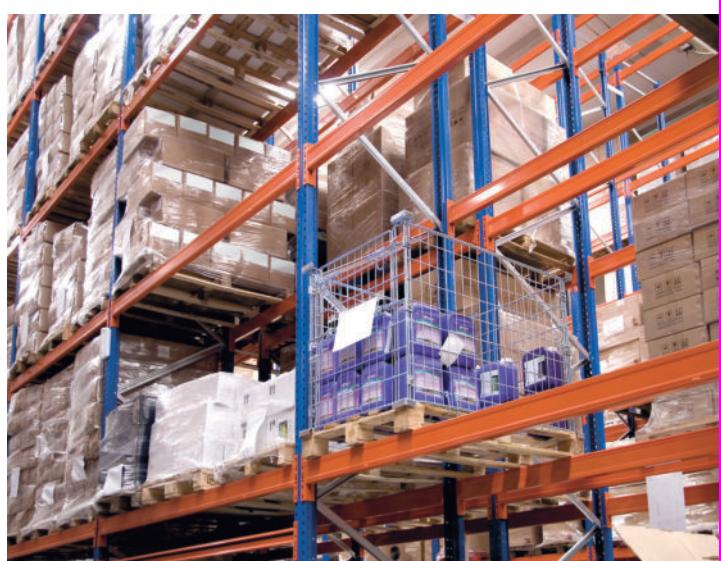
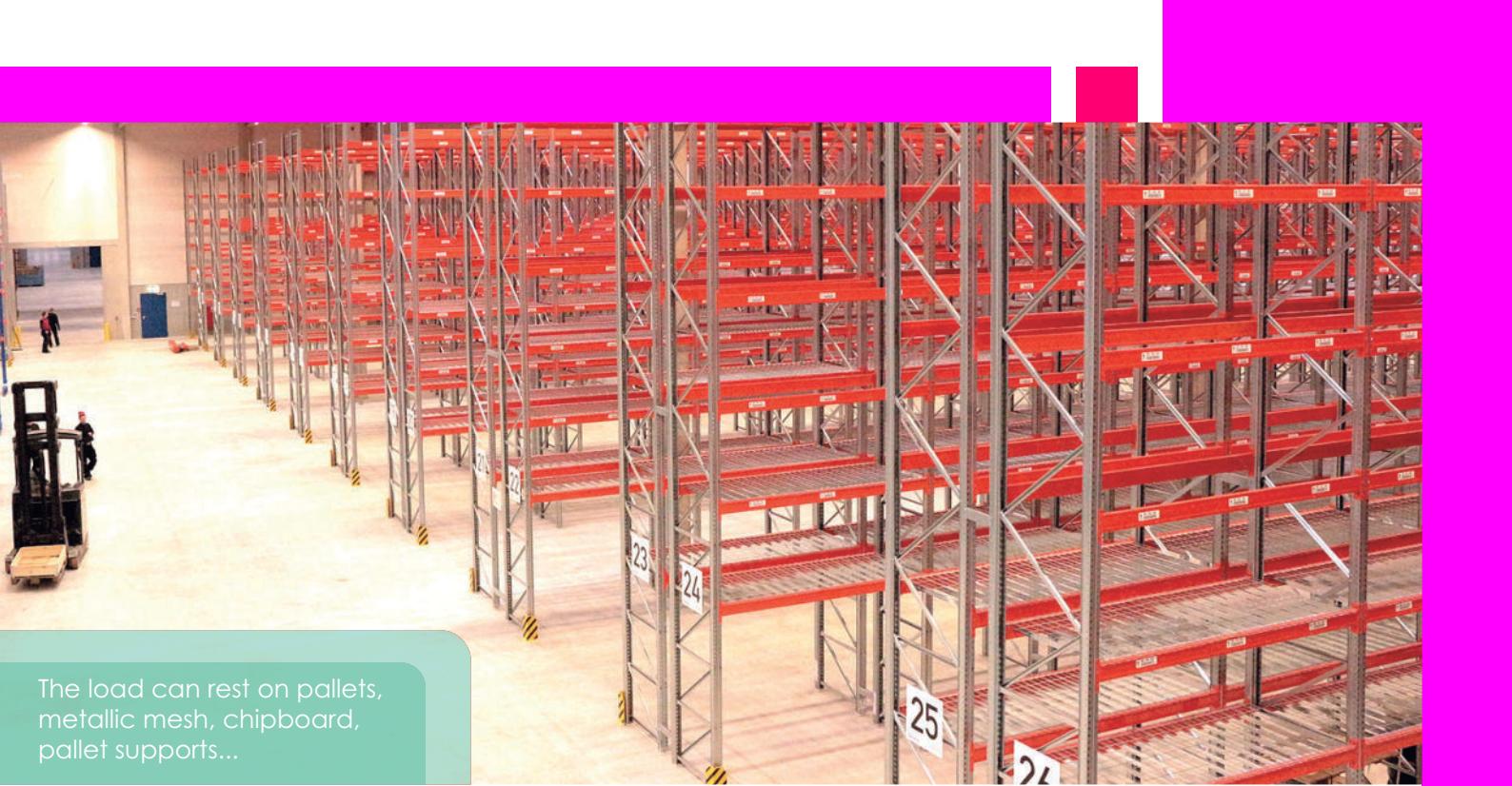
Depth (mm.) 800* - 900 - 1000 - 1100*

*Standard Depth

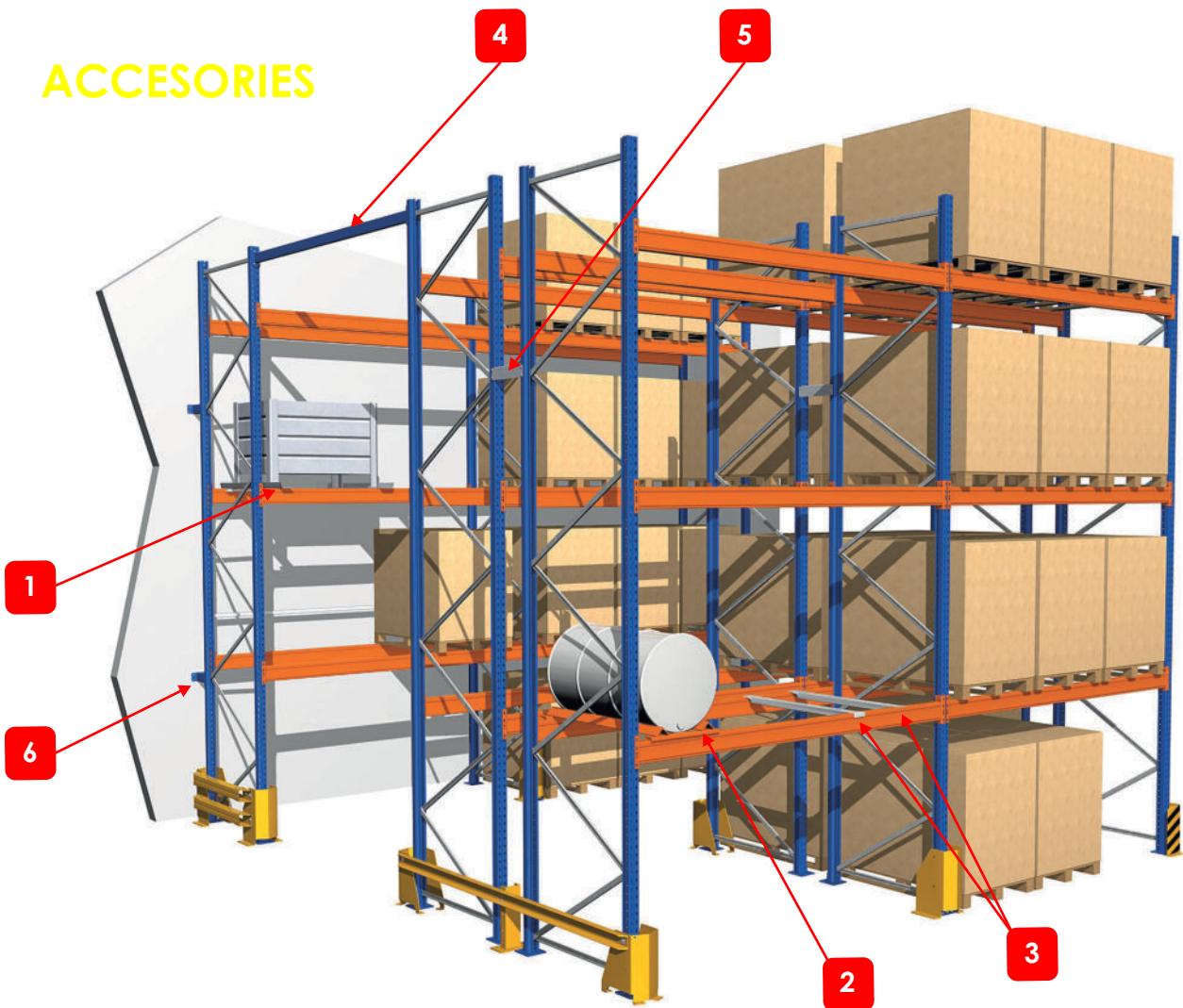
Finishing

Painted: Blue 5019

Pregalvanized



ACCESORIES

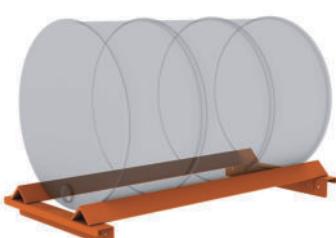


Container Support SC



1

Drum Cradles SB



2

Pallet Support



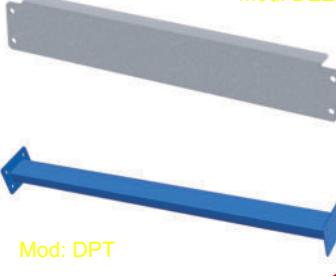
3

Aisle spacer



4

Frames spacer



5

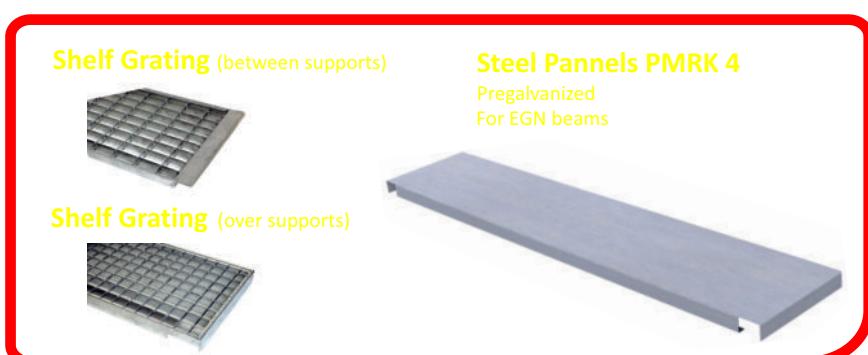
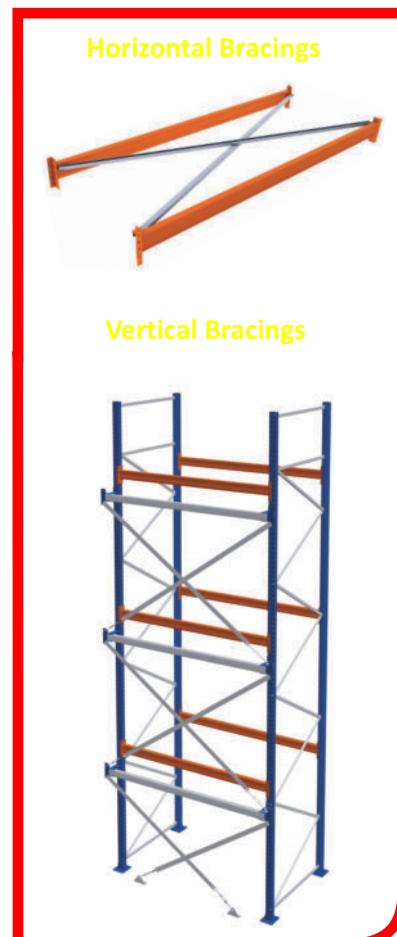
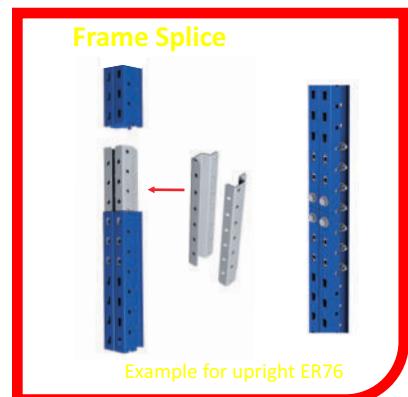
Wall spacer



6

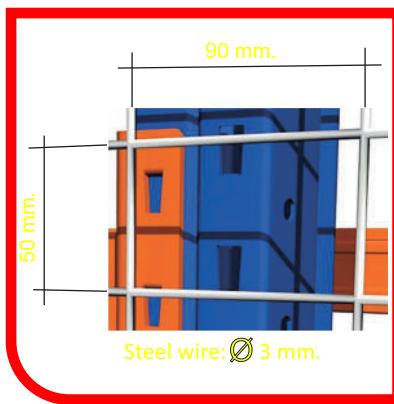
Mod: VTS

Mod: DWT



ANTI-COLLAPSING MESH

Electrowelded mesh panels are used as security closings in aisle or transit areas to avoid goods from falling.



Attachment
bracket mesh
RK15

PROTECTIONS

Single Protection RKN



Corner Protection DE



Single Protection PPN



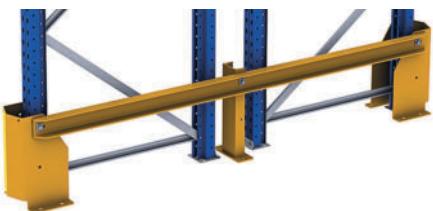
Full Frame Protection PBS RKN/U



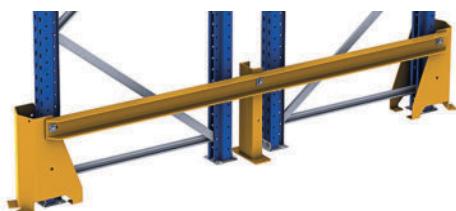
Full Frame Protection PBS PPN/U



Full Frame Protection PBD RKN/U



Full Frame Protection PBD PPN/U



Full Frame Protection PBS RKN/C



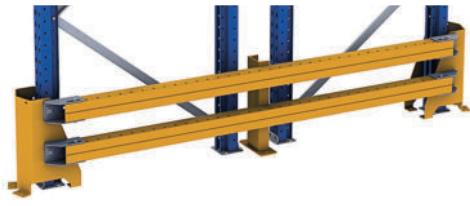
Full Frame Protection PBS PPN/C



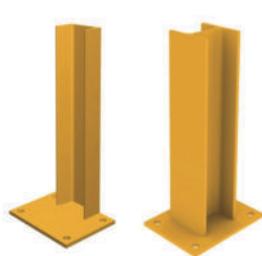
Full Frame Protection PBD RKN/C



Full Frame Protection PBD PPN/C

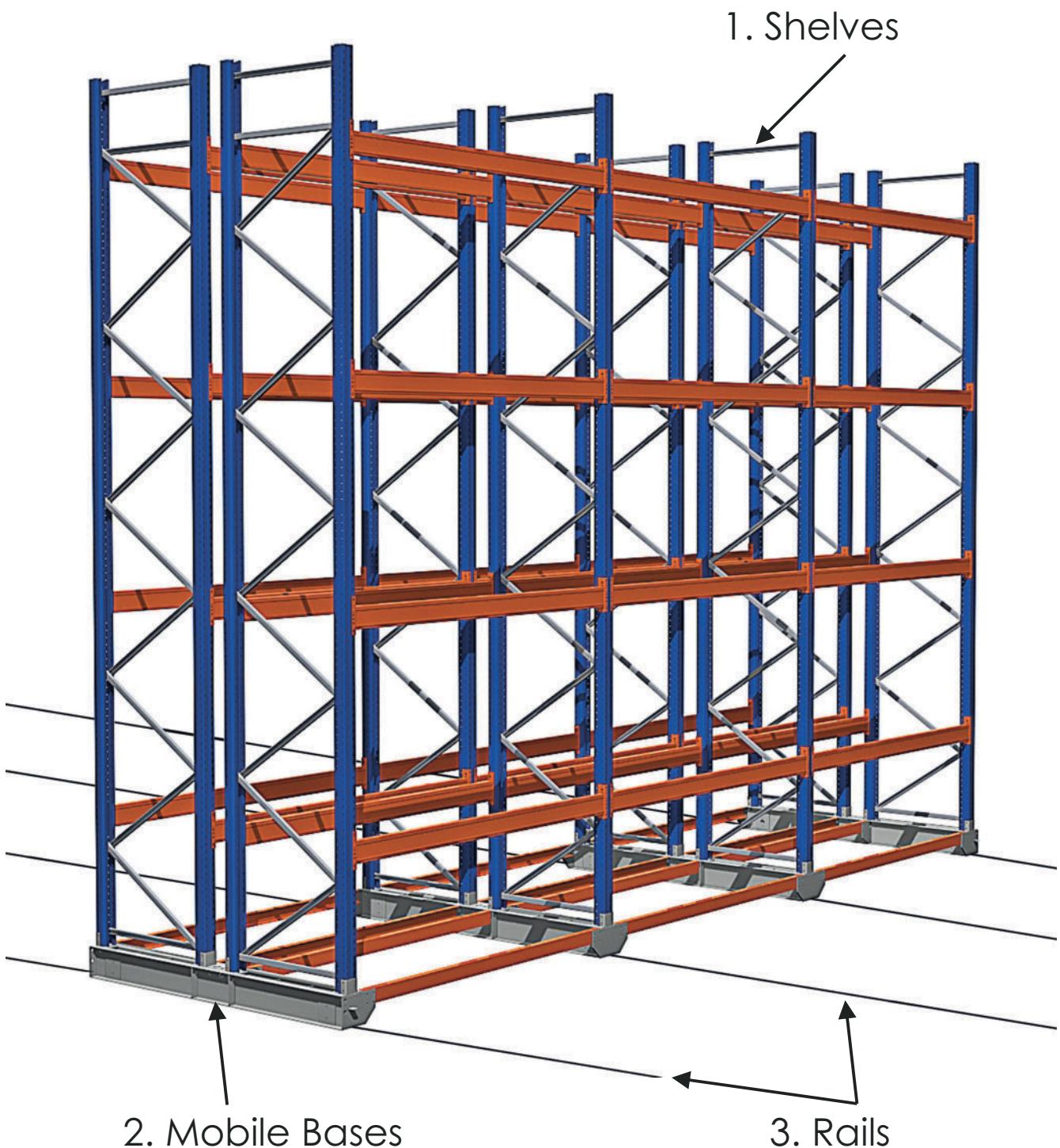


Timber frame protector



Mobile Pallet Racking

A Storage system with mobile bases is composed of single or double entry runs placed on a mobile metallic structure, which allows the movement of the shelves independently.



SYSTEM COMPONENTS

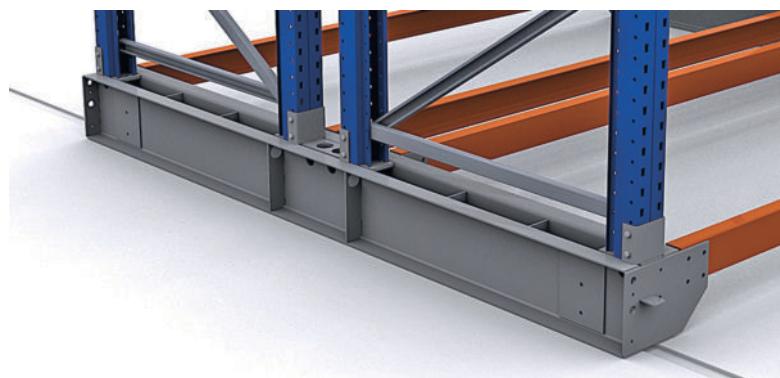
1. Shelves

This storage system is the metallic structure mounted on the mobile bases, and they are usually standard palletracking, which is usually used to sustain heavy loads.



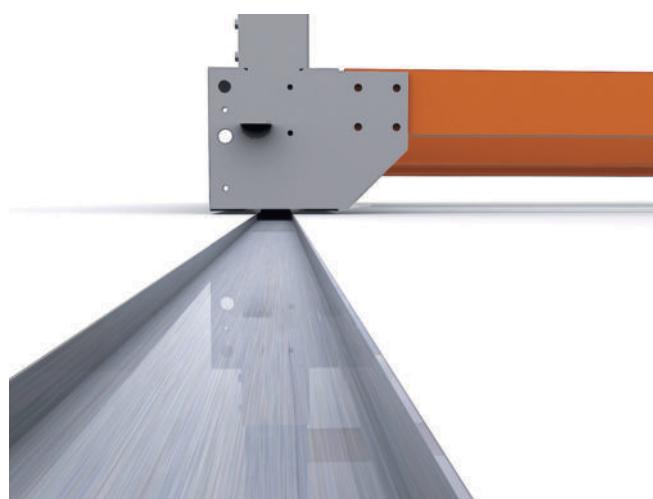
2. Mobile Bases

It is the metallic structure supported on wheels where the shelves are mounted, and they allow the movement of those racks.



3. Rails

Those are the steel profiles inserted in the floor whereby the wheels of the mobile bases move through.



MAIN FEATURES

When the reduction of the space is the main criterion or necessity when developing the required storage solution, this option with mobile bases is the most adequate.

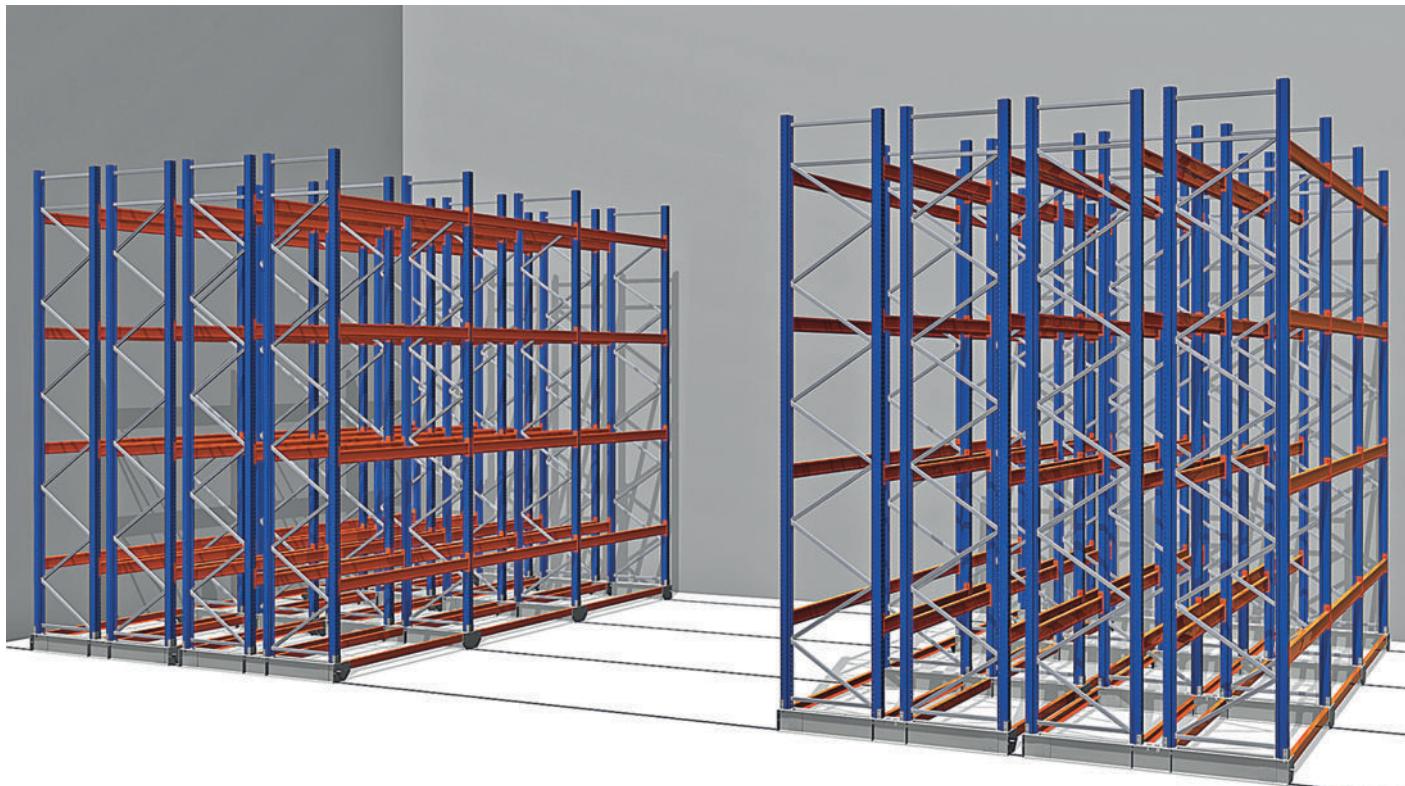
A pallet rack with mobile bases is the ideal system for cold stores (for both refrigerated and frozen goods) where the cost of storage (frozen cubic metre) is too high, since this system allows the maximum use of the space possible.

This system with mobile bases increases the storage capacity and reduces the free space in the warehouse by eliminating the aisles except one and by allowing the direct access to each pallet.

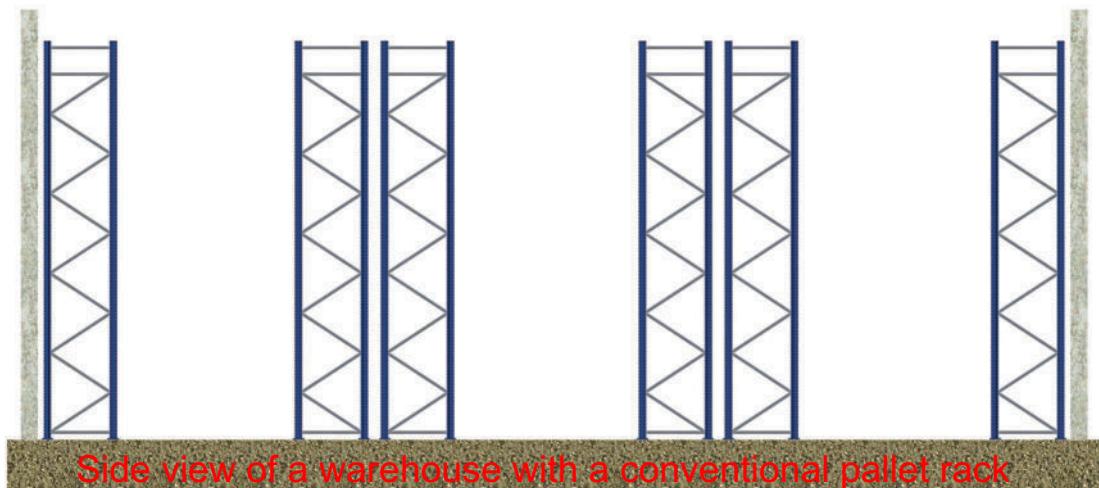
It is very simple in terms of its use, since the shelves are installed on the mobile bases, which allows the movement of each run laterally through the rails fixed to the floor, thus avoiding the existence of unnecessary aisles, but always having direct access to each pallet or store goods. The aisle which needs to be accessed is selected manually or by remote controller.

This system allows the storing of a huge number of different references, and it is compatible with other storage systems such as picking in bottom levels.

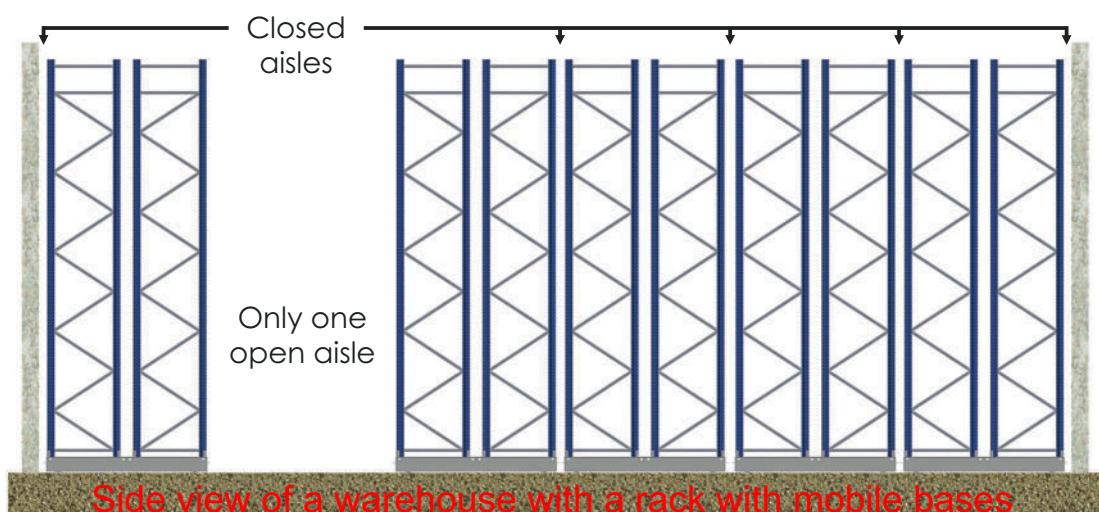
It also guarantees the safety of people working there and the preservation of the goods in good conditions.



The main advantage of a mobile base racking against a conventional pallet racking system is the possibility to use efficiently the space to store goods in a warehouse, since the existence of those mobile bases let the reduction of aisles considerably, which can be aimed to store more goods.



Side view of a warehouse with a conventional pallet rack



Side view of a warehouse with a rack with mobile bases



Master/individual control panel and Safety.
These mechanisms ease the movement of the different runs of shelves by leaving free the space to act as the aisle for this particular run. Safety devices used to avoid the crushing or entrapment of operators when each run is being moved.



Light and Medium Loads:

Manual Rack Riveto Shelving System Slotted Angle Shelving

Large Loads:

- Pallet Racking
- Drive In
- Shuttle Cart
- Cantilever
- Rack Clad Building
- Robotized Systems

Handling:

Containers



Warehouse Management Software:

How to organize a warehouse?
This software specially designed to the warehouse management is the perfect IT tool to have a logistic control of your storage space.

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Management System
ISO 9001:2008
ISO 14001:2004
OHSAS 18001:2007
EN 1090
www.tuv.com ID: 9105076055



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