

Racking Solutions



Racking Solutions from Toyota Material Handling

Toyota Material Handling has always favoured a solutions-oriented approach to material handling. That is why the unique services, technologies and support that we offer have continued to evolve over the years. Today we provide complete solutions, from forklifts to fleet management systems, rental programmes, automation and a wide range of racking solutions.

This way, we can ensure optimised synergies in your material handling flow – where all parts, from forklifts and racking to services and follow-ups, interact to maximise efficiency and help you to cut costs. Thanks to our extensive know-how about all parts of the supply chain, we are also able to support you in project management, installation and continuous improvements of the solutions over time, to make sure you get the absolute maximum out of your material handling processes.

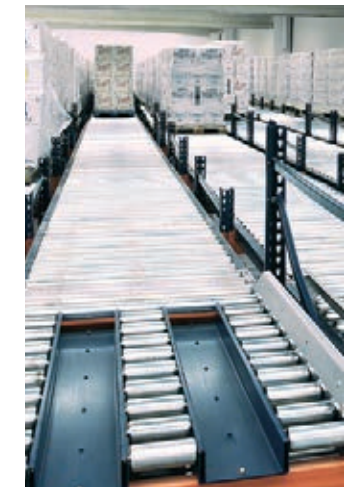
As you can see in this brochure, the Racking Solutions offer great advantages in a wide variety of applications.

Please contact your Toyota Material Handling representative to discuss available options and advantages for your business.

All Racking Solutions comply with the AS 4084 - 2012 standard.

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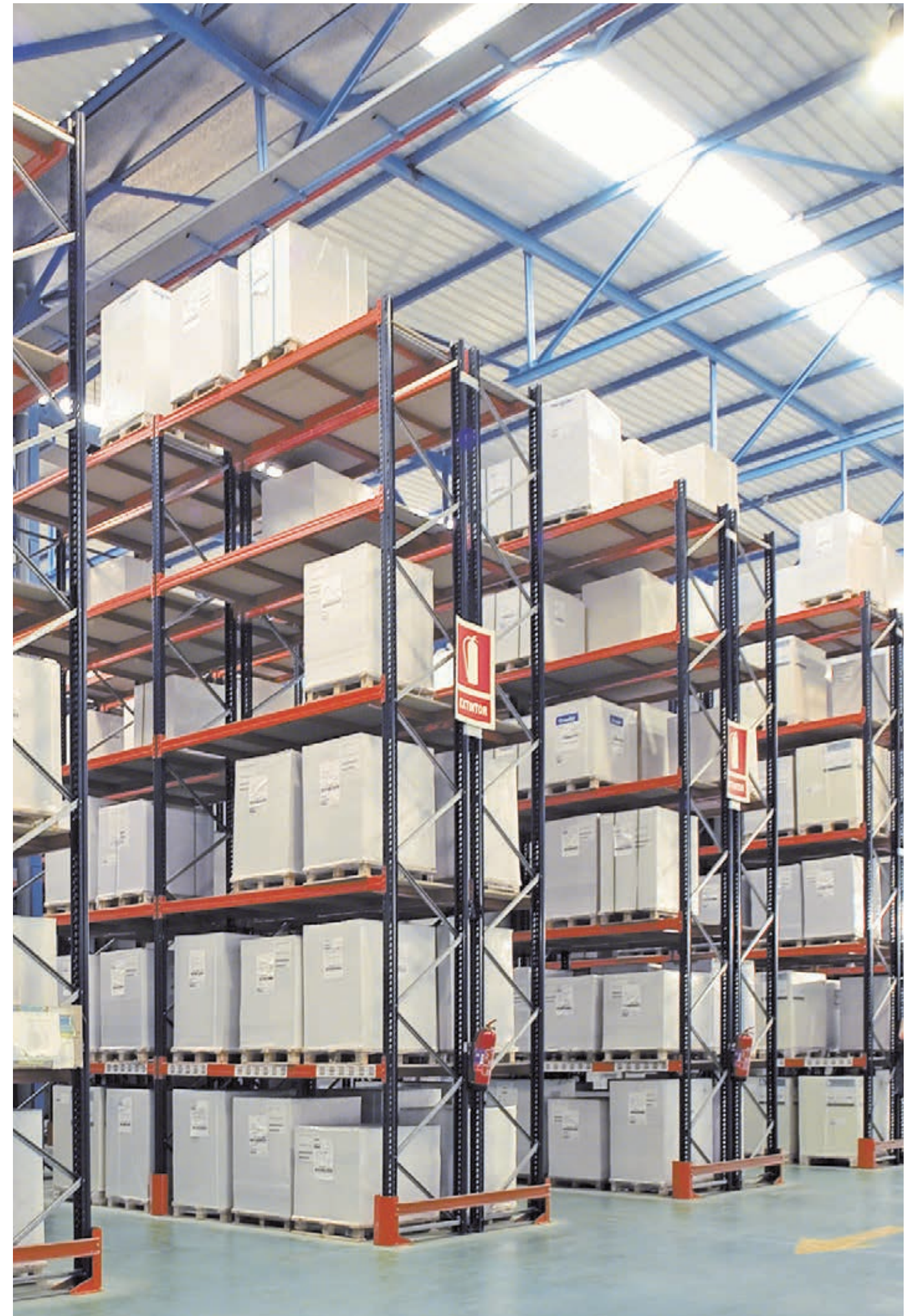
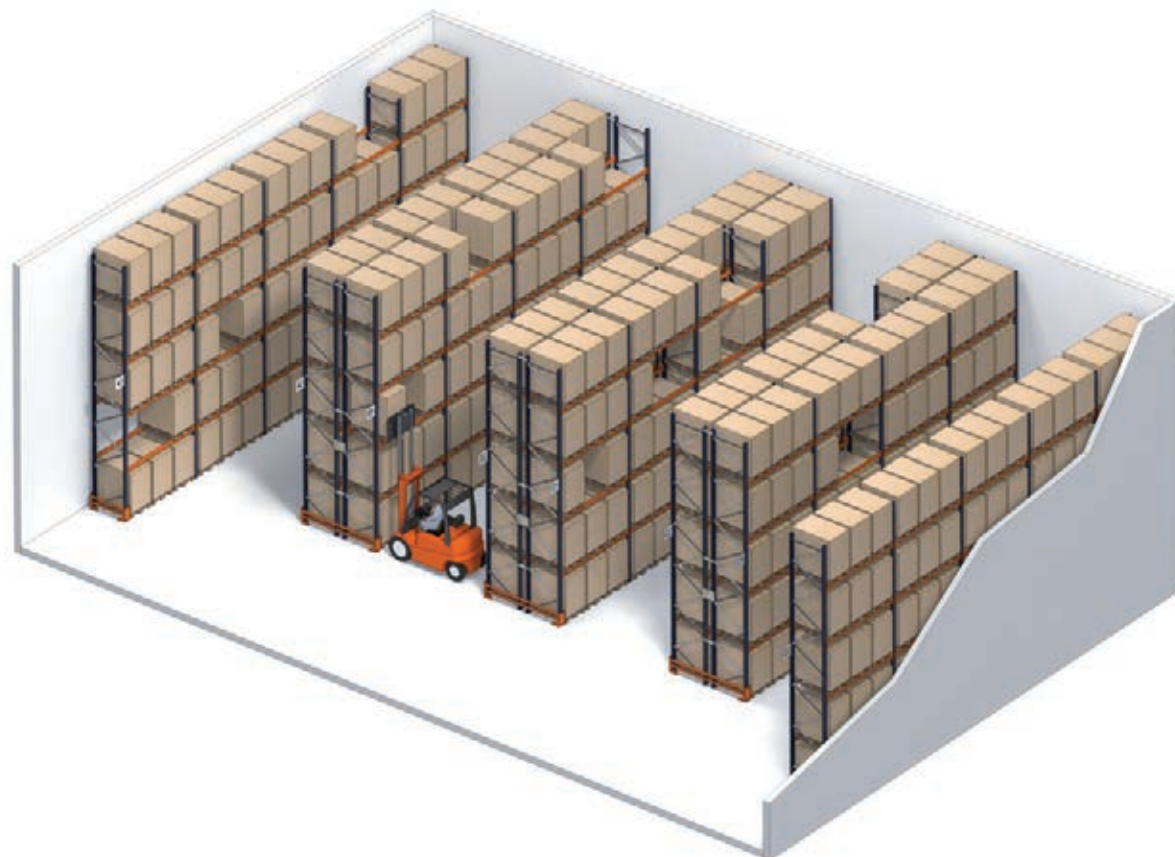
Standard Selective Pallet Racking

This is the most common type of racking system, offering superb flexibility for palletised goods with a wide variety of loads. One of the greatest advantages is that all pallets are accessible at all times, making the system suitable for large quantities of non-uniform articles. You never have to shift or move pallets to access the goods. With one position per pallet it is also easy to randomise stock locations and keep inventory under total control.

The system is tailored to your needs regarding weight and volume and easy to adjust when required. Rack height, aisle width and other dimensions are designed to match your forklift characteristics, warehouse height and pallet size.

Key benefits

- Minimal initial investment
- Full access to all pallets at all times
- High flexibility in warehouse design and product flow optimisation
- Double deep options also available
- Also suitable for Very Narrow Aisle (VNA High Bay storage solutions)



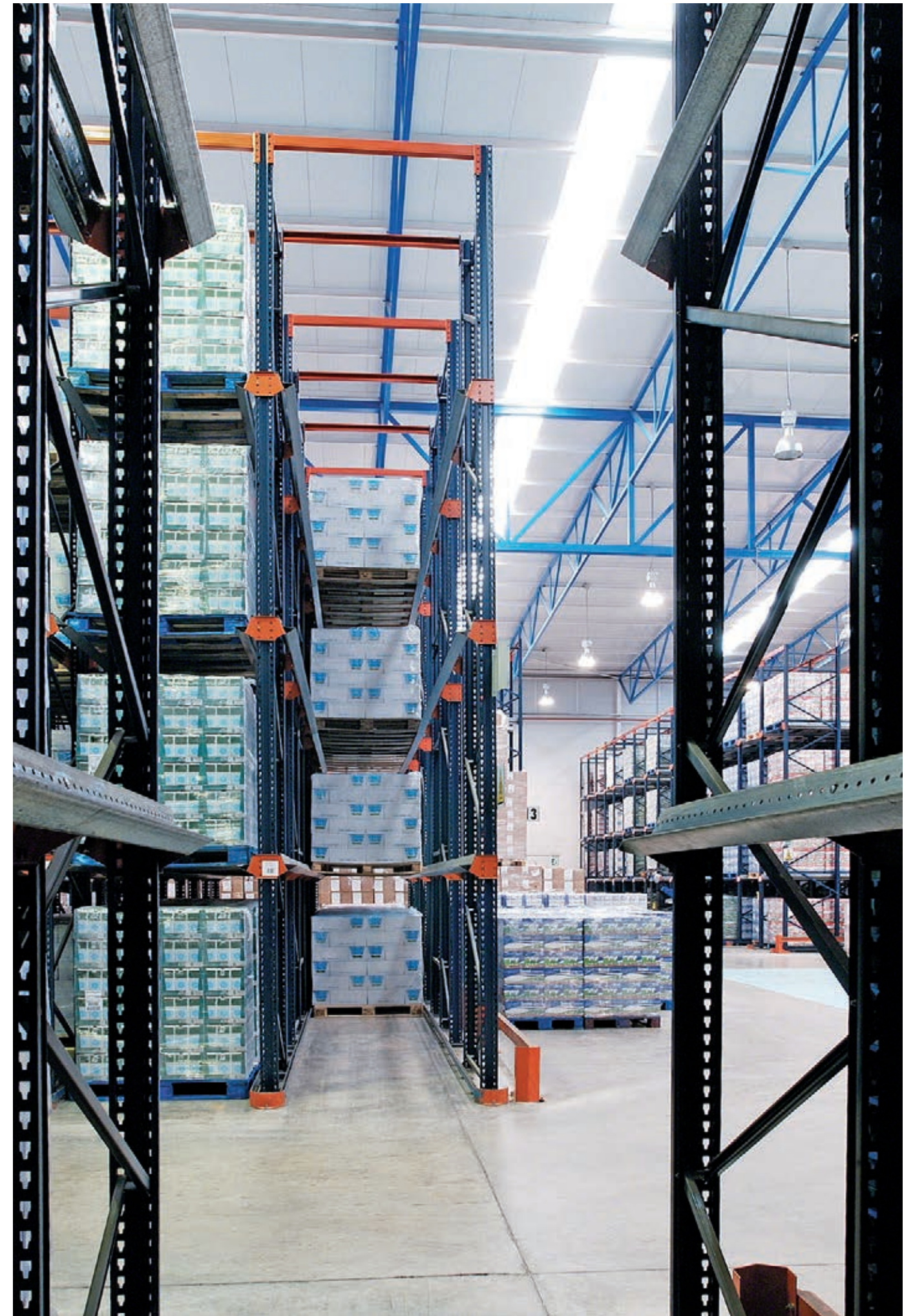
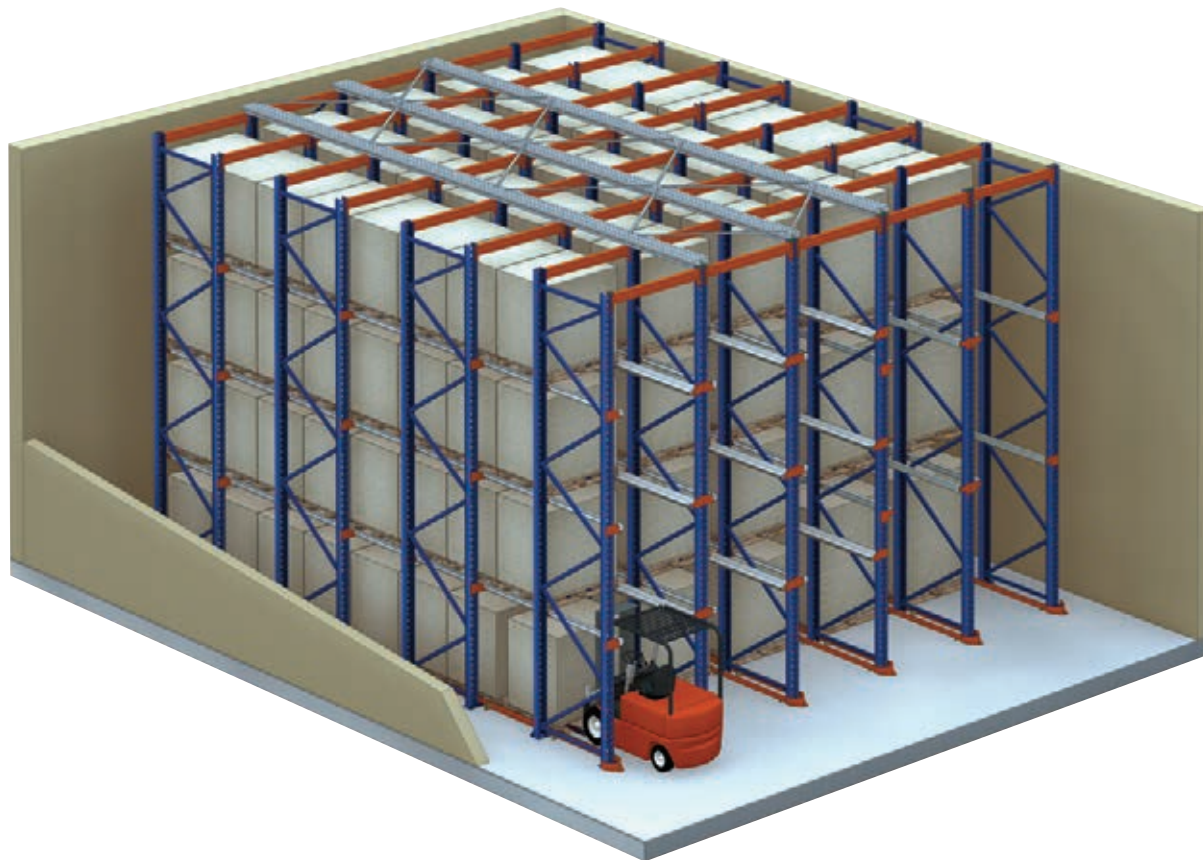
Drive-in Pallet Racking

This is a system that is designed to optimise storage space for homogeneous products. The idea is to use the available area as efficiently as possible – with fewer aisles and more pallets per square metre.

The racking components form inner loading lanes with support rails on each side for the pallets. The forklift drives into the lanes and stacks the goods onto the rails, all the way until the end, thereby utilising the full depth of the installation. The rack itself is made of a robust material, making it durable and fit to handle fully loaded pallets. If placed against a wall, it works according to the FILO (first in, last out) principle. With drive-through access, it can also be used in line with the FIFO (first in, first out) principle.

Key benefits

- Low initial investment
- Optimal utilisation of storage space
- Both FIFO and FILO possible



Satellite Pallet Racking

This is a system that is designed to optimise storage space for homogeneous products. The idea is to use the available area as efficiently as possible – with fewer aisles and more pallets per square metre.

The racking components form inner loading lanes with support rails on each side for the pallets similar to Drive-in. The forklift moves the AutoShuttle into position which then transports the respective pallet all the way until the end, thereby utilising the full depth of the installation.

The rack itself is made of a robust material, making it durable and fit to handle fully loaded pallets. If placed against a wall, it works according to the FILO (first in, last out) principle. With drive-through access, it can also be used in line with the FIFO (first in, first out) principle.

Key benefits

- Low initial investment
- Optimal utilisation of storage space
- Both FIFO and FILO possible

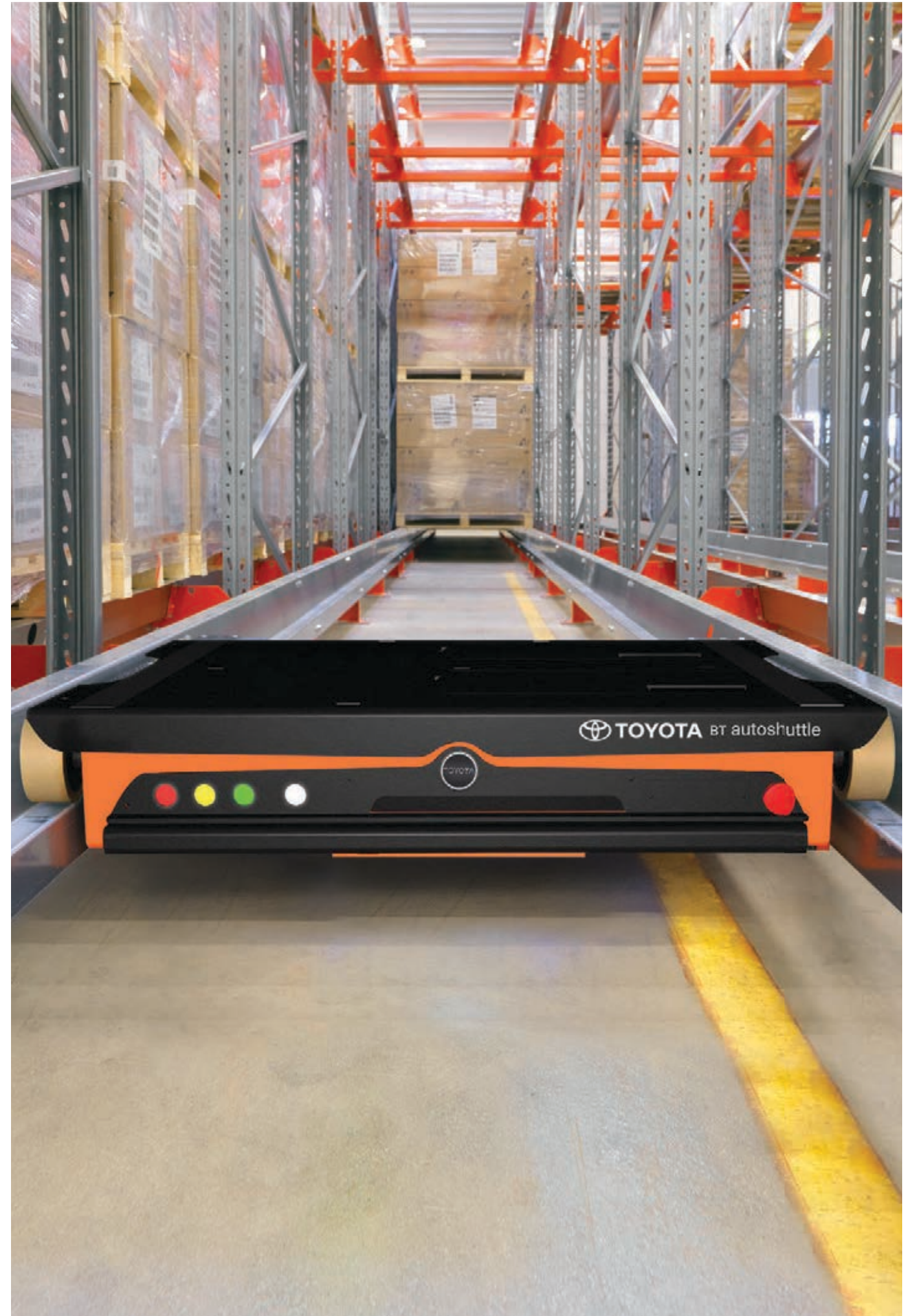


Autoshuttle

This high-performance solution allows for an extremely cost-effective use of expensive warehouse space. The Autoshuttle is an electrically powered load carrier that densely stacks and retrieves goods in horizontal storage tunnels within satellite racking. The shuttle is controlled by remote control by the forklift driver and has many automatic functions. It can be set to continue stacking or retrieving pallets while the forklift driver is driving goods to and from the location. The Autoshuttle can be handled by any standard reach forklift or counterbalanced forklift.

Key benefits

- Optimal utilisation of storage space
- Both FIFO and FILO handling possible
- Wireless, semi-automatic shuttle optimises work processes
- Cold storage application
- 1500kg capacity



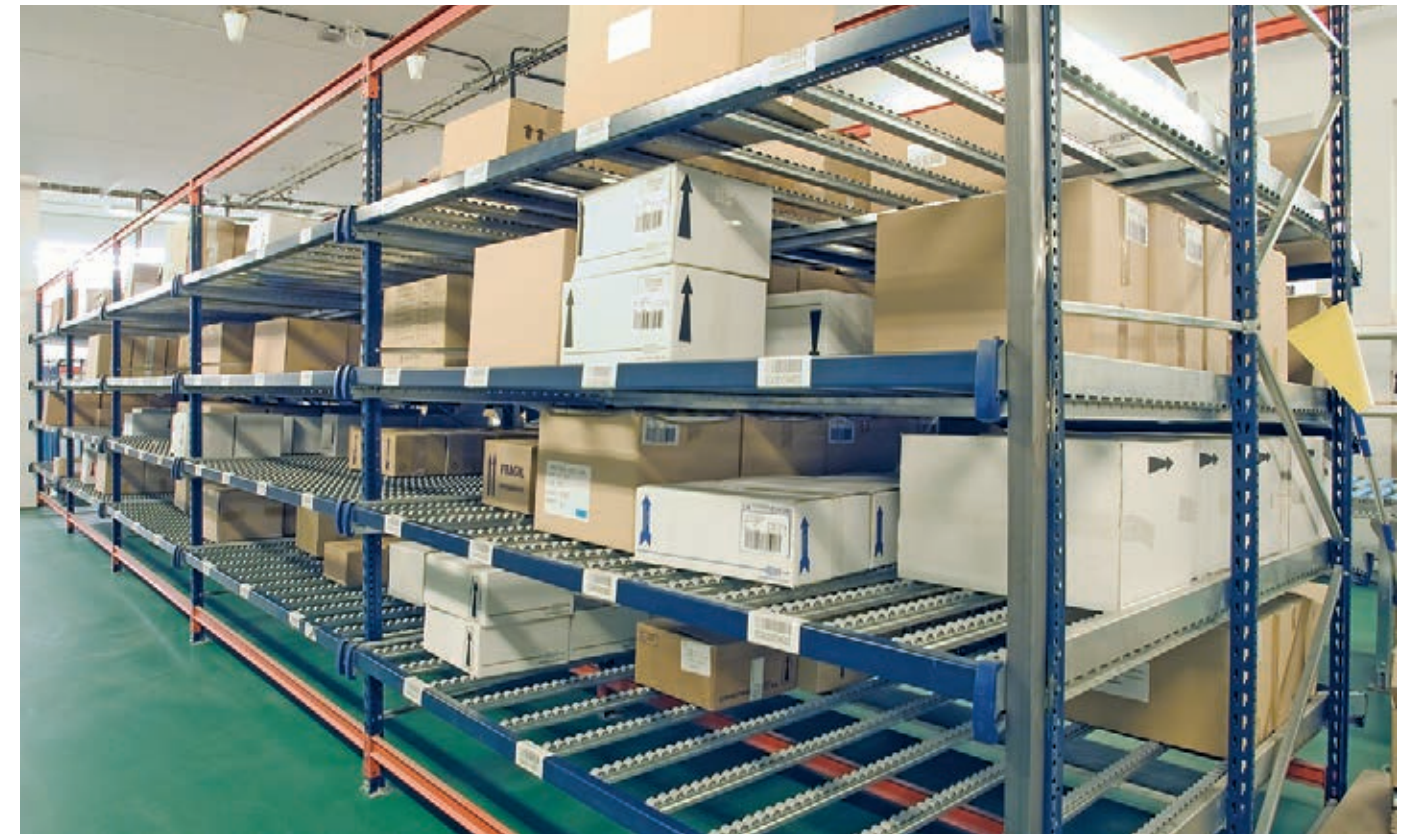
Gravity Flow Pallet Racking

Gravity flow pallet racks are compact structures with sloped roller track sections, which allow pallets to slide from one side of the installation to the other at a controlled speed – by sheer force of gravity. The system can store large quantities of pallets in depth.

Gravity flow storage is ideal for many modern material handling needs, when handling large quantities of uniform goods, such as high intensity dispatch handling, perishable goods handling – and more. It enables perfect rotation of goods, in line with the FIFO (first in, first out) principle.

Key benefits

- Time-saving and compact storage system
- FIFO solution for high storage capacity
- All levels can be accessed at all times



Push-back Pallet Racking

Push-back pallet racking uses the same principles as Gravity flow racking – but the other way around – with one-way traffic and the FILO (first in, last out) principle. The forklift loads pallets in one end of the slightly sloped platform and the next pallet pushes the previous pallet backward, where it lands on a parallel, slightly elevated platform. This process is then repeated for each pallet position to a maximum of four pallets depth, which makes it suitable for medium quantities of uniform goods.

Key benefits

- High-density FILO storage
- Cost- and time-efficient solution
- Access to all levels at all times



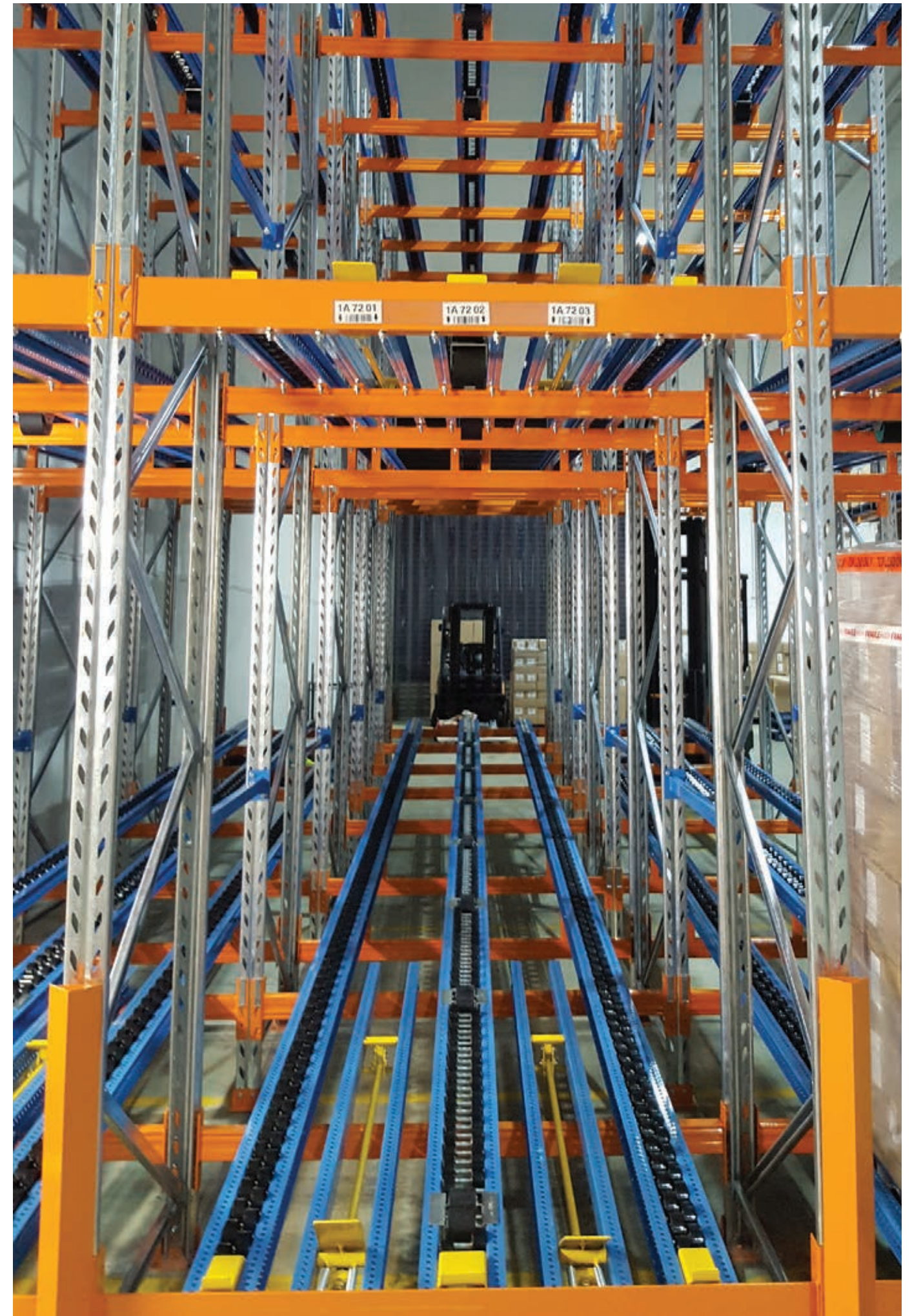
Pallet Live Storage

Our pallet live storage system provides efficient and ultra-dense storage of palletised goods with fewer aisles. Pallet live storage also avoids the need for internal transport once the rack positions are fully loaded.

The system can be design for both FIFO (first-in/first-out) where the goods are placed onto the on-load face and are carried down by the force of gravity. At the off-load face the pallets can be removed (first-in/first-out principle) or LIFO (last-in/first-out) where the pallets are loaded and unloaded from the same side. The lift truck pushes the pallets into their storage location and they are returned by the force of gravity if pallets are taken out.

Key benefits

- Fewer aisles are required.
- Increase in storage capacity.
- Reduction in travel time between locations.
- Large volumes of common products in each lane.
- Cold store applications.

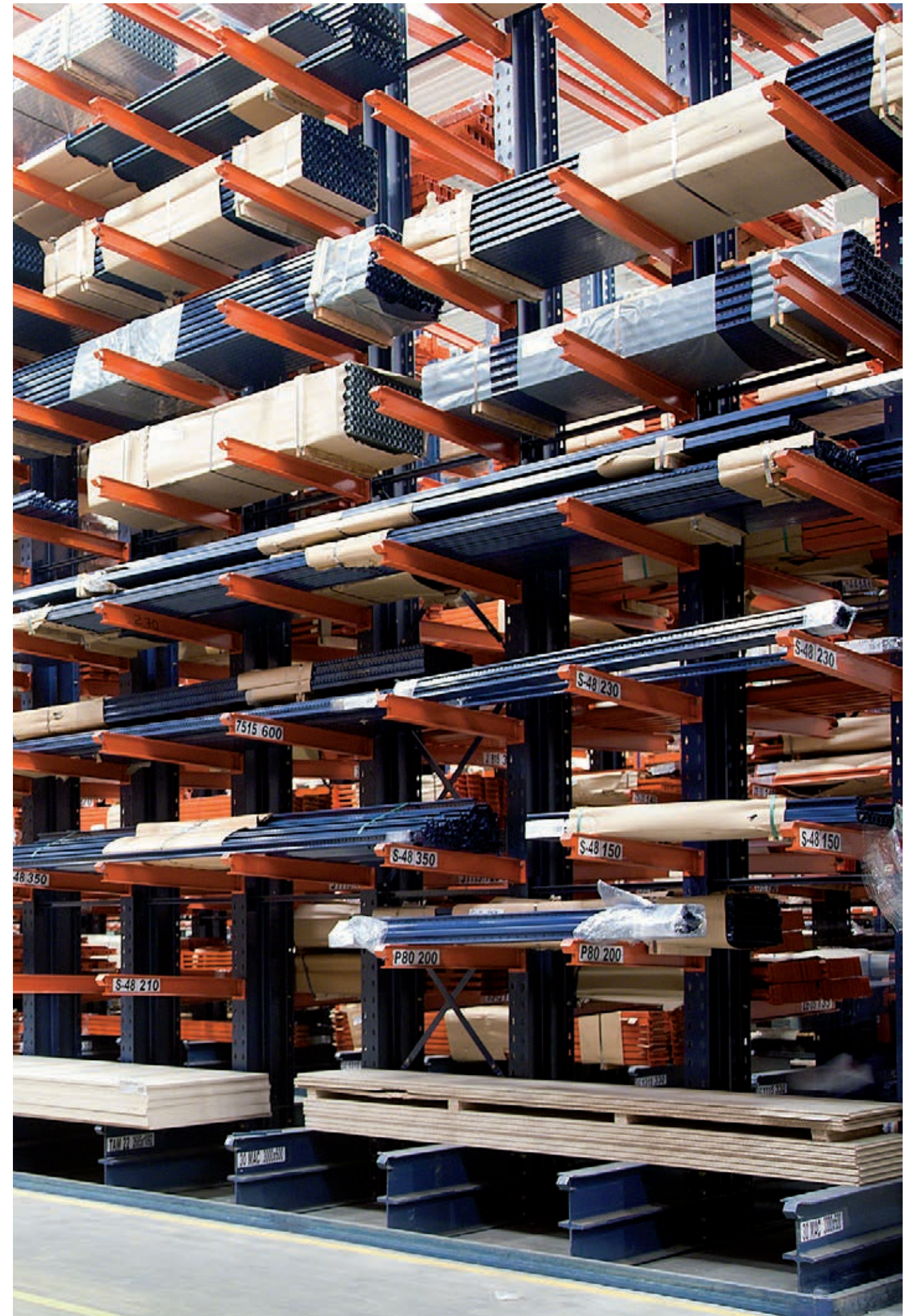


Cantilever Racking

This is a racking system with obvious benefits when storing long goods or goods and items of varying length, such as beams, pipes, metal, plastic or wooden boards or sheets. This system is based on columns with horizontal arms for the load. It is available in single- and double-sided versions with several options for load distribution. Choose from light, medium and heavy-duty options depending on the load per arm, arm length and column height.

Key benefits

- Optimal long goods handling
- High flexibility in terms of weight and size
- Both single-sided and double-sided installations are possible



Long Span Shelving

As part of the Toyota Material Handling racking offer, long span shelving is the perfect way to store light- and medium-weight loads. The system offers unbeatable versatility and flexibility and a great number of variations – all with no-tool adjustment of the shelves. Long Span shelving is a smart, attractive and robust system with a load capacity of 200 kg per shelf.

Key benefits

- Universal shelving solution for small items
- Optimal for offices



Heavy Duty Shelving

This robust shelving system allows for manual picking of goods – in a wide variety of designs and to different specifications. We help you to design your perfect combination of double beams, shelves and supports. Shelves are available in steel mesh, metal, galvanised steel, chip-board and melamine-chipboard. The system can also be used to build workbenches.

Heavy duty shelving can be used even for pallets as the load capacity per level varies between 550 and 950 kg, depending on the beam length. The beams can also be fitted to standard pallet racking systems, making it possible to build picking stations on the lower levels. Also suitable for gangways.

Key benefits

- Wide variety of shelving options
- Optimal for medium to heavy loads



Raised Storage

Raised Storage Area

Raised storage areas can help you get the most out of your warehouse space. Raised storage area can be rack supported, long span supported or structural.

Key benefits

- Quick to install
- Compatible with most existing warehouse storage systems
- Shelving can be easily added above or below the floor
- Ability to incorporate a range of standard accessories
- Choice of floor decking



Mezzanine Floor

A mezzanine floor can be constructed in one of two ways; one with pallet racking supporting the system, and one where the space underneath the floor is kept clear. Both of these options has its benefits and can be useful for storing products. No matter which design you choose, you also get the benefit of a number of possible add-ons, such as handrails, conveyors and lifts.

Our unique modular mezzanines are designed to be freestanding, and do not require structural support from the building itself

Key benefits

- Most out of your space
- Avoid expensive costs that come with –
 - buying or renting a different property
 - adding another section with a renovation project.



Warehouse Safety

Safety accessories designed to safeguard pallet racking and equipment from accidental damage are available in a range of styles and are finished in recognised safety colours.

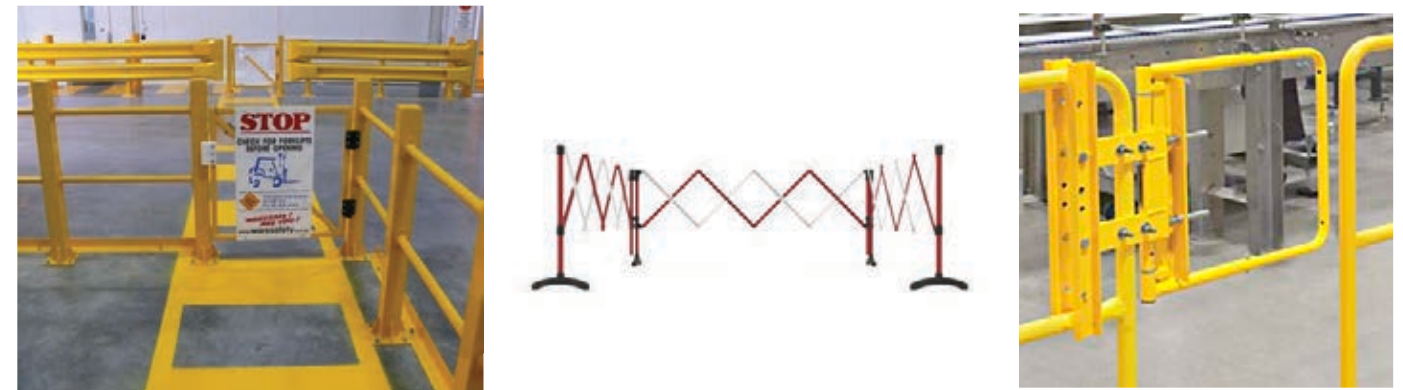
- Upright protectors
- Bollards
- Guard Rail
- Guide Rail



Pedestrian Safety

Keeping pedestrians safe and protected from machinery, forklifts and other vehicles is very important. Workcover regulations call for the separation of “plant and pedestrians” which means employers must create physical division between forklifts and pedestrians.

- Hand Rail
- Port A Guard
- Swing Gate

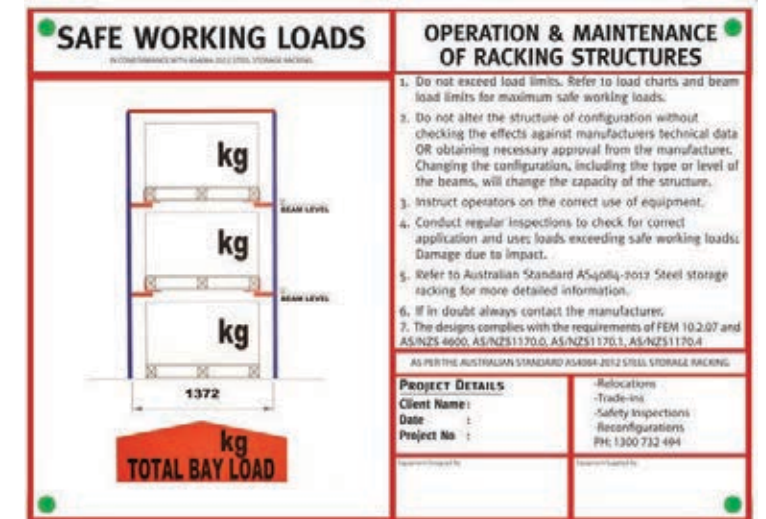


Safety Audits and Signage

Every 12 months rack safety audits as per standard AS 4084-2012

Damaged racking components need to be repaired or replaced as soon as possible to eliminate possible accidents, some of which could be very expensive if left unattended to.

Safety signage, including Safe Working Load (SWL) signage must be installed in accordance with Australian Standards and FEm requirements

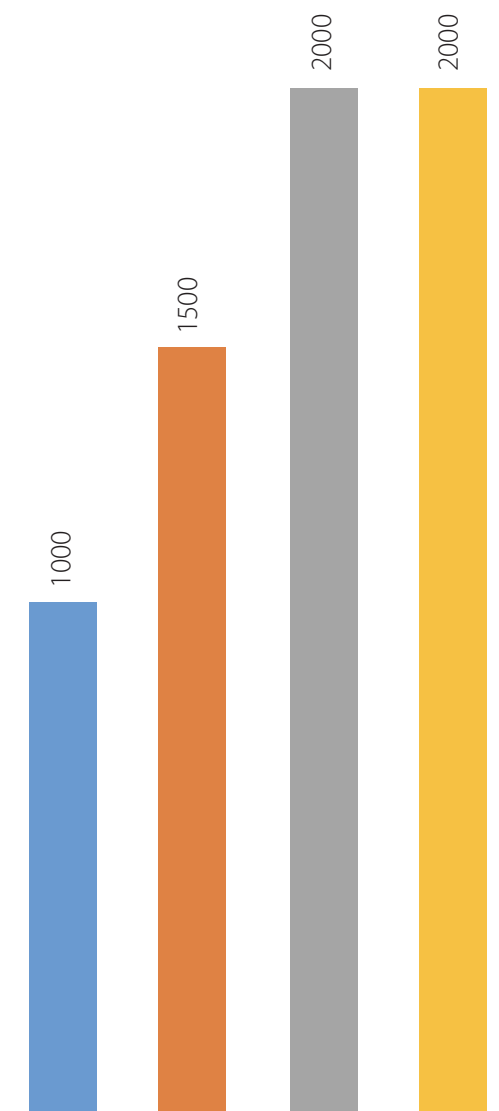


Comparisons of General Racking Systems

	Selective	Double-Deep	Drive-In	Satellite
Stock rotation	Good	Good Average 50% accessible	Limited - LIFO	Good
Product protection	Good	Good	Good	Good
Order picking Selectivity/ accessibility	Good, 100%	Average 50%	Limited, 20-30%	Good, 100%
Floor area utilization	30% net pallet area	40% net pallet area	60% net pallet area	60%+ net pallet area
Maximum height of Storage	12+m	12+m	10m	40m and above
Mechanical handling Equipment	<ul style="list-style-type: none"> • Walk behind or ride on stackers • Counter Balance/ Reach Forklifts • Reach Forklift offers up to 30% improved use of floor space and operates to height in excess of 11+m high 	<ul style="list-style-type: none"> • Specialist machine with either pantograph or telescopic forks, or using a purpose designed attachment, which can be fitted to standard reach forklifts 	<ul style="list-style-type: none"> • Counter Balance/ Reach Forklift 	<ul style="list-style-type: none"> • Automated Retrieval System – single or double deep pallet options
Picking rate	Average	Average	Slow	Fast
Popular Industry application	In virtually every industry	Cold Stores, Manufacturing and Distribution centers	Manufacturing & Warehousing of limited product types	Manufacturing warehousing for 5000+ pallet locations
Other remarks	Can be fitted with a wide range of accessories, mesh decks etc	May require bottom beam and guide rails on upper storage levels	Suitable for large quantities of homogeneous products	Can be inside high bay warehouse or as rack clad
Elevation Drawing Example	1000 Pallets/1000Sqm	1300-1500 Pallets/1000Sqm	2000 Pallets/1000Sqm	2000 Pallets/1000Sqm

Pallets/1000 Sqm

- Selective
- Double Deep
- Drive-in
- Satellite Tracking System





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