

THE MAINSTAY OF YOUR INTRALOGISTICS



Creating
space
within
space





IN PLANT

MANUFACTURING FACILITIES

OUR VISION

Be a recognized brand for industrial storage solutions across the globe.

OUR PURPOSE

To fuel customer growth by enhancing productivity and ease of operations through our storage solutions.

Since its inception in 1991, Metafold Engineering Pvt. Ltd. has undergone a remarkable journey of growth and transformation. Beginning with a fabrication of simple material movement trolley, the company has continuously expanded its product portfolio to meet the evolving needs of the storage industry, establishing itself as a prominent player in the market.

Our state-of-the-art engineering and production facility covers an extensive area of 1,25,000 sq. ft. boasts an impressive manufacturing capacity of 1500 tons per month. This robust infrastructure empowers us to effectively serve a diverse clientele across various industrial sectors not only in India but

OUR VALUES

TEAM WORK Teamwork makes the dream work.

CUSTOMER FIRST When the customer comes first, the customer will last.

INTEGRITY Do the right thing, not the easy one.

EXCELLENCE Learn > Innovate > Grow > Learn

also internationally.

Metafold operates through four specialized divisions: Warehouse, Automation, Machine Shop, and Roll-Out. Each division focuses on specific product lines, enabling us to offer comprehensive solutions and serve as a ONE-STOP DESTINATION for all storage-related requirements.

We take immense pride in our positive outlook and noteworthy achievements within the storage industry. Our unwavering commitment to customer satisfaction has paved the way for an exceptional track record of delivering projects on time, solidifying our reputation as a reliable and trusted partner.





PROUD TO BE



EN Compliant Design
European Standard:
EN 15512:2019

Comprehensive component
testing conducted at
India's most prestigious Institute,
IIT MADRAS



Be assured of **RELIABLE, DEPENDABLE AND ACCURATE** solution
for your Storage Needs.

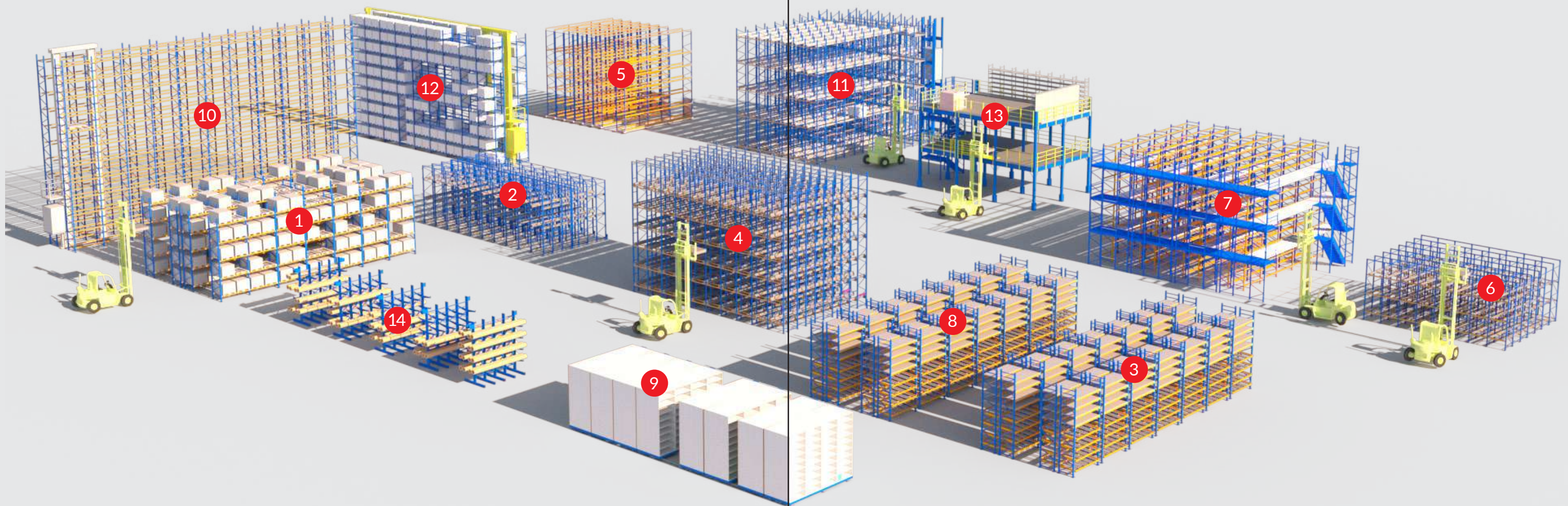
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EXPERIENCE CENTRE



Creating Space within Space®



STATIC RACKING

- ① Selective Pallet Racking
- ② Drive in Racking
- ③ Combination Rack

DYNAMIC RACKING

- ④ Shuttle Racking
- ⑤ Mobile Racking
- ⑥ Pallet Flow Racking

SHELVING SOLUTION

- ⑦ Multi-tier
- ⑧ Shelving Racks
- ⑨ Mobile Shelving

AUTOMATED RACKING

- ⑩ Stacker Crane ASRS
- ⑪ Mother Child Shuttle ASRS
- ⑫ Mini Load ASRS

LONG SPAN RACKING

- ⑬ Mezzanine Floors
- ⑭ Cantilever Racking

SILOS

- Rack Supported Warehouse
- Mezzanine Supported Warehouse

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SELECTIVE PALLET RACKING

CONVENTIONAL AND MOST COMMON STORAGE PRACTICE

These systems are called “Selective” because they allow users to select any pallet load from the pallet racking system without having to move any other pallets.

This flexible and customizable system offers various safety accessories and additional level and rack accessories based on your storage needs. When storage capacity takes precedence over selectivity, you can opt for double deep pallet racking, where racks are installed back-to-back, and extended arms are used to retrieve pallets from behind. Whether you need to maximize vertical or horizontal space, this system can be tailored to your specific requirements.

APPLICATIONS

Selective pallet racking systems are suitable for storing ranges of product in large quantities and heavy loads.

The design of this type of racking system is ideal for picking directly from pallets or stillage boxes.

OPERATION

Goods are palletized and placed on horizontal load beams supported by vertical frames. The adjustable load beam levels accommodate customer requirements and are accessible using material handling equipment like forklifts or stackers.

ADVANTAGES

- Access to all items
- Ease of access
- Versatility
- Low Cost
- Customizable sizes of the pallets
- User-friendly order picking



DRIVE-IN / DRIVE-THROUGH RACKING

EFFICIENT SPACE-SAVING STORAGE

Drive-in/drive-through racking is a high-density storage system where load units are stored on continuous pallet rails. Material Handling Equipment, MHEs, can drive inside the racking structure to store the pallets directly on the rails, eliminating the need for aisles.

Drive-in racks are designed for MHEs access from one side, following the Last-In-First-Out (LIFO) principle. On the other hand, drive-through racks allow MHEs to enter from both sides, providing the advantage of the First-In-First-Out (FIFO) principle.

APPLICATIONS

Drive-in and drive-through racking systems are well-suited for storing large volumes of heavy items with a limited variety. They are particularly suitable for applications such as cold storage, bulk storage, seasonal goods, or high rotation products with time or date sensitivity.

OPERATION

Sideways seated stackers are particularly well-suited for this type of work as they provide the operator with a clear field of vision when operating in reverse. This allows for safer and more efficient navigation within the narrow channels of the racking system.

ADVANTAGES

- High level of space utilisation
- Cost Effective
- Can be flexibly extended
- Ideal for large volumes of identical items
- Particularly suitable for seasonal warehouses



COMBINATION RACK

ALL-IN-ONE SOLUTION

Combination racks, also known as hybrid racks, offer versatile storage solutions by incorporating multiple configurations within a single rack structure. By understanding your pain points, we create a solution that eliminates them and ensures a seamless storage experience.

From the installation of different configurations of roller tracks or decking panels on the lower levels to pallet storage on the upper levels, we tailor the system according to your needs to accommodate your wide range of products with varying shapes, sizes, and storage needs.

APPLICATIONS

By integrating various storage methods, they optimize space utilization, streamline operations, and contribute to improved productivity in warehouses, distribution centres, retail stores, and manufacturing facilities.

OPERATION

The system's versatility allows for manual operation, where pallets can be handled using forklifts or other suitable material handling equipment, while cartons, crates, and bins can be handled manually using hands.

ADVANTAGES

- Adaptability to changing storage needs
- Space optimization
- Versatility
- Improved accessibility
- Enhanced organization



MULTI-TIER SHELVING

COMPACT AND HIGH-DENSITY PICKING

Multi-tier shelving racks adopt a Person-To-Goods approach, where additional floors with catwalks are installed at specific heights within the racking structure, increasing the floor space of your warehouse. We provide a diverse range of flooring options that can accommodate various types of goods stored in the racks.

Our shelving solutions also take into account provisions for fire safety systems, lighting systems, and power supply systems, ensuring compliance with necessary safety regulations and providing a well-equipped storage environment as per ISO norms.

APPLICATIONS

The multi-tier shelving system provides a cost-effective alternative to automated storage and retrieval systems (ASRS) for warehouses that have a high number of SKUs and engage in picking-intensive operations with replenishment model dispatches.

OPERATION

Goods can be transferred between floors using VRC, continuous lifts, conveyors, gravity chutes, pallet loaders, pallet gates, or a combination of these methods. On the same floor, trolleys or hand pallet trucks can be used for transportation. The choice of material movement method depends on your goods' specific process flow.

ADVANTAGES

- Customizable as per picking requirements
- Maximum utilization of height
- Direct access to all load units
- Wide range of application
- Economical use of floor space
- Direct access to all load units



SHELVING RACKS

OPTIMUM ACCESS TO EVERY ITEM

Shelving racks are a versatile and cost-effective storage solution for various goods. Shelving provides a convenient and economical storage solution for a wide range of goods. With its versatility in load capacity, configuration options, and material choices, it can be tailored to meet your specific storage requirements effectively.

The racking system is suitable for a large number of goods, applications and industries wherever manual control of the racking is required. These racks offer sturdy support, ensuring the safety of your goods and optimizing storage space.

APPLICATIONS

They are suitable for medium-duty applications, accommodating both palletized and non-palletized loads. Available in diverse configurations and materials like wire mesh, perforated steel panels, and wooden planks, you can choose the most suitable option based on your load requirements.

OPERATION

The material can be stored or picked manually at lower shelves, while higher shelves can be accessed using MHEs. Various accessories are available to enhance storage efficiency and customize the shelves for specific load requirements.

ADVANTAGES

- Immediate access to any item
- Flexible expansion
- No limitation of package size
- Customizable
- Adaptive as per needs
- Choice of accessories



MOBILE SHELVING

COMPACTORS

Mobile shelving racks, mounted on mobile chassis, slide along defined tracks, eliminating unnecessary aisles and optimizing space utilization. This innovative design allows for maximizing storage capacity while efficiently utilizing available space.

In these systems, racks are installed back-to-back, with a single aisle opening in the entire structure. To access a specific rack, the surrounding racks move in a synchronized manner to create an aisle next to the desired rack.

APPLICATIONS

Mobile shelving compactors are widely used in various industries and applications, where an organized and space-efficient storage is required. They are commonly found in offices, libraries, archives, warehouses, and other storage-intensive settings.

OPERATION

The movement of mobile chassis can be done manually or driven through electronic control. Once the desired aisle is accessible, items can be retrieved or stored manually.

ADVANTAGES

- Customizable as per picking requirements
- Maximum utilization of height
- Direct access to all load units
- Wide range of application
- Economical use of floor space
- Direct access to all load units
- Individual locks are provided for each bay



SHUTTLE RACKING

DENSE STORAGE

The radio shuttle racking system offers a semi-automatic dense storage solution. Shuttle racking offers significant advantages when managing large quantities of pallet storage with a limited number of SKUs and high-intensity loading/unloading requirements.

Powered shuttles transport loads automatically, creating a high-density storage solution. The system can operate in both FIFO and LIFO modes, ensuring flexibility. Our radio shuttle racking system is compatible with various forklift types and prioritizes safety by keeping the forklifts outside the racking structure.

APPLICATIONS

Shuttle Racking suits best in storage applications such as cold stores, production buffer store, restocking warehouses for order picking, and across the entire haulage services industry.

OPERATION

Optimal storage is achieved by assigning each bay to a specific SKU. The first step involves loading the shuttle inside the bay channels, followed by placing the pallet above the shuttle on the bay channel. When prompted, the shuttle lifts the pallet and moves it deep into the bay. The unloading process follows the same procedure in reverse.

ADVANTAGES

- Ideal utilisation of floor and space
- High productivity
- LIFO and FIFO principal
- Seamless integration of our solution with your warehouse management system
- Economical use of floor space



MOBILE RACKING

RACKS ON WHEELS

Diverging from the conventional static single deep pallet racking (SPR) system, this solution utilizes the same racks but with the added functionality of being mounted on a chassis equipped with wheels. The racks are positioned in a back-to-back configuration, leaving a single aisle in the overall layout. With the exception of the two terminal bays on each side, all the racks are mobile. To access a specific rack or pallet, the entire system mobilizes to relocate the aisle precisely where it is needed.

Mobile Pallet Racking System is equipped with modern-day control system, electric drive units for mobility and various sensors for access and safety to ensure trouble-free operations, thus creating a safe operational environment in your warehouse.

APPLICATIONS

Mobile Racking systems optimize vertical space and enable individual pallet selectivity. They are ideal for managing diverse stock keeping units (SKU) with low throughput demands. These systems excel in cold storage applications, ensuring optimal storage conditions.

OPERATION

In mobile racking systems, the process of extracting and storing pallets is similar to single deep pallet racking. The key difference is the ability to move the racks themselves, either remotely or through push buttons. This movement creates aisle space where needed.

ADVANTAGES

- Up to 90 per cent saving on racking aisles as compared to SPR solution
- Better utilisation of floor space
- Access to all pallets
- Ideal for cold storage



PALLET FLOW RACK

GRAVITY RACKS

Pallet flow racks or Live pallet racking, combine gravity flow conveyors and racks for efficient dense batch storage. The inherent design of these racks ensures the application of FIFO, and provide an excellent alternative to automated FIFO solutions.

To facilitate seamless pallet flow, the downward rails in the system can be personalized with brake rollers and adjustable roller spacing to suit your unit load. Our Pallet Flow Racks are customizable to meet your storage requirements and come with safety accessories such as pallet guides, MHE stoppers and guards.

APPLICATIONS

These racks offer a cost-effective solution for a wide range of industries including warehousing, distribution centres, food and beverages, OEMs, retail, e-commerce, cold storage, auto-ancillaries, and more.

OPERATION

Pallets are placed at the elevated end of the flow rack system and smoothly move along under the influence of gravity. Brakes are strategically positioned to control the pallets' movement within the racks. To retrieve pallets, they are accessed from the opposite end of the loading point.

ADVANTAGES

- Best alternative to automation for FIFO operation
- Reduces labour
- Cost effective
- Fast access to needed products
- High time efficient



STACKER CRANE ASRS

RACK AUTOMATION

ASRS stacker cranes follow the goods-to-person (GTP) principle and are controlled by a central system that manages inventory and coordinates crane movement. The horizontal carriage offers telescopic forks for high throughput but low batch quantity, or integrated radio shuttles for large batch quantity but lower throughput.

Our stacker crane ASRS is part of a comprehensive solution that incorporates other automation technologies like conveyors, AGVs, AMRs, pick and place robots, and efficient material movement methods to address all your needs.

APPLICATIONS

ASRS stacker cranes are used in high-bay warehouses providing increased storage capacity, faster retrieval times, reduced labour requirements, and improved inventory accuracy.

OPERATION

The stacking and retrieval processes in these fully automated systems are customized to your needs. Specialized training is provided to certify operators in operating these systems.

ADVANTAGES

- Short access times
- High level of process reliability
- High productivity
- Optimum use of space
- Safe and efficient pallet handling
- Live Inventory at finger tips



Our strategic alliance is with Addverb Technologies in Automation

MOTHER CHILD SHUTTLE ASRS

REVOLUTIONIZED AUTOMATION

Mother Child Shuttle ASRS is a dense automated system, wherein the mother shuttle operates within the main aisles and acts as a carrier transporting the child shuttles to the appropriate bay location within the structure. The child shuttles, in turn, travel within the individual storage bay where they are responsible for retrieving and storing goods.

Our Shuttle Fleet Control Software (SFCS) serves as the central control hub for the entire system and ensures that your entire inventory is easily accessible and handled with the utmost safety and efficiency.

APPLICATIONS

Mother Child Shuttle ASRS systems are commonly used in high-intensity inventory operations with large batch quantities of SKU. This system provides increased storage capacity, faster retrieval times, reduced labour requirements and improved inventory accuracy.

OPERATION

The stacking and retrieval processes in these fully automated systems are customized to your needs. Specialized training is provided to certify operators in operating these systems.

ADVANTAGES

- Higher throughput compared to stacker ASRS
- Best use of space
- Safe and efficient pallet handling
- Quick access and faster delivery times
- High throughputs for a large range of goods
- Live inventory at finger tips



MINI LOAD ASRS

CUTTING-EDGE AUTOMATION

Mini Load ASRS systems automate the movement of cartons, trays, and totes in and out of storage. Some designs feature dual extractors to increase throughput, while others use a double-deep storage strategy for maximizing storage capacity.

A Mini-Load system (or any ASRS technology) always includes a way to deliver and remove products. These "front-end subsystems" can be manual P&D (pick and drop) stations or fully automated case/tote handling systems using conveyors, shuttle cars, electrified vehicles, AMR, AGV, etc.

APPLICATIONS

The Mini-Load AS/RS offers versatile solutions for various manufacturing and distribution setups, catering to a wide range of applications such as WIP buffer systems in manufacturing setups or order sequencing in distribution centres.

OPERATION

The stacking and retrieval processes in these fully automated systems are customized to your needs. Specialized training is provided to certify operators in operating these systems.

ADVANTAGES

- Short access times
- High level of process reliability
- High productivity
- Optimum use of space
- Safe and efficient material handling
- Live inventory at finger tips



MEZZANINE FLOORS

MODULAR FLOOR

Mezzanine floor systems provides a practical solution for creating additional floor space in warehouses or shop floor areas without the need for warehouse expansion.

They are cost-effective, modular, and easy to install and dismantle. Our designs offer a range of flooring options tailored to specific applications, including metal grating, perforated decking planks, solid decking planks, chequered plates, cement composite boards, wood, plywood, and MDF.

APPLICATIONS

Our Mezzanine designs, capable to accommodate load bearing capacities of up to 1500 kg/sqm, can be utilized for a wide range of purposes, including storage, offices, assembly lines, production areas, or any other necessary operations.

OPERATION

Our system design allows the use of trolleys and pallet trucks for material movement on each floor. Material flow between floors can be managed using a Vertical Reciprocating Conveyor (VRC), integrated conveyors or loading pallets on each floor using an MHE. Each floor is accessible to personnel via stairs.

ADVANTAGES

- Modular by design
- Super adaptability
- Multi-functional purpose
- Maximum use of space
- Flexibility in storage
- Easy relocation



CANTILEVER RACKING

LONG SPAN STORAGE

The cantilever racking system is a manual versatile solution for storing long length materials such as pipes, tubes, bars, billets, commercial sections and more.

The cantilever racking system's simple design and minimal components make it easy to assemble and relocate as needed. It provides flexibility and easy accessibility for storing both small and large inventories, optimizing storage space and enhancing efficiency.

APPLICATIONS

The cantilever arm storage system is well-suited for storing medium to high-weight goods in varying quantities per item, with a moderate throughput. This static system offers numerous advantages for manufacturing plants that handle pipes, tubes, bars, and commercial sections.

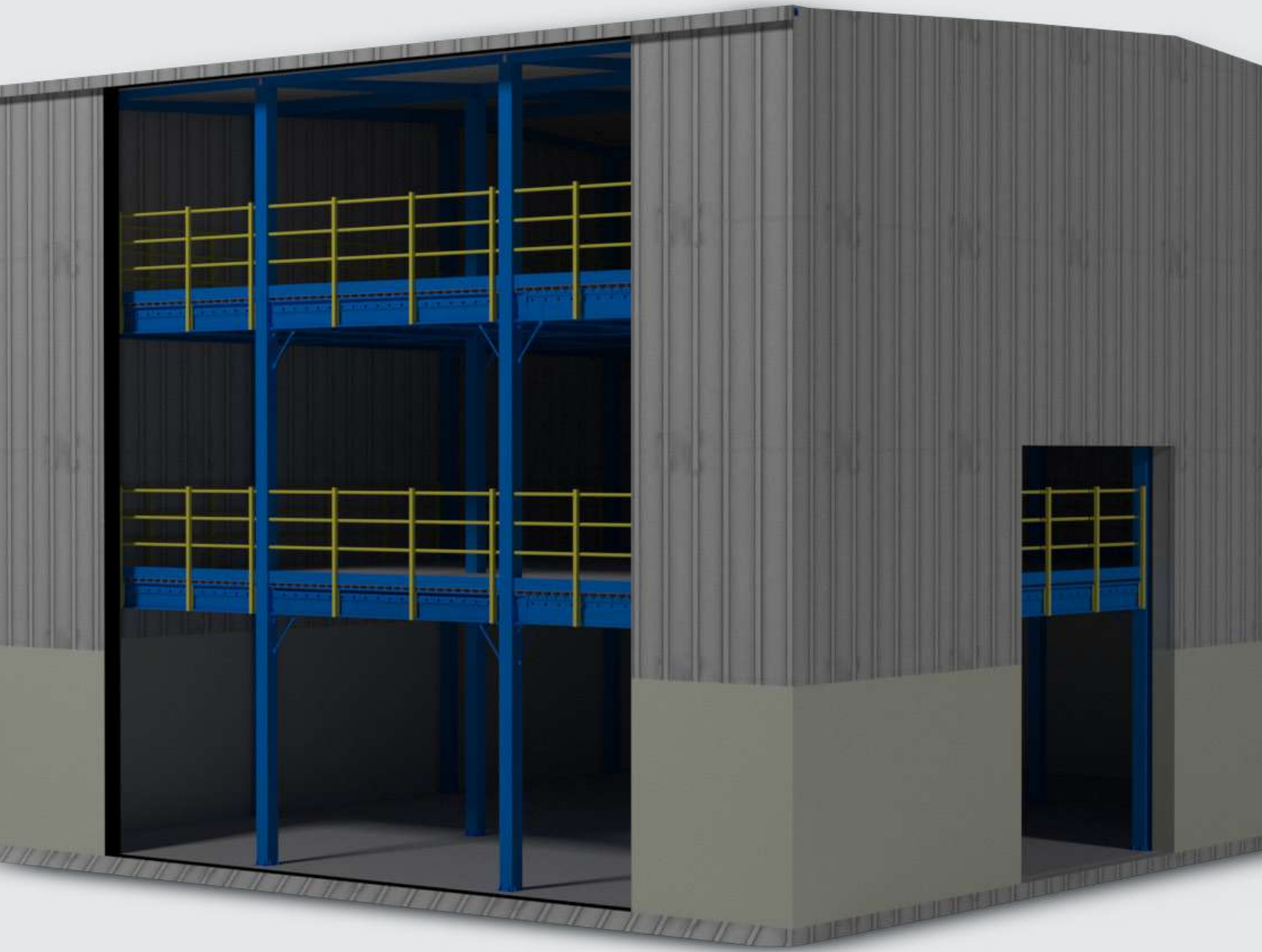
OPERATION

Fork Lifts are used to store the material on the extended arm of Cantilever Rack. There are no limitations on the length of the materials that can be stored; the only limiting factor is the material stability on fork arms while loading.

ADVANTAGES

- Easy to install
- Rapid response to changes in product range
- Variable length of goods
- Adjustable levels as per requirement
- Static racks can be easily upgraded to mobile racking





SILOS

Rack Supported Warehouse / Mezzanine Supported Warehouse

HIGH-DENSITY WAREHOUSING

Rack/Mezzanine Supported Warehouses are advanced storage solutions that excel in maximizing storage volume. These warehouses ingeniously utilize racks or mezzanine structures not only for their storage functionality but also as integral support systems for the facility's walls and roof.

These silos are primarily well-suited for cold warehouses and offer the advantage of significantly reducing the need for extensive upfront investment and construction time typically associated with building Pre-Engineered Buildings (PEB) structures.

APPLICATIONS

Silos are utilized for storing significant quantities of SKUs, particularly in industries such as FMCG and FMCD that require high-volume storage.

OPERATION

Whether you are using conventional racks, drive-in racks, live storage systems, shuttle systems, ASRS or Mezzanine, the racks, shelves or mezzanine structure serve as the base structure that supports the warehouse building. This flexibility allows for a wide variety of goods to be stored within the warehouse, accommodating both automated and conventional storage systems.

ADVANTAGES

- Maximized storage space
- Cost effectiveness
- Utilisation of storage space at great heights
- Eliminates the need for PEB structure
- No delays due to building construction
- Can be flexibly extended

APPLIED INDUSTRIAL SEGMENTS



OUR OTHER SBUs

AUTOMATION

Light weight to heavy weight standalone automated storage systems



ROLL-OUT

Mechanized racks for Sheets, Pipes, Bars and Moulds



MACHINE SHOP

Storage Solutions for Shop Floor



For more details log on to www.metafold.com

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Since 1991

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