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WHICH COLD STORAGE RACKING SYSTEM IS RIGHT FOR YOU?

REB Storage Systems International

Coolers and freezers present unique storage challenges. With cold temperatures and confined spaces, it's crucial to incorporate a cold storage racking system that can withstand harsh conditions and maximize floor space.

If you are implementing a storage system in your cooler or freezer, here is information that can help you achieve this.

Structural Steel vs. Roll Formed Steel For Cold Storage Pallet Racking

The Rack Manufacturer's Institute stipulates that racking reaches what's known as "ductile-brittle transition" at 0° Fahrenheit. This means that racking in an environment at or below this temperature is more sensitive to impact, increasing the likelihood of rack failure.

While many coolers and freezers do not reach this extreme temperature, this points to the fact that as the temperature in a storage environment decreases, so does the toughness of the racking system. Thus, while strength and load carrying capacity are not affected, if a forklift or other vehicle were to hit the rack structure, the likelihood of damage and even collapse are more likely.

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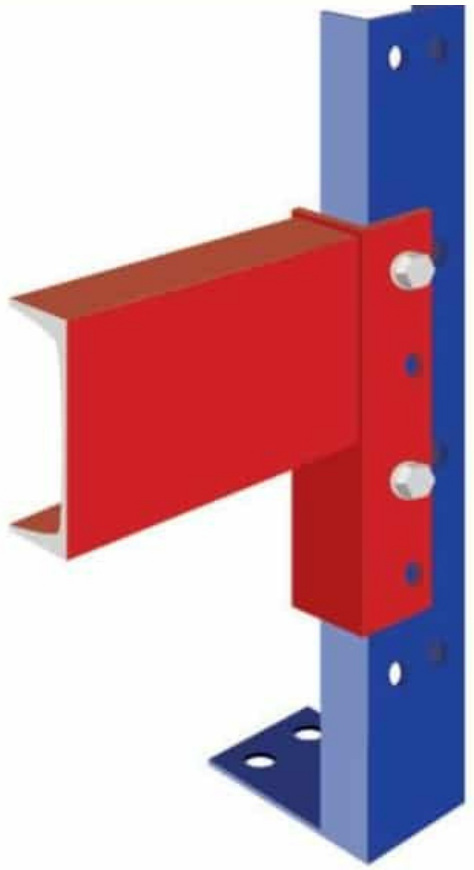
Structural Steel vs. Roll Formed Steel For Cold Storage Pallet Racking- Continued

When To Use Structural Steel Racking

Structural steel rack is hot rolled, it's components are then welded together. This process gives it unique attributes that allow it to hold very heavy loads. This strength also allows it to better withstand forklift impact and harsh environments such as outdoor storage and freezer storage.

Due to the effects of ductile-brittle transition, structural steel racking is recommended in coolers and freezers that use vehicles to access products.

Structural steel rack has greater frame strength, allowing it to better withstand impact in these environments. Structural steel rack is hot rolled, it's components are then welded together. In addition, the beams are bolted to the uprights. These factors contribute to the overall strength of structural racking.



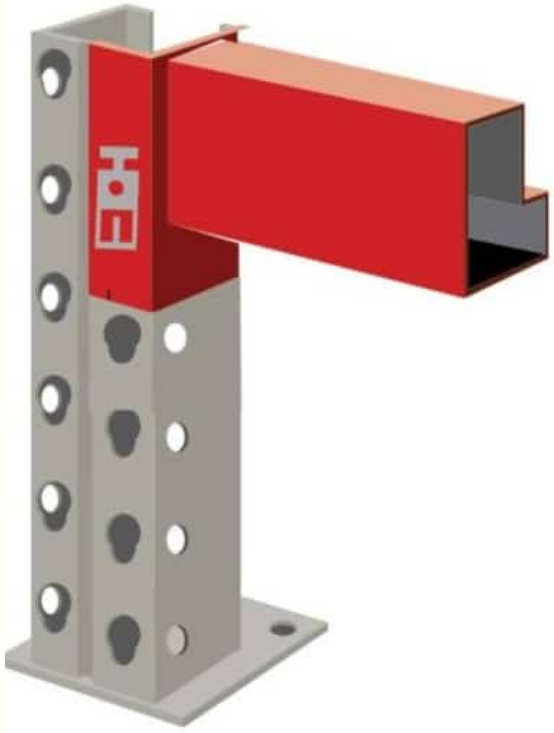
Structural

When To Use Roll Formed Steel Racking

Roll formed steel rack is cooled and coiled while flat then sent through a roll forming machine that shapes it into various components. The steel is then sent through a machine that 'rolls' it into shape. This cold-roll process can produce many different shapes, making it ideal for various engineered solutions such as catwalk systems.

For operations that do hand-picking in a cooler or freezer, roll formed rack can be used. Because there is no risk of impact by a vehicle, the decreased toughness of the cold storage racking system is not a factor.

Roll formed racking is cost effective compared to structural. Additionally, because the beams are attached to the uprights by inserting corresponding-shaped connectors as opposed to bolts, roll formed rack can be more easily adjusted and reconfigured.



Roll Formed

Cold Storage Racking Options

All pallet racking types can be manufactured from structural and roll formed steel, so no matter which type of steel you've identified as the best fit for your operation, there are several racking system options to choose from.

Choosing the one that fits your product flow and characteristics of your inventory will ensure that your operation is at maximum efficiency. Read below to learn about each type of cold storage racking system including how it works, ideal uses, and commonly seen advantages.

Selective Pallet Rack

How It Works

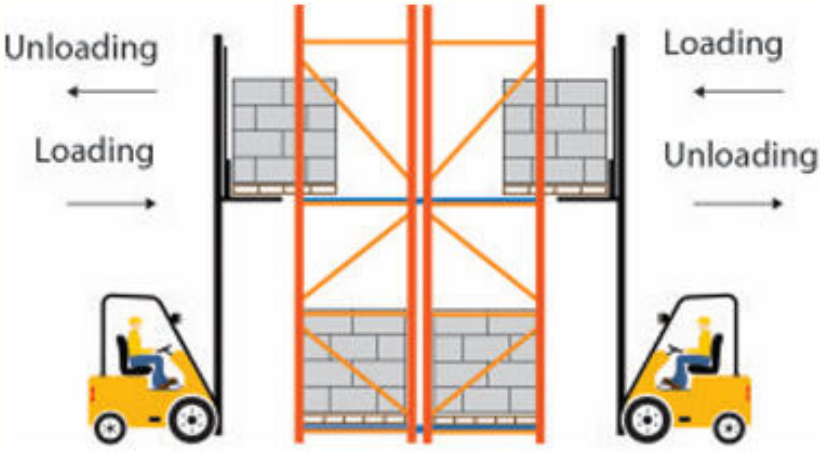
- Pallets are loaded and unloaded from the front via lift truck.
- Enables direct access to all pallets or cartons without needing to move others.

Ideal Uses

- A warehouse or distribution center setting.
- Continuous product circulation.
- Require access to all palletized items simultaneously.
- Storage of retail product, food, and beverage - although can be used to store other products.
- May be used for reserve storage.

Key Features

- Most common racking type.
- Offers high selectivity with lower density.
- Most common bay size 96" wide x 42" deep.



Pallets are loaded and unloaded from the front in selective pallet rack systems.

Cold Storage Racking Options- Continued

Pallet Flow Rack

How It Works

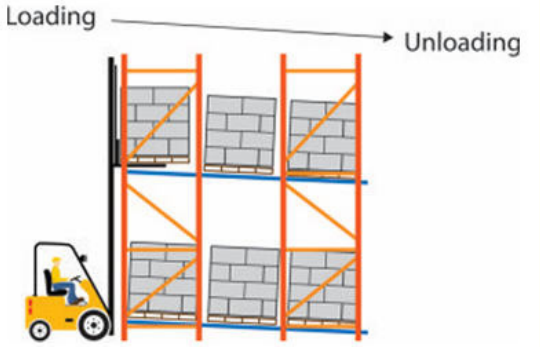
- Designed for larger inventory movement on pallets.
- Supports inclined rollers or wheels that allow cartons to glide from the back (loading) aisle to the front (picking) aisle.

Ideal Uses

- Storage of frozen or chilled product.
- Materials that vary in size.
- Best suits high quality pallets.

Key Features

- Storage can range from 2-12+ pallets deep.
- Provides excellent volume utilization.
- Customizable
- Offers high selectivity and high density.
- Can be combined with other rack types to create a pick module.
- Breaks can be included.



Pallets are loaded from the back of the system and glide to the front for picking. When the front pallet is unloaded, the next automatically glides into picking position.

Carton Flow Racks

How It Works

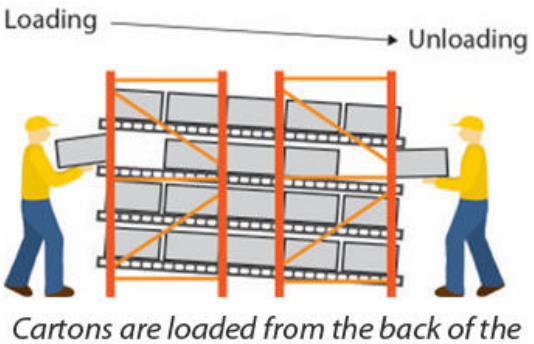
- Lift trucks are able to enter through both ends of the system for loading and unloading.
- Drive-through rack can be convenient, but require an additional aisle.

Ideal Uses

- A warehouse or distribution setting.
- Continuous product circulation.
- You require access to all palletized items simultaneously.
- Storage of retail product, food, and beverage - although can store many other items.

Key Features

- Eliminates the need for down-aisle picking aisles.
- Easily can be deconstructed and reconfigured as needed.
- High density allowing for increased warehouse space.
- Can be designed to suit specific pallet types.



Cartons are loaded from the back of the system and glide to the front for picking. When the front carton is unloaded, the next automatically glides into picking position.

Cold Storage Racking Options- Continued

Drive-Through Rack

How It Works

- The rack supports inclined rollers or wheels that allow cartons to glide from the back (loading) aisle to the front (picking) aisle.
- Incorporates gravity system that provides excellent volume utilization.

Ideal Uses

- Storage of frozen or chilled product.
- High volume case-pick and piece-pick.
- Can be combined with other rack types to create a pick module.

Key Features

- Highly customizable.
- Provides high density storage.
- Highly durable.
- Decreases pick times.
- Option to add breaks for speed control.

Drive-through rack: Lift truck is able to enter through both ends of the system for loading and unloading allowing for a FIFO system but requiring an additional aisle.

Drive-In Rack

How It Works

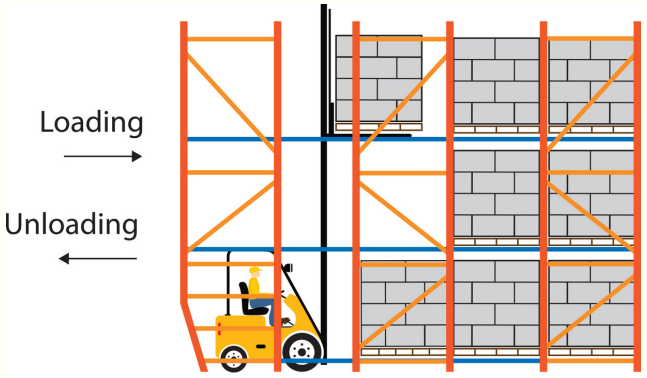
- Lift trucks load and unload by entering through the front of the system and then back out.

Ideal Uses

- Sorting large quantities of homogeneous product.
- Storing products with long life spans.
- Storing products that require large, one time moves.

Key Features

- Eliminates the need for down-aisle picking aisles.
- Drive-in rack offers higher density than drive through rack.
- Lower selectivity, higher density.
- Can support cooler or freezer storage.



Drive-In Rack

Cold Storage Racking Options- Continued

Push Back Rack

How It Works

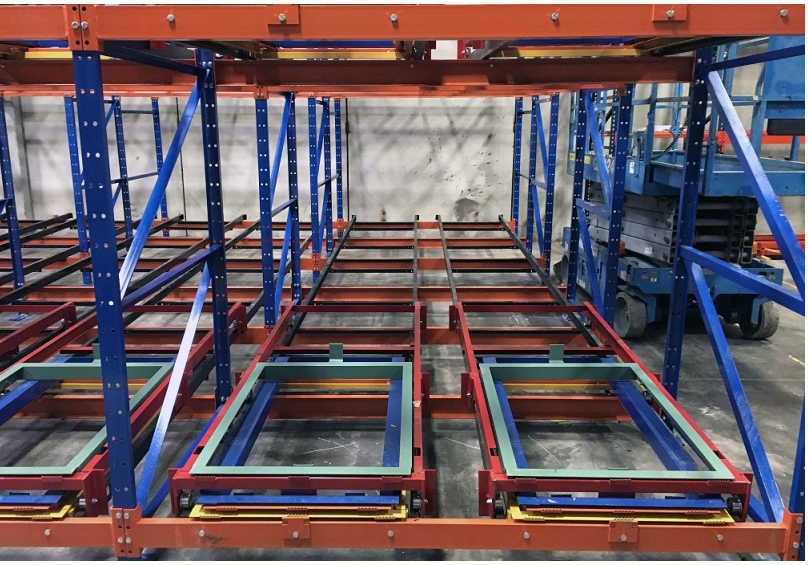
- The rack supports carts that move along inclined rails.
- Utilizes the warehouse cube to reduce required aisle space and maximize product storage.

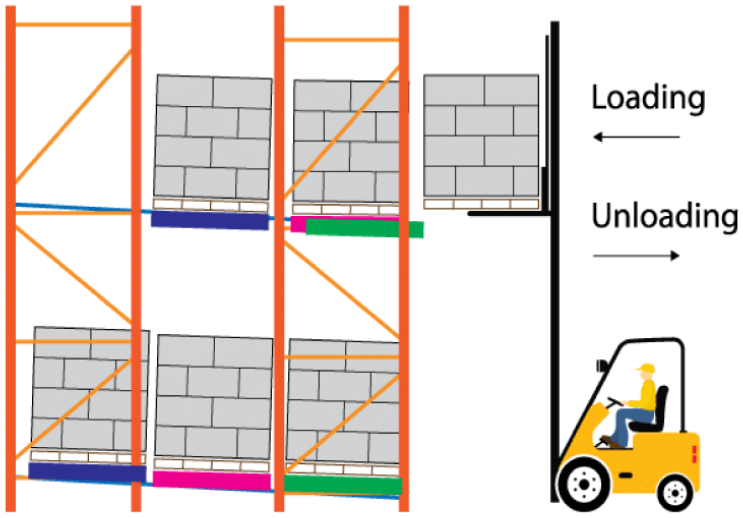
Ideal Uses

- Storage of frozen or chilled products.
- Storage of products 2-6 pallets deep.

Key Features

- Variety of configurations available with bay widths that accommodate single-wide or double-wide pallet rows.
- High density storage.
- Rack can be as high as needed.
- Allows access to multiple groups of SKUs simultaneously.
- More efficient picks, each lane can hold a particular SKU.



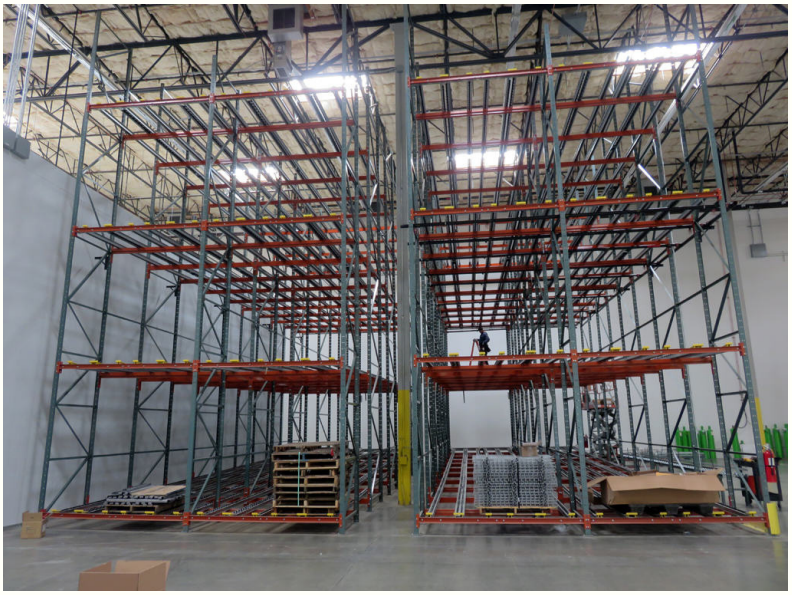


Why a Rack Supported Cooler and Freezer can be Ideal

If you're currently researching options for an industrial cooler or industrial freezer for your warehouse, consider combining both of these steps by implementing a rack supported cooler or freezer.

Integrating a rack supported structure for an industrial cooler or freezer offers higher storage density because the system will serve as the structural base. This eliminates columns or any other structural obstructions, allowing optimal space utilization.

In addition to higher density, combining the storage system and framework reduces costs and building time. Since both structures are constructed simultaneously, the timeline is often shorter, allowing operations to resume quicker. Rack supported structures can be worked into an existing warehouse design without building modifications.



Your Next Step for a Cold Storage Racking System

Now that you have a better idea of what which racking systems are ideal for a cold storage facility, we'd appreciate the opportunity to help you with the next step. Whether you are certain which system will work best for you or you are in need of more guidance, our experts are ready to assist you.

REB has a talented team of in-house project managers and engineers, all highly experienced in the material handling industry. We'll work with you to make sure that your system is the best fit for your operation, installed and completed on-time and within budget.

We'd appreciate the opportunity to help you further, whether that be more information or a quote. Email or call us to get in touch with a REB representative.

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