When it comes to pallet rack systems, cheaper is definitely not better

Knowing the total cost of ownership and avoiding risk are critical when buying new pallet rack systems.

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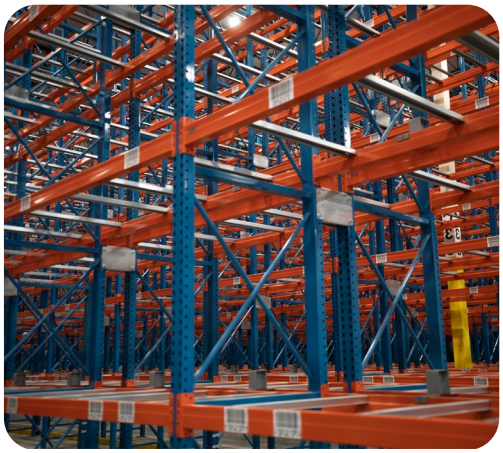
Shopping on price can work in some scenarios, but sacrificing quality, features, safety and warranties in exchange for cheaper pallet rack systems is a bad idea in today's warehousing and distribution environment. Price is of course an important factor to consider when shopping around, but you should also know that the cheapest product rarely delivers the lowest total cost of ownership (TCO).

Whether they're being used to increase storage capacity, reduce labor expenses, improve inventory management and/or operate a safer overall operation, pallet racking systems play an important role in any fulfillment operation. Selective racking, drive-in racking, pallet-flow racking, and double-deep racking systems help companies store large quantities of product in small spaces, organize those items for optimal inventory management, and operate more efficiently.

Looking beyond price

When determining the TCO for a pallet rack system, looking solely at purchase price may lead to much higher ongoing maintenance and loss-of-use costs over the life of the system. "A lot of companies treat pallet racking like a commodity and place their orders to whichever company has the cheapest price," says Raymond Weber, Eastern regional sales manager at material handling equipment manufacturer Steel King Industries, Inc.



"At one time, rack was classified as office furniture," Weber continues. "However, rack has since evolved into 125-foot-tall structures that form the skeleton of the building itself." And because they're site-specific, new pallet rack systems must be designed with the facility, its surroundings, and specific building codes in mind.

"What works on one side of town may not work on the other due to different seismic requirements [buildings in areas with a high risk for earthquakes, such as near a fault line, are designed to withstand more force than buildings in areas with a lower seismic risk] that don't only apply in California; they're everywhere now," Weber explains.

Another key consideration includes changing fire codes. For example, the NFPA new rules require a 42-inch-wide vertical flue space between multi-deep back-to-back rows which allows free flow of air and water in case of fire and a safe ingress/egress path for first responders.

Still another consideration includes determining how the racks will interface with the lift trucks, workers, ancillary equipment and safety features, and the building itself. For example, with many warehouse operators investing in automation right now, that automated equipment—order pickers, AS/RS, pallet shuttles, etc., must interface and work well with the pallet racking. If the right pallet rack system isn't in place, these and other dangers or inefficiencies can surface quickly.

"When one starts using more automation in the warehouse or DC, interfacing that equipment with racking becomes more complex," says Arlin Keck, corporate R&D engineer at Steel King. "The tolerances between the automated equipment and the supporting rack structure become tighter and more specific as compared to the tolerance between typical racking when a lift truck is used to move the pallets."

Selecting the best systems for your operation

When evaluating pallet rack system options for your facility, your first consideration should be the types and quantities of products that are being stored. For example, if you deal with a lot of heavy, bulky items, then you need a system that will support those weights and product sizes. If one is primarily storing smaller, lighter products, then a lighter-duty system will likely suffice.

The size of one's facility also comes into play, as does the warehouse's layout. A narrow. space-constrained facility may require a pallet racking system with narrow aisles, while a more expansive facility may be able to use a pallet racking system with wider aisles.

Regardless of which specific rack system one decides to pursue, one should look for a racking system that provides adequate clearance for quick loading and unloading; a workable interface between the building, racking, lift trucks and other equipment; and racking that factors in the potential damage costs, should something go wrong.

For example, a company that's storing hundreds of thousands of dollars in electronic parts may want a more sophisticated, expensive option than one that's mainly receiving, storing and shipping pallets of household or consumer paper products.

Also consider the environmental risks and related code considerations in your region. For example, rack systems located in seismic design category D, E, and F regions require seismic separation to prevent the racking from physically "hitting" the building during an earthquake event. Both the rack and building have to be able to individually "sway" without coming in contact with one another.

Following the Rack Manufacturers Institute (RMI) Standards and guidelines is also important. A non-profit organization that represents the interests of the industrial steel storage rack industry, RMI has developed Standards and guidelines for the design, manufacture, and installation of pallet rack systems. These RMI Standards are included as part of the International Building Code (ICB).

Other key considerations to include in a racking system request for quote (RFQ) include (a) the storage of fast moving versus slow moving products, (b) whether the goods require freezer, cooler, or ambient storage, and (c) the variability of pallets and/or container sizes and weights that will be stored within the racking. This is the time to think beyond stakeholders' "how much is this costing us per pallet position" argument and present a TCO picture that factors in all the risks and rewards of putting the best possible system in place.

"A lot of companies try to buy the most cost-efficient pallet rack systems without understanding the long-term maintenance costs and other risks involved with that approach," says Weber. This is important because once the systems are installed and being used, those initial decision-makers turn their attention to the next project. The onus is on the maintenance department to maintain, inspect, repair and/or replace any damaged rack.

The long-term maintenance costs add up quickly. "You may be able to save $200,000 by purchasing the lowest-cost pallet rack system, but if you're spending $50,000 a year on repair and replacement, your 4-year return on investment (ROI) goes right out the window," Weber points out. Other potential problems include lost pallet positions and storage space in an era when every square foot of warehouse or distribution space is valuable.

"If the rack is damaged, you're not going to be able to store product in that slot, location or bay, so you'll lose productivity," Weber says. "If that happens in an area where high-moving products are stored, the productivity, throughput and monetary losses will add up quickly."

"If you buy a cost-efficient rack and don't take care of it properly, it not only creates added maintenance costs, but it can also lead to an unsafe work environment," Keck adds. "If someone gets hurt because of it, that could turn into a million-dollar expense."

Minimizing and eliminating damage and risk

Having witnessed firsthand the costly damage, safety hazards, and poor outcomes that emerge when companies shop on initial price only when selecting a rack system, both Weber and Keck say they know most companies have good intentions during the RFQ process. However, things can change quickly when outside stakeholders who don't physically work in the fulfillment environment turn into the key decision-makers on such projects.

"Ultimately, there are still a lot of price shoppers out there and that scares us," says Weber, who tells shippers to explore the various accessories and safeguards that can be added to pallet racking systems to reinforce them and make them even more durable.

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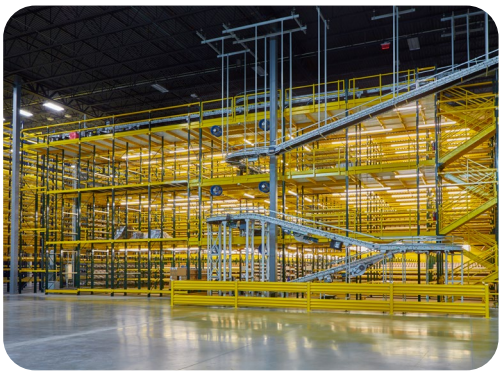
For example, the company mentioned earlier that spends $50,000 annually on rack repair and replacement can mitigate those expenses by adding column guards, post protectors, and other safety products to their systems. And while these may add $50,000 in upfront costs to your proposal, that investment will be recouped by the end of year one.



"A lot of companies fail to consider this because they assume rack in and of itself is invincible, but it's not," says Weber. "That's why many rack vendors offer guardrails, safety rails, post protectors, and other protective guarding solutions that help mitigate damage to the racking system and possible injury to the workers."

Keck also encourages companies to do a product risk assessment—carefully evaluate the risk of losing or damaging the actual product that's being stored on the racks—before making a buying decision. Palletized cans of food may weigh 3,000 pounds and be valued at about $250, but just one 3,000-pound die may cost thousands of dollars in replacement costs alone, not counting lost productivity, missed deliveries, potential loss business, and damaged reputation.

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The former may only require a system that can handle 3,000 pounds, while the latter should be placed on a more sophisticated or robust system that prevents product falling off the shelves, breakage, or damage.

"The more valuable your products are, the less you want to 'go cheap' when protecting the goods, the rack, and the equipment that will interface with it," Keck recommends. "It'll take your team an hour to clean up a palletized load of pork-and-beans, but you may very well be out of production for a month if a die falls and breaks. These are important points to consider if you're thinking about putting price first in the pallet rack system selection process."

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