

Get a Handle on **Material Handling**

Plan or reorganize your workspace to optimize efficiency, ergonomics and workflow

The concept of material handling—defined as the movement, storage, control and protection of materials, goods and products throughout the process of manufacturing, distribution, consumption and disposal—is probably applicable to every industry. The differences are in the methods, equipment, systems and controls used to achieve these functions. The material handling industry manufactures and distributes the equipment and services required to implement material handling systems. Material handling systems range from simple pallet rack and shelving projects to complex conveyor belt and automated storage and retrieval systems. The most common types of workspace and warehouse storage are component-based shelving and racking systems.

There's a lot to consider when you're planning or reorganizing a workspace.

Although shelving and racking seems straightforward to the novice, if you don't take into consideration the available vertical space, you can end up wasting a lot of very prime storage space and spending more on inefficient storage and retrieval practices.

People often want to place their storage racks in underused areas rather than the areas that are best suited for storage. You want to place your storage in an area that best allows for strategic flow of resources to and from workstations.

After you've looked at the available space and settled on a location for your storage, it's time to choose the type of storage that best suits your needs.

Rack systems are best suited for industrial applications. You will choose from the following types of pallet racks: selective, drive-in, double deep, pushback, very narrow aisle, pallet flow, carton flow and cantilever. If you are looking for smaller-scale shelving options, your choices involve modular cabinets, mobile cabinets, multi-drawer cabinets, long- or wide-span shelving, mini-racking shelving systems with or without drawers, work centres, computer stations, record or file storage, multi-level (mezzanine) shelving, tool storage or any combination of these styles.



Pallet racking in a food storage facility.

Clearly, the choices can seem overwhelming. Consult a knowledgeable product specialist before you make your decision. A qualified specialist not only can assess your storage needs but also provide layout and design options for your workspace.

Now you have to choose a dealer. There's a lot to consider in determining who's offering the most bang for your buck.

Product weight. While the weight of the system may not seem very important at first glance, it's actually your base measure for determining if the dealers who are competing for your business are quoting you similar material. That's because when you purchase pallet rack, you're essentially purchasing a commodity: steel. Manufacturers use different gauges of steel to produce their racking. The lower the gauge, the thicker the steel—and, hence, the heavier the pallet rack. Don't be fooled—make sure you're comparing apples to apples and not apples to oranges!

Assembly method. Although assembly method has traditionally not been an issue, several manufacturers have recently begun to market bolt-together pallet rack frames. Welded frames have long been the norm, and installation of welded assemblies

is a relatively simple matter of hoisting the uprights and connecting the beams. With the new bolt-together styles, you need to assemble the frame supports and posts before you begin on the actual rack assembly. On a large rack installation, this additional labour time can exceed any savings you may have incurred on the initial rack cost. You also need to ensure that the bolts are set to the correct tension and verify that all of the supports are correctly positioned along the height of your uprights. Having your employees bolt together the racking may affect your

product warranty. Be sure to take all of this into consideration when you're doing your pricing and assessing your risk.

Hidden terms and fees. Storage racks are like any other product. Some dealers will quote you a price that seems too good to be true and then hope that you don't notice the small print at the bottom. You want to understand every detail of the quote before you enter into an agreement with a dealer. Examples of hidden terms include:

- Payment only by credit card or wire transfer.

- Requiring a certain percentage of the total amount due be prepaid before the order ships.
- Offering free freight at the top of the quote and burying outrageous handling charges in the fine print.

Those are red flags: check your other quotes for similar terms. Also, before you give someone your money, ensure that you're dealing with a reputable business that has been operating for a reasonable amount of time.

Timelines. Dealers will often offer low prices because they don't have anything in stock and therefore no overhead costs to worry about. This means that although you may pay lower prices for your racking, you'll need to wait longer for the merchandise.

Freight costs. Choose a dealer that is near you or that is offering excellent freight and delivery rates. Large freight parcels are not only large in size, they are very heavy and sometimes fragile, often resulting with a need for extra care in shipping and added expenses. If you're shipping steel across the country, you're going to be spending serious dollars.

If you're going to purchase a new storage system, remember that your supplier designed the system to meet the most current applicable standards for your jurisdiction. He should be able to provide you with documentation attesting to that fact. Ontario, for example, requires a pre-start health and safety review (PSR) prior to a new "stacking structure" being placed into service. A PSR is a review by a professional engineer certifying that the system in question meets current design standards and that it is capable of supporting the loads specified. You can, however, obtain an exemption from your supplier, consisting of documentation indicating design, installation and use criteria and stamped and signed by a professional engineer.

Furthermore, if your warehouse contains an industrial storage system, you are obligated as an employer and owner to comply with the requirements of the Provincial Labour Ministry and Occupational Health and Safety Acts. Under Bill C-45, employers now face criminal charges for negligent actions in the workplace.

Purchase of a used storage system can create additional issues that must

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be addressed prior to use. As the storage system ages, it is subject to fatigue and, ultimately, catastrophic collapse. Rarely can an auction house or rack dealer trace the original manufacturer of the components. If you don't understand the original design criteria and specs of the system or how it was used—or abused—in the past, you'll be gambling with the safety of your employees.

As with any product, there is a life expectancy for racking. Many of the most reputable manufacturers will re-purchase systems only from their own customers and only if they are less than ten years old. Average life expectancy can vary anywhere from 15 to 20 years, but that's a misleading figure. If you use your roll-formed racking in a single-shift operation, five days a week, 20 years of life expectancy equals 5,200 working shifts. But if you're working in three shifts, seven days a week, you accumulate those 5,200 single shifts in less than five years.

If you find it absolutely necessary to purchase a used storage system, take a few precautions:

- Very carefully examine all of the components. Any component with any type of deformation (dents, bends, cracks, etc.) must be rejected.
- Any component with a twist or bend must be rejected. For example, if a load beam shows a downward deflection to it when it's not carrying any load, it has been overloaded and cannot be reused.
- Any component that has been repaired in any way must be rejected.
- Be aware of "refurbished" racking. Typically this consists of components that the seller has inspected for damage and repainted. New paint can conceal weld cracks and repairs. You've got no idea as to the qualifications of the people who performed those repairs.
- Avoid purchasing components that were manufactured by different companies. They may appear to be compatible, but each manufacturer fabricates components slightly differently, and those differences can jeopardize the integrity of the system.
- Any component with more than surface rust (rust that you can rub off



Industrial storage shelving with drawers for medical supplies.

with your finger) should be rejected, as true corrosion will typically accelerate at these locations.

Most importantly, and this can't be stressed enough: before you make any shelving or rack storage purchases, consult with a professional storage system specialist. ■

About Equipment World: Improve your company's efficiency with our expertise! Work smarter and save money with custom storage solutions to best suit your needs. At Equipment World we design systems with your business in mind. Whether you need a lot or a little more floor space, our modular components let you modify your shelving or racking as you grow for added value and flexibility. With better workstations, employees

have room to work properly so the workflow improves, safety increases and productivity goes up. We are an authorized SafeRack safety audit and training facility and have certified design and layout specialists on staff.

Equipment World, Inc., is a Northern Ontario-owned company specializing in material handling, storage and packaging systems since 1973. Headquartered in Thunder Bay with branch offices in Sudbury and Sault Ste. Marie, Equipment World is always sourcing new products that can create effective workplace solutions for industrial, commercial, retail and institutional applications. Equipment World prides itself on providing Great Value and Great Service! For more information, visit our website at www.equipworld.com or call us at 1-800-465-6955.

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