

Racking & mezzanines: **STORAGE**

When a facility's footprint is maxed out, warehouse managers often look up—not for divine inspiration, but for increased storage capacity in the form of rack and mezzanine storage systems. Here, four companies share their successes in using vertical space to achieve their goals of better customer service, organization, logistical control and picking efficiency.

By Sara Pearson Spector, Editor at Large

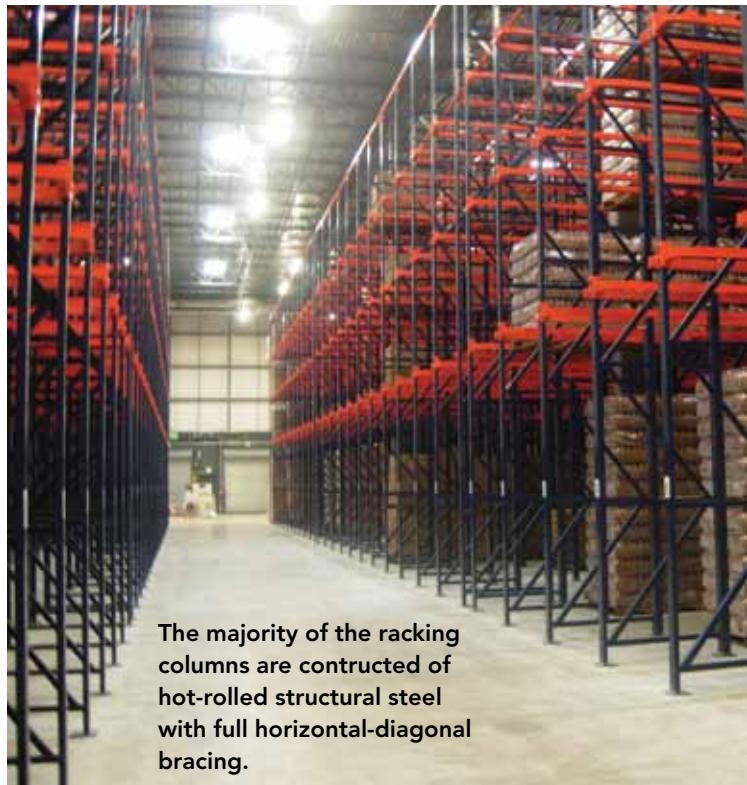
V. SUAREZ

Structural rack styles help Puerto Rican food and beverage distributor grow

Puerto Rico's largest food and beverage distributor, V. Suarez, had outgrown its patchwork of distribution facilities across the island. To enhance customer service, logistical control and efficiency when delivering 500 brands to 6,000 customers, the company consolidated distribution at a single facility.

"Consolidating warehouse operations under one roof allows us to pursue growth," says Wallace Santos Guzman, vice president of operations at V. Suarez.

Concerned about fork truck impacts, the company specified that the durability of the pallet rack be an important consideration. Working with a consultant at St. Onge, management chose selective rack, push back rack, drive-in rack, decked rack and carton flow rack (Steel King, www.steelking.com).



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Enhance your FOOTPRINT

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“Since lift trucks can do a lot of rack damage in warehouse operations, we chose to proactively handle the situation,” says Jorge Arsedá, who oversaw the project as St. Onge’s director of distribution practice. “While both structural and roll formed rack will support pallet weight, the structural rack we selected resists fork truck impacts much better.”

The majority of the racking columns are constructed of hot-rolled structural steel with full horizontal-diagonal bracing for enhanced frame strength and durability. For added protection against fork truck impacts, double post reinforcements were included on key uprights. Large base plates provide extra seismic resistance.

For the facility’s single deep rack, a boltless, closed tubular upright product was used. Beams are constructed of high-strength (55,000 psi minimum) steel, and holes placed on the column’s face—instead of the corners—to maximize strength.

In addition to tradi-

tional warehousing, the building is also a display facility, with suppliers and customers frequently touring its aisles. For that reason, the rack was powder coated to resist chips and scratches. Multiple finish colors provide additional organization through color-coding by use or inventory type.

More than 100 containers of racking were shipped by truck and boat from the United States to Puerto Rico in a precise

sequence to mirror the installers’ eight-phase schedule. This enabled the company to efficiently move into the new building on time over a long weekend.

The new racking—combined with a new warehouse management system—has yielded “better logistics, control and inventory management,” adds Santos Guzman. “We’ve improved our order fill rate and truly become a one-stop solution to our customers.”

PREMIER BEVERAGE COMPANY

Multi-level case-pick modules help beverage distributor ship 5,600 SKUs a day

To meet existing demand and accommodate future growth, Premier Beverage Company consolidated two of four existing DCs and its corporate headquarters into a single centralized facility in Tampa, Fla. The 520,000-square-foot warehouse receives replenishment shipments from suppliers during the day. After 6:00 p.m., order pickers converge on multiple pick lines to feed 20,000-plus cases onto eight conveyor lines for the delivery of 1,500 daily orders.

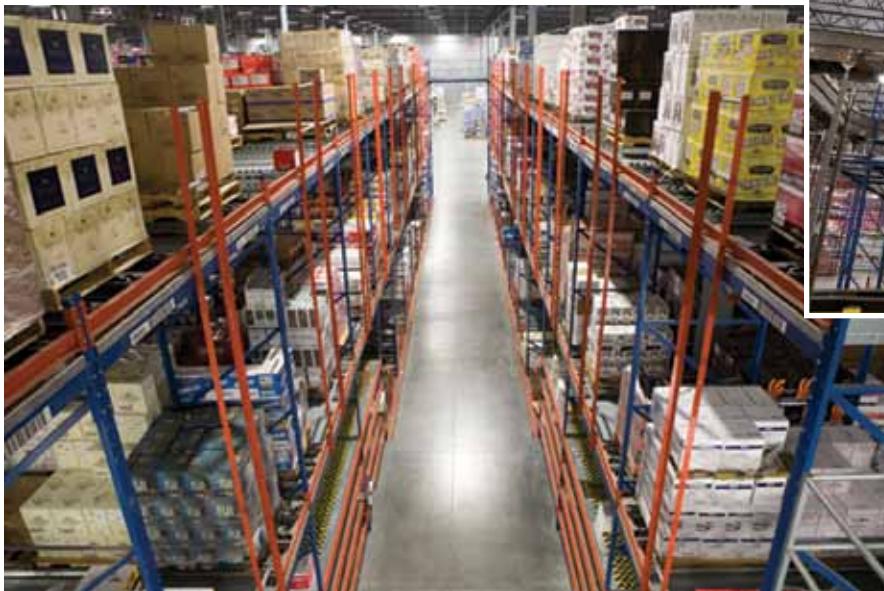
The facility’s storage system is integrated with pick modules and convey-

ors. Initially, the company didn’t consider structural rack for storage. “We assumed it would be far more expensive than roll-formed,” says Gregg Lipp, Premier’s director of operations.

However, upon evaluating potential suppliers’ case-pick module expertise and pricing, the company selected structural steel pallet rack, pallet flow and case flow racking, integrated into three-level, high pick modules to support cluster picking (Frazier Industrial, www.frazier.com).

The new facility’s system includes 12,000 linear feet of conveyor,





Premier Beverage's storage system is integrated with pick modules and conveyors.

12,000 pallet rack positions, 11 full-case and split-case pick lines and a 60,000-square-foot chill room for wine and bottle pick lines. A total of 5,600 SKUs and 20,000 cases ship each day.

To improve picking rates, case flow rack optimizes space by increasing the number of pick faces. Carton flow is used for the medium- to slow-moving SKUs on the floor level, with four-deep pallet flow rack on the remainder of the floor and upper levels. Several lanes of pallet flow rack handle selective full-case picking.

Additional floor space forms a walkway between lanes, creating access to all cases in rear pallet locations. This configuration creates maximum storage density while maintaining the required SKU selectivity throughout the modules.

In the chill room, more than 80% of the picking volume—up to 400 bottles per hour—is selected from the floor level pick line: four levels of 17-foot-deep, case flow racking onto a central conveyor line. The second level has 12-foot-deep, case flow with reserve storage on either side, while the top level's static shelving stores slow-moving, high-end SKUs.

Storing more than 12,000 pallets, 37 back-to-back rows of selective pal-

let rack are used to replenish the pick modules. To protect against fork truck impacts, row-end protectors and bull-

NEW BELGIUM BREWING

Mezzanine and platform system adds space for craft brewery

The third largest craft brewery in the United States—New Belgium Brewing in Fort Collins, Colo.—produces more than two dozen different beers. When the company needed to expand the brewery's footprint and add a new high-speed bottle-filling line, it became apparent that a custom-designed steel mezzanine and platform system would be integral to the system.

Requirements included an overhead platform to accommodate the bottle conveyor and depalletizer, while simultaneously incorporating elevations varying from 11.5 feet to 7 feet.



When evaluating mezzanine suppliers, the company looked at cost, ease and speed of installation and available custom engineering services. They ultimately selected a custom engineered solution that integrated stairs, ladders and crossover structures for access to the conveyor system. Installed, the mezzanine (Cubic Designs, www.cubicdesigns.com) covers a footprint of 1,750 square feet.

Constructed of steel, the mezzanine also supports a bottle conveyor, high-level depalletizer and ground-level infeed of filling equipment. The bottle conveyor makes a long decline from approximately 15 feet down to just over 10 feet.

The facility's expansion also required the mezzanine to incorporate an overhead platform to access the case palletizer located at the end of the bottle-filling line. This platform wraps around

A custom-engineered mezzanine with integrated stairs, ladders and crossover structures for access to the conveyors expands the facility without adding to the footprint. ▼



the palletizer to allow access to it as well as to the robot and conveyors that pass through the center.

Additionally, New Belgium was

pleased with the aesthetics of the finished mezzanine and platform system, having selected a powder-coat finish to support the existing branding scheme.

BETTER BAKED FOODS

Drive-in rack maximizes efficiency and storage density in freezer space

With demand soaring for its frozen French bread pizza products, Better Baked Foods needed to add a new food processing plant. A 250,000-square-foot facility, built in Erie, Pa., produces different varieties of pizza packaged as a frozen, ready-to-cook item. A 60,000-square-foot freezer stores the boxed pizzas prior to shipment for customers.

Taking the high operating cost of freezer space into account, the company recognized that efficient use of this specialized cube storage space was critical. The freezer had to provide high-volume, easily accessible storage of similar sized cases.

"Our processing lines run multiple shifts and produce a lot of product that needs to be stored until it is shipped," says Gary Kyle, warehouse distribution manager. "We needed frozen storage that was cost-effective and workable for our lift trucks."

For maximum storage density, the company selected a drive-in storage rack system with 1,750 double-stacked pallet positions (Ridg-U-Rak, www.ridgurak.com). The system stores product on continuous rails that allow lift trucks to enter the rack structure to place and retrieve pallets. To accommodate height restrictions, space saver rails were incorporated. The configura-

tion requires fewer aisles, increasing storage density by up to 75%.

The drive-in system is three levels high and five-, six-, seven- and nine-pallet positions deep. Because of how they are used, drive-in racks are typically subject to more abuse than selective racks, so heavy-duty slant-back support frames were installed on all entry points.

"The drive-in design maximized our freezer space and improved our ability to expedite shipments," adds Kyle. "This was the solution we were looking for." □



For maximum storage density in the freezer, Better Baked's system stores product on continuous rails that allow lift trucks to enter the rack structure.