



News Release

For Immediate Release

New Opportunity with New Warehouse Design, Pallet Rack

A new warehouse layout, pallet racking combo helps Generac tighten its supply chain, streamline delivery

Generac, an industrial and residential power generator manufacturer, knew it was time for a new distribution center and pallet rack system. Inefficient storage, picking, and shipping of finished product from an old, traditional warehouse was hampering employee productivity and product delivery.



"In the generator business, efficient logistics and delivery is especially important since spikes in demand can occur within 24 hours of severe weather, when customers require power generation," explains Adam Barber, a Generac industrial engineer tasked with improving warehouse logistics and efficiency.

After research and analysis, Barber sought to turn Generac's logistics challenge into opportunity by building a warehouse using an innovative fishbone aisle design layout with selective pallet racking. The fishbone aisle design can reduce warehouse logistics cost by 20% and speed delivery compared to traditional layouts, according to recent research by the University of Arkansas. Because the fishbone aisles combine vertical picking rows with V-shaped, diagonal cross rows, they allow fork truck drivers to pick product in an essentially direct "travel-by-flight" manner, avoiding traditional unproductive travel down parallel aisles to put away or pick product.

"Using the fishbone aisle warehouse design and pallet racking, we aimed to tighten our supply chain and streamline delivery to customers with existing staff," says Barber.

"To sustain operational efficiency, we needed a strong, reliable pallet rack that could withstand inevitable fork truck impact," adds Barber. "Open back uprights weren't up to the challenge in our experience. We wanted to avoid unloading product to fix or replace damaged storage racks, then reloading product."

For help integrating the right storage racking system with fork trucks and the fishbone aisle layout, Generac turned to Wisconsin Lift Truck Corp., a material handling and automated systems distributor.

Kristine Rauch, the Wisconsin Lift Truck industrial engineer who helped with system integration, recommended and Generac chose the SK2000 pallet rack, a boltless, closed tubular upright product by Steel King, a leading manufacturer of material handling and storage racking products.

"The use of Steel King's closed tubular upright design offered 250% greater resistance to frontal impact and increased strength to side impact," says Rauch. While easy, boltless assembly of the system within three weeks helped Generac meet its distribution center opening date, a number of other pallet rack features helped the company meet its strength, durability, and maintenance goals for use with the fishbone aisle design layout.

Compared to open back roll formed columns, the closed tubular uprights are 44 times more torsion/twist resistant, with 250% greater frontal impact resistance and 68% greater side impact resistance. All beams are constructed of high-strength (55,000 p.s.i. minimum) steel, and holes are placed on the column's face, not the corners, minimizing strength loss. "The strength of the uprights allowed us to add a necessary fishbone cross aisle for our fork trucks to pass through," says Barber.

To make their storage racking system even more fork truck resistant, Generac opted for Column Core column reinforcement, which can make the SK2000 rack five times more impact resistant at the front corners and sides where the upright is the most vulnerable. "As careful as our operators are, accidents will happen," says Barber. Unlike sheet metal placed in front of a rack, Column Core adds structural integrity that can help prevent downtime for rack repair or replacement."

According to Barber, column reinforcement on the bottom 24" of the rack provides protection from fork truck damage without interfering with product put away or picking, while the rack system's higher beam height allows it to hold all of Generac's generator products.

Because the rack is powder coated rather than painted with enamel, it's 94% more resistant to chips and scratches. "Properly used, the pallet rack will look and operate the same in 10 years as it did on install," says Rauch.

"Any volume manufacturer who wants to maximize the use of staff and facilities should consider the fishbone warehouse layout with a pallet rack like the SK2000," concludes Barber. "With them, we're tightening our supply chain, getting more from existing employees, and giving faster, better service to our customers."

For more info on tightening the supply chain with a fishbone warehouse layout/pallet rack combo, contact Donald Heemstra at Steel King, 2700 Chamber St., Stevens Point, WI 54481; call 800-826-0203; email: dheemstra@steelking.com or visit the website www.steelking.com.

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