MillerCoors taps dunnage innovation

When the beer giant revamped its dunnage processes, it realized significant cost savings, ushered in a safer work environment, and found a more fluid freight model—all while helping the company get a little greener.

BY **JEFF BERMAN,** GROUP NEWS EDITOR

When two large companies merge into one, there's inevitably going to be a convergence of operational facets. This proved to be no exception—especially on the logistics and transportation side—when domestic beer magnates Miller and Coors joined forces to become MillerCoors in 2008.

One of the biggest challenges right off the bat was for the new entity to get its sudsy products loaded onto trailers in a more productive and cost-efficient manner. For example, when the merger became official, MillerCoors discovered that they were using different sized pallets for loading beer onto trailers, says Raymond Reehm, strategic sourcing manager at MillerCoors.

"The decision was made to standardize on a 32 x 40-inch pallet and begin looking at optimizing our loading pattern in trucks," says Reehm.

Miller had historically used a 32 x 40-inch pallet and a bulkhead system, which was comprised of permanent, semi-permanent, and portable bulkheads using e-track bars, plywood, and 2 x 4 "A" frames. Reehm says the type of bulkhead previously deployed varied by carrier and brewery.

This led to a situation where the combined MillerCoors initially needed to determine what the optimal approach was for creating a false bulkhead at the front of a trailer.

"With beer being such a heavy product from the weight to the volume occupied, we had to create a false bulkhead at the front of the trailer," explains Reehm. "Our loads are only going to occupy 40 of the 53 feet in a trailer, and the load has to go into the center of the trailer and be able to come off the nose of the trailer before the first pallet is put in. It also has to be secured so loads don't shift forward and become disrupted."

To do this, the team created a bulkhead using various methods of disposable or highly unfriendly dunnage systems that were essentially wood and some cardboard.

Given the fact that MillerCoors typically relies on a common carrier network to more than 500,000 outbound shipments per year, it was providing each carrier it used with a bulkhead extension comprised of e-track bars, plywood, and 2 x 4 "A" frames for each trailer.

When the loads made it to a distributor, sustainability was not a core component of the process. In a typical scenario, they would remove the plywood and 2 x 4s, with the plywood, which Reehm said was good for 10 to 12 uses, usually getting returned, and the 2x4s getting thrown out.

According to Reehm, this expense of this first system, multiplied by the number of shipments, cost the company in the neighborhood of more than $10 million annually. "This was viewed as a necessary cost, given the processes we had at that time," he says. "Without that process, we could not ship beer."

What's more, injuries to staff were occurring as a result

By using a "false" bulkhead at the head of its trailers, MillerCoors is able to load more cost effective and productive shipments.

of handling two 55-pound sheets of plywood per load. The team found that this was a major contributor of stresses, strains, and splinters that were responsible for about 25 percent of MillerCoors' recordable employee injuries.

ROLLING OUT THE NEW

The relative inefficiency of this process, coupled with a total annual freight spend bill of $20 million when factoring in expenses related to dunnage and dunnage placement inside trailers, served as the impetus for Reehm and his team to see if they could find a way to handle things more efficiently and safely while also reducing costs.

"We looked at who else was using similar types of products and what enhancements we could deploy to make it more useful to us," says Reehm. While doing its due diligence the team came across Paylode, a provider of reusable, plastic dunnage systems, and decided to dig deeper into the company's offerings.

"We worked with Paylode to determine the optimal way of creating the proper space in the nose of the trailer," says Reehm. Ideally, the team was looking for a product that was adjustable because the load lengths vary between 38 feet and 42 feet. "So we needed something that had some variability in it and was cost-effective, making the reusability factor critical, too," he adds.

The testing rollout was launched in mid-2008 at the MillerCoors Trenton, Ohio, facility. The team started out with 20 loads and then another 100 loads a month later, followed by another 100-load test back in Trenton, and then more testing in Albany, Ga.

At this stage, the business case was finalized and MillerCoors went ahead and purchased its bulkhead spacers and separation pads—a move that set the change management process in motion. From there, the company sent initial truckloads to each of its eight national breweries so each location could get familiar with how things worked with the new dunnage system. This was followed by a major rollout in Trenton, followed by each of the other breweries.

"We first worked with the carriers without bulkheads because we had to construct 2 x 4 frames in their trailers," says Reehm. "We then went back and populated the remaining trucks, and then did distributor training. We ship to thousands of distributors in the U.S., so they needed to get trained on the returns process."

As with any type of change management process, this transition was not without a "pint" of employee pushback. But as soon as MillerCoors' staff started using the new dunnage, it quickly became "their new best friend," quips Reehm. One major reason for this was shifting from a 55-pound sheet of plywood to an 18-pound plastic separator pad, which is light, easy to use, and does not cause splinters. Shifting from plywood to plastic also brought about a 25 percent reduction in recordable injuries for MillerCoors.

"Change management became easy at that point," says Reehm, "because this new process was such an improvement in their eyes."

And while the new system was meeting with approval across the board, it wasn't without a few kinks that needed to be worked out, such as when the initial truckloads were transported to each of the eight brewery facilities.

MillerCoors had to intentionally make sure that its product was going to be able to be stored outside, which Reehm noted is a huge advantage of using plastic dunnage. While in theory, the cone-like shape of the dunnage was not supposed to hold any water, this is precisely what happened in the dunnage used in the Ft. Worth, Texas-based MillerCoors brewery. Reehm says they found that the dunnage was holding a small amount of water in the bottom, although it was supposed to drain water out whenever it rained.

"We met with Paylode to do a redesign on it in which they drilled a bigger hole in the bottom so the water would drain out better," adds Reehm.

Making a quick fix by drilling a bigger hole in the bottom of the dunnage eliminates having rain or stagnant water collect in it, which is considered unsanitary.

CELEBRATING THE BENEFITS

The move to reusable, plastic dunnage has certainly ushered in significant cost savings for MillerCoors. The company has reduced its total annual spend on dunnage and packaging for its trailers from $20 million to $12 million; and freight damages, that were once ringing in at around $3 million per year, are now down to less than $1 million.

On the sustainability front, MillerCoors met its 2015 goal to eliminate 20 percent of waste sent to landfills five years early, eliminating almost 7,700 tons of solid waste and saving 41,500 trees per year.

While MillerCoors has seen significant savings since this undertaking slightly more than three years ago, Reehm insists that more work needs to be done.

"One of the requirements of this system was that it needed to be very flexible, meaning we can adjust for things like changing truck weight limits on highways, which could happen in time," he says. "We need to be flexible enough to take advantage of future changes on the legal or regulatory front and will be ready to scale up when we need to."

And with such a flexible system intact, MillerCoors is looking at new and improved equipment like ultra lightweight and specialized trailers designed to carry heavier weights that will allow the company to be nimble while using a secure dunnage system. □

—Jeff Berman is Group News Editor of the Supply Chain Group

Taking it to the rails

While trucking is the predominant transportation mode for MillerCoors—90 percent of its product moves over the road—the remaining 10 percent is rolling on the rails.

And because rail is a mere 10 percent of its total freight mix, it is not any less of a challenge, says Reehm. In fact, moving beer via rail is a completely separate challenge from a cost perspective when it came to determining how MillerCoors could increase its rail shipment weight.

"We were only using a single tier of pallets per rail car, and we would have about 101,000 pounds for average weight with a capacity of 137,000 pounds—so we were shipping a lot of air," says Reehm.

Because MillerCoors couldn't make its pallets any taller, it took a different approach to increasing rail shipment weights: it made them shorter. This required double-stacking pallets inside of rail cars. To pull this off, MillerCoors worked with Paylode to develop custom-made dunnage that's now used to secure its rail loads.

"The rail environment is violent, so the ability to take the forces that occur in those rail cars have to be mindful of the design and take the abuse," notes Reehm. "To be in the rail environment, products need to be approved by the Association of American Railroads, which requires a lengthy certification test to make sure a shipper has the right product for the right environment."

The next step from here was to take these custom rail shipments to the MillerCoors testing facilities in Pueblo, Colo., and crash rail cars in impact tests at 6 miles per hour to make sure the dunnage worked in harsh environments. According to Reehm, this effort proved to be successful, leading to more efficient rail shipment processes for MillerCoors.

—Jeff Berman, Group News Editor