Stretch Wrapping Technology Reduces Line Stoppages

In 2008, Buffalo Rock Company—a private, family-owned Pepsi and Cadbury Schweppes bottler—had the opportunity to test Lantech's patent-pending No Film Break stretch wrapping machine. The company jumped at the offer.

"We were already planning to buy an equivalent Lantech rotary-arm machine—without No Film Break—and determined this alpha machine trial was low risk to us, with the manufacturer standing behind it and able to monitor its performance through an on-line connection," says George Garrison, general manager of manufacturing at Buffalo Rock.

"In the worst case, we'd have a few days of downtime to bring in a standard unit if the new-technology machine experienced excessive stoppages."

Far from being a source of line stoppages, the machine is all but ignored by operators in the area who tend to it only for film reloads. In fact, the No Film Break machine is so predictable that operators often load scuffed or partial rolls of stretch film that have caused stoppages on the seven other wrapping machines in the plant. Overall film yield has increased 15-20 percent, Garrison estimates, much of it due to consumption of these previously troublesome rolls.

"The most important issue for us with this or any other stretch wrapper," says Garrison, "is consistent output of the bottling line. When running at 40 to 55 pallets per hour, any stoppage at a stretch wrapper requires immediate response from the operators. That's just been a non-issue with this particular machine, and a first in our plant. The uptime improvement and ability to consume entire rolls of film are both great advantages to us."

New bottling line started 2007

Buffalo Rock is one of the nation's largest single-family-owned Pepsi-Cola bottlers. As a result of expanding into full-line vending, catering and food services, Buffalo Rock is now also the largest General Foods distributor. Founded in the late 1800's, the company established itself in the soft drink business with its own product, which is still made today: Buffalo Rock Ginger Ale. The company's main plant in Birmingham operates eight production lines for bag-in-box, canned and bottled beverages, supplying 45 million cases per year to its own DC's in the region, as well as others.

The company began installing the back half of its eighth bottling line in 2007, starting with a Busse de-palletizer, air conveyor and other systems, then installing a Bevcorp filler, PAI palletizer and Lantech pallet stretch wrapper in 2008. The new line produces a full line of Pepsi products, filling 400 2-liter bottles and 800 20-ounce bottles per minute.

"We'd had good luck with another Lantech stretch wrapper and contacted Piedmont National about a new machine," said Garrison.

The type of machine needed was similar overall to an all-new model ready for field trial with Lantech's patent-pending No Film Break technology.

"After seeing videos of this machine wrap loads from a roll of stretch film that had a hole cored into the side of it—without tearing the film—we agreed to accept it," says Garrison. "And that's the way it has performed for us since—head and shoulders above anything we've seen before."

Lantech's new rotary-arm straddle machine with No Film Break is designed for operations just like Buffalo Rock's, with an in-line high-speed palletizer. The machine can handle any type of consumer goods, industrial product or beverages, as well as shelf-ready packs and order-picked loads of mixed goods. It is rated at 60-80 pallets per hour, but available with a high-speed option for 80-100 pallets per hour.

The patent-pending No Film Break (NFB) system uses metered film payout. The roll carriage feeds out pre-stretched film, which then recovers on the load to produce the containment force. The machine includes Lantech's patented Pallet-Grip® load locking system as standard. Pallet-Grip attaches a load to the pallet with bottom wraps of film that have been twisted into a cable along the lower edge of the film web. The film cable is wrapped with 50 percent higher wrap force as it is secured below the deck of the pallet, while the remaining film web stays above the deck to secure the load. The wrap cycle positions the Pallet-Grip film cable above the fork entry area, which allows the fork truck to pick up the load without puncturing the bottom wrap of film and compromising containment.

Another unique feature introduced on the NFB machine is a new visual management system from Lantech that provides detailed productivity reports to floor personnel or, via Ethernet, to a central monitoring system. Data tracked and charted in the machine control include machine capacity vs. true utilization;

stoppages for starvation, blockage or film break; loads wrapped per hour, shift, day, week and month; loads wrapped per roll of film and a host of other key metrics.

The control also reports how many pallets can be wrapped with the film remaining on the roll, allowing operators to budget their time efficiently for reloading. The machine easily consumes the film down to the roll core without the usual end-of-roll tears. "Certainly all stretch machines can run a roll of film down to the core, but film breaks increase dramatically as the roll diameter decreases, so operators normally discard a partial roll and reload with a fresh roll to prevent line stoppages," explains William Caudill, Lantech Product Manager.

Buffalo Rock prefers 30-inch rolls of film, though No Film Break machines are typically set up for 20-inch rolls. The bottler uses 70-gauge Sigma film, and was averaging 161 pallets per roll with eight revolutions per pallet, according to a recent check of data in the machine's control.

"It's amazing to watch this new machine run rolls of film that have caused film tears on our other machines," says Garrison. "Our pallets all look good and snug coming off this machine, and if we were to need another wrapper anytime soon, we would consider the No Film Break technology as the game to beat."

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