

War on Waste

Winnipeg boxmaker cleans up its act with waste control technology

In today's day-and-age of lean and agile manufacturing, waste is a luxury that most companies simply cannot afford—be it a waste of resources, time, money, effort, or the more traditional manifestation of untidy piles of rubbish piling up all over the factory floor.

This is especially true for today's large-volume, high-output boxmaking plants that must consistently optimize all facets of their operations to achieve maximum efficiencies and production rates in order to maintain their profit margins at acceptable levels.

For folks at the **Cascades Boxboard Group - Winnipeg**, a division of the Kingsey Falls, Que.-headquartered recycled paperboard producer **Cascades Canada Inc.**, having a multitude of different box-making machines going all-out within confines of the sprawling, 170,000-square-foot facility naturally presents all sorts of daily waste disposal challenges.

But thanks to recent installation of some robust, made-in-Canada waste removal technology, the 200-employee plant—purchased by Cascades in 2001—can devote far more time to its primary mission of making high-quality boxes for the food-and-beverage industry, than for collecting paper scraps off the plant floor.

MAJOR PLAYER

"The Winnipeg plant has full service and production capability for the food packaging industry," explains the plant's maintenance supervisor Barry Doran.

"We have hundreds of different name brands that we deal with from all across western Canada and the mid-northwest United States," says Doran, estimating that

the Winnipeg plant turns out over \$40 million worth of paper-based food packaging products annually.

To manufacture all these boxes, the facility employs a fair number of different production machines supplied to it over the years by the Montreal-based **Bobst Canada Inc.**—including the leading-edge, 41-inch, high-speed, model **SP 104 ER** die-cutting machine the plant purchased back in 2002.

Still running as well as the day it was started up, according to Doran, the **SP 104 ER** machine runs pretty much around the clock in a three-shift, 24-hour operation, at maximum speeds of 8,000 sheets per hour.

"We have had a good working relationship with Bobst for many years," Doran told *Canadian Converting* in a recent interview.

"We have found them to always be interested in making these machines work as well as they can," he expands, adding that he really appreciates the way that Bobst people are always open to sharing their knowledge of the boxmaking machinery business to ensure

that any new Bobst equipment not only provides maximum performance, but also has no negative impact on any other plant operations.

"We look to our suppliers as part of our continuous improvement program on a regular basis," says Doran, recounting how Bobst was able to help the Winnipeg plant resolve its long-festering waste control problem.

"Before the adequate solution was found, we used conveyors to dump our waste into bins and wheeled it across the plant to a central compactor," Doran recalls. "It was largely a very inefficient use of manpower, and it created a huge mess on the floor."



Barry Doran, Maintenance Supervisor.

UNDER THE BELT

The tedious process was made worse by the high-maintenance requirements of the belt conveyor, he recounts, due to the waste paper constantly getting clogged between the rollers and the belts, as well as lots of paper scattered all over the floor after falling off the sides of the conveyors and at the transfer points.

"And once the collection hoppers were filled and replaced with an empty bin, which was very labor-intensive, the collected waste needed to be removed manually," notes Doran, saying the machines had to be shut down in order to prevent injuries.

These regular machine shutdowns and restarts were estimated to drag down the plant's productivity by about 10 per cent, prompting Doran to turn to Joanne Sullivan, sales and marketing specialist with Bobst's folding carton business.

"I work not only with our Bobst line of parts and



Three views of the Self-Contained Waste Removal System built by Industrial Metal Fabricators for the Winnipeg folding-carton plant.

equipment, but also with outside suppliers, in order to serve our customers better," states Sullivan. "As part of this, we conduct a lot of visits to our customer plants, where we are able to see first-hand a variety of improvements that could be implemented."

After taking stock of the Winnipeg plant's specific situation and requirements, Sullivan put Doran in touch with **Industrial Metal Fabricators (IMF)**, Chatham, Ont.-based machine shop specializing in the manufacture of pneumatically-based systems for the plastic and paper industries.

About two years ago, Bobst was so impressed with the **Self-Contained Waste Removal System** developed by IMF for one of its other clients, that it has since been offering it as an option to other prospective customers.

"The equipment in Winnipeg consists of a self-contained evacuation system, which is equipped with its own fan, venturi and live bottom hopper," explains IMF president Frank Van Oirschot.

In operation, elaborates Van Oirschot, the live bot-



Utilizing the new Self-Contained Waste Removal System enabled the plant to greatly reduce paper waste on its floors, as well as the machine downtime caused by a clogged conveyor.

tom transfer system pushes the paper towards the outlet of the hopper; the venturi pushes paper into the duct system, which carries it to a remote filtered collection station; the blower then energizes the eductor and generates the air flow to power the live bottom transfer.

According to Van Oirschot, both the hopper and the fan are insulated acoustically—helping reduce the noise levels in the production area—and the fully-enclosed system automatically transfers or conveys all the paper cut-outs made by the **Bobst SP 104 ER** die-cutter to the baler, completely eliminating the physical or mechanical handling of the scraps.

"Since installing the vacuum system and the baler right at the equipment, we have reduced the mess on the floor significantly, and we no longer need to move our waste half-way across the plant," Doran enthuses.

WORTHWHILE EFFORT

"We no longer have bins that need to be maintained or emptied. The vacuum extraction has worked very well in containing the scrap for delivery to the baler," he states, adding that the benefits achieved from the **Self-Contained Waste Removal System** have exceeded all of the plant's expectations.

"The IMF was willing to work with us and make modifications to the system, as we discovered what worked well and what could be improved," Doran remarks.

"This was definitely a worthwhile project—so much so that we are looking to add this process to our other Bobst die-cutters in the future," he adds.

"As a manufacturer of food packaging, we are obliged to follow strict A.I.B (American Institute of Bakers) regulations. We have maintained our Superior rating in part due to initiatives such as installing the waste

removal system from IMF, which has allowed us to keep our plant in tip-top shape."

With the boxboard business being as competitive as it is, Doran says having the benefits of such an efficient system on-site provides a real competitive edge.

"Our competition is every other packaging plant out there—not just in western Canada, but all over North America and overseas, as well," Doran sums up. "Our success is directly linked to our willingness to innovate and adapt to changes quickly and effectively—requiring a great deal of trust between our suppliers, customers, and the people inside our own plant. Change isn't easy, but it is required. To remain static is to go downhill, and we are just not willing to do that." □

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