Huhtamaki Takes Packaging Further with EB

By Rita Loof

Established in 1920, Huhtamaki Oyj is global consumer goods packaging company headquartered in Espoo Finland. Heikki Huhtamaki, a village baker's son, founded the company and led it to become one of Finland's largest candy manufacturers. Within several decades, Huhtamaki continued to diversify to include almost 20 different businesses operating under several different names. In the late 1990s, the company acquired several companies in the United States including Sealright, Packaging Resources and Van Leer, and divested many of the other operations. Presently, the company specializes in consumer packaging and has more than 70 manufacturing facilities with over 15,000 employees in 36 countries.

One facility's move to replace several flexographic heat-set presses, which used water-based inks, and replace them with one electron beam (EB) press was a natural fit with the company's commitment to environmental excellence and high quality.

As a global industry leader, Huhtamaki pledges to ensure that packaging products, while meeting customers' requirements for functional properties and the highest standards for hygiene and safety, are developed and designed to achieve prevention at the source, the use of renewable or recycled materials, and the recyclability of the packaging product itself.

One facility's move to replace several flexographic heat-set presses, which used water-based inks, and replace them with one electron beam (EB) press was a natural fit with the company's commitment to environmental excellence and high quality. The Environmental Protection Agency recognized the company's commitment to the environment by awarding the Los Angeles facility an Environmental Achievement Award in 2003 for work in the area of alternative cleaners for lithographic inks.

Process Description

Huhtamaki's Los Angeles facility produces rigid, shaped, paperboard food packaging, primarily used for retail consumer goods such as frozen desserts, dry soups and cereals. Products range from round containers with straight sides to nestable cups with tapered sides. Most container lines are available in a variety of volume capacities. The company supplies printed components as well as formed packaging, which is ready for filling. Huhtamaki also manufactures much of the forming equipment for the packaging components they supply.

The EB press at Huhtamaki's LA facility is a wet-offset web machine, with eight print stations. It utilizes four-color process, up to three spot colors, and over coats with a high gloss, scuff-resistant EB coating. The press uses digital printing plates, a system known as CTP or "computer to plate."

EB Meets Huhtamaki's Needs

When considering the switch to EB technology, some of Huhtamaki's requirements were:

- High throughput

- Offset quality printing
- Reduced time from graphics to production through CTP technology
- Environmental compliance with some of the strictest regulations in the country

The EB process made it possible for the company to print, coat, die cut, and ready the product for later conversion and/or shipment to the customer in a continuous, inline operation, without the need for extended drying times, sometimes associated with conventional offset.

Food contact issues were also a concern. "Because we make food packaging, and the printed, exterior surfaces touch the inside surfaces of the packaging during handling, we decided that EB was the preferred choice for our packaging end-use applications," commented Larry Eckhart, project engineer for the Los Angeles facility.

Overcoming Challenges

The EB process was the first offset printing application at the facility. The operations staff faced a significant learning curve. Most of the operators were internal transfers from the flexo printing department. A handful of operators were hired from outside, but among the available candidates, few had prior EB or web offset experience. Prior to starting up the press in Los Angeles, a key group of operators spent time learning its operation on a "sister" press located at another Huhtamaki plant in Fulton, NY.

Additional capital expenditures on infrastructure to support the EB press included constructing a climate-controlled pressroom, and installing a system for producing the digital printing plates.

Advantages of EB Process

EB inks contain few VOCs (volatile organic compounds) and Huhtamaki's reduced use of water-based flexographic inks in favor of EB inks significantly lowered facility-wide emissions. VOC reduction is advantageous since the facility is located in the South Coast Air Basin, which has the worst air quality in the nation and also some of the most stringent air regulations.

Cost savings ensued as the process of converting raw materials to finished product became more efficient with the EB line. "After studying the alternatives, the EB process proved to be the most cost-effective for our needs. We knew that the gains in printing efficiency would offset the relatively higher cost of EB inks and coatings," stated Eckhart.

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Conclusion

From its inception, Hutahmaki has taken pride in their commitment to their customers and to the environment. Electron beam technology enabled the company to unite its environmental stewardship policy with their promise to produce a superior product while remaining competitive in today's packaging market. ◗

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