

Flexible Packaging Printer Discovers EB Technology

By Rick Sanders

The Lithotype Company, located in South San Francisco, Calif., has embarked on a boldly different approach to deliver high-quality flexible packaging. The company currently serves the food packaging industry including ice cream novelties, stand-up pouches and lid stocks.

They recently installed an eight-color offset press and an EZCure Electron Beam (EB) to surface print and coat mono-web, polyester and polypropylene films with EB-curable inks & coatings.

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—Tim Killoran, vice president of sales and marketing, Lithotype

Many converters in the flexible packaging industry reverse print a film using solvent- or water-based flexographic presses. These reverse printed films are then laminated to a second layer of film using a laminating adhesive process.

This multi-web, multi-step approach has provided certain desired properties like high gloss, graphic protection and stable COF.

Lithotype’s approach also provides customers with these same high-quality flexible packaging properties. However, their process has the potential to provide these attributes with improved quality,

shorter delivery times, improved quality controls and a reduced price.

Let’s look at why Lithotype chose this process.

Improved Quality

Offset printing can provide superior print quality when compared to standard flexographic printing. This is why Lithotype invested in a new eight-color offset press.

As Tim Killoran, vice president of sales and marketing for Lithotype says, “The eight-color offset printing technology increases the visual quality of the package. The customer can expect dramatically increased print fidelity—including greater detail and contrast, better registration, and more brilliant and accurate colors compared to the flexographic printed product.”

Shorter Delivery Time

Let’s examine the steps required to make laminated structures for the flexible packaging marketplace. As stated above, many converters reverse print on a clear film and then set the printed film aside to await the next step.

The next step in the process is to laminate, or glue, another layer of film to the reverse printed layer. Many converters use a solvent-less adhesive formulation that can require several days for the adhesive to cure. The adhesive needs to bond to a certain degree before the laminated structure can be moved on for further processing. Slitting the web to generate smaller sized packaging material can be difficult if the adhesives are not cured correctly.



Samples of flexible packaging utilizing EB technology.

Occasionally some films will not laminate properly to each other. Additionally the uncured adhesives can attack or “etch” the inks and reduce the quality of the printed image. This type of damage creates waste but also requires the customer to wait until the job can be re-printed, re-cured, re-laminated, re-slit and shipped. As such, delivery times become even longer than normal.

Lithotype has chosen a process that eliminates some of these pitfalls. EB-cured inks and coatings provide high gloss with excellent graphics protection. They surface print polyester film and place a protective EB coating over the ink. Due to the instant cure nature of EB processing, Lithotype can print and coat the films, slit, and then ship product to its customers immediately. Jobs that may take other converters weeks to process are reduced to days.

Improved Quality Control

During the curing process with adhesive laminations, quality control (QC) checks are periodically made to ascertain that the adhesive is indeed adhering properly. These QC checks

usually identify “bad” product, but not in all cases. Bad product can include poor bonds of the films to each other or air bubbles trapped between the film layers. Unfortunately, some “bad” product can be missed and shipped to customers.

With the instant cure nature of EB processing, product quality control is immediate and completed in real-time. As a result, Lithotype can assure consistent product quality immediately after the job is printed. The time and costs that time-cured laminates require is avoided.

Reduced Price

By utilizing EB technology, Lithotype eliminates the need for the second layer of film. Eliminating the second layer of film reduces the material cost of the package itself. Furthermore, the time it takes to print and ship the product to their customer is reduced.

Conclusion

“For more than 40 years, we have worked to continually evaluate and upgrade our processes and equipment.

The addition of the eight-color offset press and using EB technology provides customers an even higher level of print quality, faster service, lower costs and greater responsiveness for their packaging requirements,” Killoran says.

By replacing laminated structure with EB-cured inks and coatings on mono-web film, Lithotype has taken flexible packaging to a bold new level. ▀

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