THE U.S. BASED CARTON CONVERTER ADDS BOBST PLASMA TREATERS TO ITS ARRAY OF CAPABILITES.

BY NICK GRIFFIN

DIAMOND PACKAGING'S COO DAVID RYDELL (RIGHT) AND CONVERTING MANAGER JOHN WHITELY

DIAMOND TAKES ON CHALLENGING SURFACES

At Diamond Packaging in Rochester, New York, innovation for changing market needs is one of the most consistent factors in the company's long history of success. Founded in 1911, Diamond has evolved with the industry throughout the 20th and 21st Centuries, continuously working with the best technology available to push the boundaries of what folding cartons can do.

The company began when boxes were simply a means to get a product safely from point A to point B, but has since become an industry leader in value-added packaging, creating cartons, blister cards and related highly decorative packaging that stand out on store shelves, and engage the consumer with the brand.

Over 80 percent of the work that Diamond does today is for the cosmetics and personal care industries, in which the aesthetics of the packaging play a large role in the product a consumer chooses.

Diamond utilizes highly advanced and difficult techniques such as eight-color printing over foil and windowed packaging with all materials, without compromising durability. "We like to use three or four decorative processes for any given project," says David Rydell, Chief Operating Officer. "That kind of work really separates us from the competition." In fact, Diamond Packaging specializes in difficult work, taking on the sorts of challenges that many other companies would shy away from. Virtually all of the steps of its projects are completed in house, overseeing each individual detail of production. This means testing and tinkering with multiple available options to find the best solution to meet customer's needs.

One such solution is the Bobst Plasma Treater. Simply put, this add-on device uses high voltage electricity to superheat air, breaking atoms into super-charged ions. This stream of ionized gas is then directed through a nozzle which is positioned,

immediately prior to glue application, at the flap that will become the glue joint of the carton. The ions break down the surface tension of the substrate, essentially creating a "roughing" effect which allows it to hold more adhesive, thereby creating a much stronger glue bond.

"We work with foils, metalized polyboard, laminates, and other specialty coatings," says John Whitely, Converting Manager. "These are typically glue's worst enemies, surfaces that glue just doesn't want to adhere to." That sort of product mix is what led the company to plasma technology. "Initially we had one particular high-end project that was spec'd as using a specialty acetate laminate overall – over the glue flap and everything. We couldn't find an adhesive that was aggressive enough to reliably stick," Whitely says.

After consulting with several different glue suppliers, Diamond contacted Bobst, and the company provided a Plasma Treater for a trial. "That enabled us to have a much more aggressive and consistent bond," he says.

Because Diamond Packaging specializes in decorative and difficult work, the Plasma Treater has become an important tool in its arsenal. "Prior to having this capability, we had done some plastics and laminate projects. But there was always a cure time. We would glue the cartons and then have to wait 12 to 14 hours for the adhesive to set," says Rydell. "We wanted something that we could evaluate coming right off the gluer."

By changing the surface tension of tricky materials, the Plasma Treater creates a consistent, high quality glue bond, without the errors and guesswork that usually comes with difficult adhesive jobs. Once Diamond started using the Plasma Treater, the company "went from having an intermittent glue bond to achieving 90 to 100 percent adhesion consistently," says Whitely. "And now we know what's coming off the back of the line is good."

A large part of the Diamond team's work is problem solving, and that is, in essence, what the Plasma Treater does. Whitely says, "For instance, if a converter were to inadvertently UV coat an area intended for adhesive they could salvage the job by using plasma to create a solid glue joint. That one job alone could potentially pay for the plasma unit itself. So that was another aspect in our decision, knowing that should we have an error upstream in the processing we would still be able to deliver a quality product to the customer."

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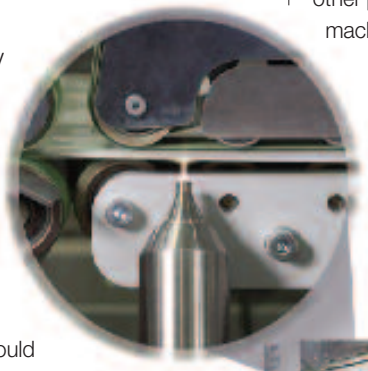
With each process that Diamond performs on a job comes more time and effort. However, there are some machines that make the job easier. "The plasma unit has never been a restraint, in fact in most cases it enables us to run faster with more reliability," says Whitely. Unlike some add-on machinery, the Plasma Treater is easy to operate and very low-maintenance. While other pieces of equipment can slow down work on the line, "The Plasma Treater has never held us back," Whitely emphasizes. "In fact, it enables us to run faster with more reliability. And you know right away that you're getting a very high quality product right off the gluer."

Diamond now owns two Plasma Treater units that are highly portable, and easily moved between its seven glue lines. The units are one of the many tools Diamond uses to solve the problems that customers bring to them, but they're a favorite among the operators on the line. As Rydell explains, "A lot of times when you add ancillary equipment to a folder-gluer such as labeling machines, in-line windowing capabilities, or multiple glue systems with in-line detection, it adds a lot of extra work. But the operators know when they put this on, that it's as simple as hooking it up, putting the trigger on, and after that it takes care of itself. It's one less thing they have to worry about, where all the other pieces of add-on equipment on the machine are occupying their time."



The BOBST Plasma Treater is a self-contained, roll-around unit that is easily moved between machines and set-up in minutes.

DIAMOND PACKAGING

Market Leader

At Diamond, doing more means developing techniques internally, pushing the market forward, and expanding what packaging can do along with its capabilities. Pressmen at Diamond perfected the process of printing over foil, so they didn't have to use metalized board to achieve the look routinely requested by customers. "We take specialized jobs and tinker with them." Rydell says. "We figure out how to get them to work and work well."

The industry has recognized Diamond's commitment to problem solving through innovation. In 2013, Diamond received 15 packaging awards for its work, including Folding Carton of the Year in the 70th Annual North American Paperboard Packaging Competition, and Best of Show, in the 27th annual packagePRINTING Excellence Awards Competition. And, of enormous pride to the company, Proctor and Gamble has twice chosen Diamond as an "External Business Partner of the Year" – one of only 12 to 15 suppliers annually to receive that distinction out of more than 80,000 global suppliers.

As the packaging industry transforms to meet the needs of the 21st Century, Diamond leads the charge. This means finding the best possible people, the best possible suppliers, and of course, the best possible equipment. Tools like the Plasma Treater help Diamond take on projects that the company once could not, and to uphold its commitment to do more for its customer. "The Plasma Treater makes us 100 percent more efficient on specialized projects because it lets us succeed rather than have to deal with inconsistency. We like to stack the deck in our favor using several special technologies," contends Rydell with a smile.

Diamond Packaging plans to continue to push the boundaries of what its products can do, and views the Plasma Treater as a key component in future innovation. As Whitely says, "We're really just getting started with this technology and we think that there will be many more benefits that we'll realize as we go forward." ■