

# WHAT YOU NEED TO KNOW ABOUT COMPUTER-TO-PLATE TECHNOLOGY



*Imagine this situation:* You're with your boss on her first visit to your new folding carton supplier's plant. Everything's going great until you get to the printing department, where your job just went on press. That's when she comments: "Our logo on this packaging should be red, not black." Your stomach sinks.

What would your supplier say?

When Jan Steiner, President of a West Coast folding carton manufacturer and Independent Carton Group (ICG) member, faced this exact situation with a major new customer, she responded immediately: "No problem. We'll have new plates on the press by the end of the plant tour."

Welcome to the world of computer-to-plate technology.

## THE BASICS OF COMPUTER-TO-PLATE

Before computer-to-plate (CTP) technology, producing plates involved the use of films. The process started with digital or hard copy artwork. Packaging companies would first generate color separations (cyan, magenta, yellow and black versions of the artwork), which would be used to make films. Color separations were often produced by an outside firm, adding time and scheduling uncertainty. Once films were prepared, light was exposed through them to make an image on the photographic material on the surface of the plates. The end result was plates

(one for each color) which were used on the printing press to transfer ink to a paper substrate.

Computer-to-plate technology, in contrast, produces plates without the interim step of making films. Digital artwork files, after appropriate preparation, are sent directly to a digital platesetter, which produces plates directly from the digital file. No films required.

## BENEFITS OF CTP FOR PACKAGING

CTP technology offers a number of benefits in the production of folding carton and litho-laminate



packaging. However, the extent of these benefits will vary depending on several factors.

The most obvious benefit of CTP technology is faster turn-around times. Eliminating the need to produce films can reduce the time needed to make plates from one week to a few days—or, in extreme cases, to as little as an hour.

"It used to take seven to ten days just to get proofs to customers," says Lisa Hirsh, President of an East Coast ICG member that produces litho-laminate packaging.

"We used an outside firm to prepare color separations. If they were busy, you could add another day or two to the process."

Three years ago, her firm bought one of the first Agfa large-format CTP systems sold in North America. "It allowed us to bring the entire plate production process in-house. The time it takes to get a job on press dropped to two or three days, including getting word back on proofs from the customer." This is especially beneficial for customers who make frequent changes to package graphics and thus frequently require new plates.

This faster turnaround time also allows packaging buyers to catch mistakes earlier in the process. "When we get a disc with artwork from a customer, we get them proofs the next day," comments Ms. Hirsh. "Before we

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had our CTP system, it would take a week to get them proofs. If there was a problem, we had to wait another week for new proofs."

And in the rare instance when a customer catches a mistake with a job that is on the press? "We can have new plates on the line in an hour," says Ms. Hirsh.

An additional benefit of CTP systems is better image quality. Because plates are imaged directly from digital files, CTP systems do not result in the generation loss experienced with films. Combine this with superior registration, and plates produced by CTP systems allow sharper dots than do film-produced plates. As a result, press-related dot gains are reduced, allowing press operators to lay down greater ink densities and run jobs with finer line screens.

"The quality improvement is significant, especially when you're printing faces, food items, or other high quality graphics," notes Jan Steiner.

CTP systems are also supposed to reduce costs, although results can be mixed. They eliminate expenditures on consumables such as films and the chemicals required to produce them. They also require much greater automation of the printing workflow, thus reducing labor costs and human error. "Since we installed our CTP system, we've virtually eliminated plate remakes," comments Erik Peterson, Operations Manager at an ICG company that specializes in packaging for industries such as pharmaceuticals and biotech. This has resulted in significant cost savings.

But significant up-front capital costs and on-going maintenance and upgrade expenses can offset these savings. In addition, the cost savings associated with faster make-ready times can be elusive. "We haven't seen a huge difference in make-ready times," says Lisa Hirsh. "We were already good at getting our jobs up-to-speed; our CTP system has helped us more in other ways."

So although CTP systems offer many benefits, cost savings isn't necessarily the biggest one.

## THE CHANGING FACE OF PROOFING

Proofing has been one of the biggest challenges associated with CTP systems. Traditional film-based systems provide the opportunity to generate proofs made from the same films used to produce plates. Therefore, packaging buyers know what they see on a proof is what they will get from the printing press.

The absence of films in CTP systems makes generating an accurate proof more challenging. Until recently, digital proofs associated with CTP systems could not match colors with 100% reliability. But that's changing.

"We found the quality of the latest generation of inkjet printers just incredible," says Erik Peterson. Incorporating technology developed for digital photography, today's top-end inkjet proofing systems are able to accurately reproduce not just process but also spot colors. Some inkjet printers can even generate halftone dots, although with today's technology dots are not necessary to match colors.

To ensure accurate representation of colors on proofs, Mr. Peterson's firm profiles, or fingerprints, their printing presses using profiling software. This data allows them to match house densities to the inkjet proofer. The same software can be used to calibrate inkjet proofers at locations of the packaging buyer. This allows for accurate remote proofing, in which an electronic file is sent directly to the buyer's printer.

But proofing for color can still be a challenge for many packaging firms with CTP systems. Inkjet proofing systems made before 2004 will provide excellent proofs for content, register, fit, trapping and other areas related to the final print. But if exact color matching is essential, firms without the latest proofing systems will need to provide ink swatches for spot colors and use an outside supplier to produce a dot proof for process colors.

And even the latest generation of inkjet proofers cannot print on the actual packaging substrate. If a color proof on the substrate is required, even firms with the most recent inkjet proofers will need to provide a press sample or dot proof from an outside vendor.

## WHAT IT MEANS FOR PACKAGING BUYERS

The bottom line is, CTP systems allow packaging suppliers to offer a number of benefits for buyers of folding carton, litho-laminate, and other types of packaging. But CTP technology is not always a panacea and not necessarily important for all packaging buyers. There are a number of things to keep in mind.

First, you should decide if it is important, for your specific packaging needs, to have a supplier with a CTP system. You are most likely to benefit from a supplier with CTP technology if:

- You have frequent changes to your graphics, requiring frequent plate changes;
- Premium image quality is essential; or
- Turnaround time and speed-to-market are important to your business.

On the other hand, if you make long print runs with existing films and rarely have copy changes, it is probably most cost-effective to keep your business in a film-based platemaking environment.

Second, talk to your packaging supplier about the kind of proofing system it uses. Ask whether they fingerprint their presses to match ink densities to their proofing system. If you are concerned about the color accuracies of proofs, ask them to provide comparisons of digital proofs to press samples. This will help your organization become comfortable with digital proofing. If you are still concerned about exact proofs of match colors, ask for an ink swatch on the type of substrate your packaging is printed on.

Finally, ask your supplier or potential supplier if they have adopted a fully digital workflow. The more the printing workflow—from prepress through to the printing lines—is automated, the more your supplier will reap the benefits of CTP-related efficiencies. It will also allow for more seamless communication between your organization and theirs.

Ultimately, it's important to remember that just because a supplier has a CTP system that seems to meet your needs perfectly, it doesn't mean that they will meet your needs in other ways. A mammoth packaging supplier with an inflexible organization will not be able to turn around new plates in an hour whether they have a CTP system or not. So as you assess a supplier's CTP capabilities, don't forget that other considerations like responsiveness, flexibility, and overall cost structure will always be paramount.

## FURTHER INFORMATION

Further information on CTP systems is available from the following sources:

- [http://graphics.agfa.com/pdf/white\\_papers/wp\\_ctpreview\\_1\\_2004-02-25\\_en.pdf](http://graphics.agfa.com/pdf/white_papers/wp_ctpreview_1_2004-02-25_en.pdf)
- <http://www.dotprint.com/technology/prepress/ctp/>
- [www.gain.net](http://www.gain.net)

You are also welcome to contact the Independent Carton Group at (203) 270-7578.

*Agfa, the approved supplier for CTP systems and plates for ICG members, provided technical information and other assistance in the preparation of this white paper. For more information about CTP systems, contact Agfa or any ICG member.*