



## ending the dance: no more tradeoffs in black ink

Thermal inkjet technology now offers mail printers a black ink designed for coated paper, bringing sharp, dark blacks, faster print speeds and ease of use.

### win new business

Small to medium mail print shop operators face an old compromise when it comes to diverse media such as coated stock. Get a rich black, but at slower speeds...or print faster, but with a weaker black. It's a dance to avoid slow production and poor quality—between winning new business or losing it to bigger printers' shops.

Now HP Versatile Black Ink makes the compromise obsolete. Specially designed for coated (non-porous) media, new HP Versatile Black is a true one-ink, thermal inkjet solution that achieves sharp, rich black on uncoated (porous) media as well. It prints with the same high quality on premium-coated media. It even prints on Tyvek® and some types of varnish.

HP Versatile Black Ink will bring new opportunities to small-to-medium print shops. These shops range in size from an office with a tabletop machine printing 3,000 pieces an hour to a mail printer business with mail tables and conveyors producing up to 25,000 pieces an hour. Whatever their output, these companies have been dancing as fast as they can to print more and more coated pieces. In fact, coated applications—envelopes, flyers and tri-fold mailers—now account for up to 50 percent of their work. And these numbers continue to grow as more customers request high-quality pieces with snazzy graphics and customized messages.

A coated mailer has the premium feel and vibrant colors that get readers to respond. Such high-quality printing is especially important to the direct mail industry, where success depends on consumer response. Direct marketers annually send 45 billion pieces of mail, of which less than one percent gets opened. Any technology that increases that rate gives marketers an edge.

Improvements in thermal inkjet technology have already made high-quality mail printing a reality. These non-impact, electronically driven printers use hundreds of tiny printhead nozzles that each eject a single drop of ink on a surface to form text or images. Because the nozzles fire at high frequency, this high-quality printing is also speedy. Originally developed for desktop printers, thermal inkjet is designed to be inexpensive and easy to use.

As direct mailers increasingly personalize their pieces, thermal inkjet is becoming the technology of choice. It's a cost-effective way to print sharp, clear addresses, company logos and messages, postage and postal indicia—giving large and small mail printers more opportunities for profit.

Low cost of ownership is another big thermal inkjet advantage. A thermal inkjet printer can cost tens or hundreds of thousands of dollars less than other printing equipment, lessening the market entry cost. Operating costs shrink, too, because operators do not require special training and production downtime is minimal. Changing ink is as simple as snapping in a new cartridge. Anyone can do it quickly and cleanly—just like on a home printer.

Thermal inkjet printers feature modular components, so they can be easily serviced or reconfigured to adapt to changing business or market needs. Printheads are disposable, so if they become damaged replacement is a snap. The lower costs of the printhead means a company can keep additional supplies on hand without tying up excessive capital. Moreover, thermal inkjet printers run quietly and take up less space than other printing equipment, so they are not intrusive on the production floor.

HP's thermal inkjet inks are also environmentally friendly. HP inks are waterbased—not solvent-based—so there are no harmful fumes to create extra challenges. Printing companies don't need to buy special cleaners or hire service technicians qualified to handle volatile solvents.

## **the tradeoff in black**

Small to medium print shop operators know the drawbacks of printing black ink on diverse media. Above all, they're looking for a black ink that equals the print quality and drying time of spot color inks.

When printing 15,000 to 20,000 pieces per hour at 600 by 300 dpi, drying time can be especially critical. A fast drying time keeps printers producing at a faster rate. Fresh off the printer, coated and uncoated media output ends up in stacks. If the ink doesn't dry quickly, pieces will stick together—what printer operators know (and dread) as "transfer." Operators avoid transfer by placing coated surfaces under a heater to facilitate drying, though timing and temperature for individual inks can prove tricky.

There's also the issue of sharpness and richness. On both coated and uncoated media, the black should show nice crisp edges. Some mail printers use continuous inkjet technology, which produces a steady stream of ink and prints bigger drops than HP's drop-on-demand thermal inkjet technology. This can mean darker but less crisp text and images. When operators can't get sharp, rich black on coated paper, they look for alternatives—such as preprinted address labels—to complete the job. Alternatives, however, may not be the most attractive complement to a slick, colorful mailer.

On coated media, a rich black ink should have a good optical density. Ideally, the density or intensity of the black ink should match the better standard black ink printed on uncoated surfaces.

Until HP Versatile Black Ink arrived on the shelf, all-around quality could be hard to achieve without switching ink, or paper, or both. When operators change paper, often they must change inks to get a better black. For mail printers, this means keeping an expensive inventory of inks, yet still running the risk of not having the right one. Alternatives might include resorting to inferior black inks or switching to a machine that offers the right black ink for the job. Again, this means losing money to downtime and manpower.

To beef up ink inventories, ink suppliers offer remanufactured cartridges that may present a price advantage. Yet remanufactured cartridges containing black ink, whether pigment- or dye-based, can lack richness and appear green or blue in color. Another trade-off may be slower drying times, which increases the chance of transfer and smearing.

Ink itself is not the only drawback. Some printing technologies may print fast, but they pose other challenges involving cost, maintenance, service and training. Traditional continuous inkjet machines can cost more than thermal inkjet machines, for example. They also require multiple printheads, or press operators who must be specially trained—and paid more. Add that to downtime for machine warmup in the morning, and watch print costs swell.

## **hp's breakthrough black ink**

Before new HP Versatile Black Ink, printers could get a nice black on coated media, but only by printing slower. Or they could print faster with a less rich black. They had to dance to the same old tune.

Not any more. HP Versatile Black Ink dries fast by bonding better, avoiding the transfer printer operators dread. How fast? For coated media, HP Versatile Black Ink dries in less than a second in the heater. There's no dryer required on uncoated media. No smear on either coated or uncoated media. That means faster production, which translates to higher throughput and lower costs.

To achieve a better optical density, the new Versatile Black Ink is pigment-based. That means a rich, intense black with no tradeoff on speed. HP Versatile Black Ink also gives mail printers the ability to print sharp, rich black and high-quality spot color on coated paper in a single pass.

As an HP proprietary ink, Versatile Black is backed by HP quality. It has been tested again and again under diverse stress conditions. And it comes in an original HP cartridge for guaranteed ink fill.

Fast drying for higher volume production. Richer, sharper, black density. Less downtime. Ease of use. For small to medium mail printers, all this adds up to the same low cost of ownership they've come to expect from other HP inks. HP Versatile Black Ink lets them run the more expensive, higher quality jobs they once had to dance around—or pass on. They can offer better quality at a better price and go after the same business commercial printers seek. With HP Versatile Black Ink, the old dance has come to an end.