

## DIGITAL PRINTING INSIDER

FOR TRANSACTIONAL,  
DIRECT MAIL, AND  
INPLANT PRINTERS  
JULY 2013

# THE INKJET PAPER CHASE

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TOGETHER WE CAN DO ANYTHING.

## THE INKJET PAPER CHASE



JOHN CRUMBAUGH, MEDIA AND INK MARKETING EXECUTIVE

John is recognized by the industry as a leader in inkjet technology. He has been actively involved in print for over 20 years, with most of that time involved in the development and growth of digital and inkjet printing technologies.

Paper has always been critical to the printing process. After all, paper is both the raw material and the end product. Nowhere is that more apparent than when transitioning to production inkjet printing. Paper selection will have a tremendous impact on the production quality and profitability of your inkjet solution. The same image printed on different "inkjet suitable" papers will require different amounts of ink to produce similar output quality. As the ink density or Total Area Coverage (TAC) increases, some papers may not perform well – leading to bleed through or changes in the paper surface that could interfere with the proper operation of finishing equipment.

Paper also has a tremendous impact on the yield of a liter of ink. Even among papers tested for inkjet production, the difference in ink use for the same application and similar quality could vary by 50% or more. That extra ink usage can add up to hundreds of thousands of dollars within a year or two in a high-volume shop. You

may be thinking, "So why wouldn't I just buy the paper that lets me use the least amount of ink?" Good question. The challenge is that the papers that allow you to use less ink cost more money – often substantially more. In general, inkjet papers can cost nearly twice as much as offset papers. So, the challenge is to strike a balance between target quality, minimized ink use and paper cost.

Given the critical importance of selecting the right paper on the ROI for inkjet, paper manufacturers and inkjet OEMs are stepping up to support customers with testing – and it's not a small job. The first step is to test a paper's suitability for inkjet printing in general, looking at issues like:

- Color density
- Color gamut (treated papers generally enable a larger color gamut than standard uncoated papers and a pigmented paper surface will expand the gamut even further)
- Line quality and color to color bleeding
- Print uniformity (mottle, coalescence)
- Ink drying behavior
- On-line abrasion
- Waterfastness
- Lightfastness

Based on its performance in these tests, a paper may be deemed suitable for inkjet use – but that's not the end of the process by a longshot. According to John Crumbaugh, Media and Ink Marketing Executive with Canon Solutions America, "I can know everything there is to know about a particular paper, but if I don't know what the customer wants to use it for I can't say that it is suitable. Transaction printers and marketing fulfillment companies have very different paper needs – even running on the same press." This calls into question the practice of "certifying" papers for inkjet. There may be certified papers that are not suitable for all inkjet applications and non-certified papers that are perfectly appropriate. "We prefer to say that we evaluate papers for suitability for inkjet, and then help our clients to select the right paper for their particular needs," says Crumbaugh. "We've

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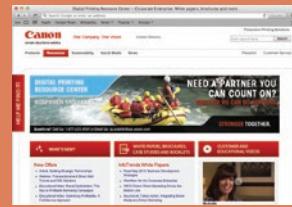


Océ Inkjet Technology,  
Part 3: Inkjet Color  
Management & Media

Paper is a critical element in the success of any inkjet project. From design, through paper selection, testing and printing, the whole process needs to be done right. This video thoroughly explains the use of papers for inkjet printing.

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## Questions?

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## THE INKJET PAPER CHASE (CONTINUED)

tested hundreds of papers and we work closely with the paper mills to give feedback on the performance of specific papers and to communicate the needs of our customers."

There may be a broader choice of papers available than you think. Bill Verplank, Transactional Market Manager at Rollsource emphasizes, "It is important in the early stages to work closely with your OEM. Proper profiling and optimization of the sheet can make many non-treated papers perform with the color outcomes one needs. Dialog that leads to your choice is important. The OEM can make a variety of substrates work."

So from the universe of "inkjet suitable" papers, the right paper for an application needs to be chosen, tested and profiled. If you are going to tackle the paper testing process yourself, Howie Fenton, Senior Consultant with NAPL, recommends a disciplined process including:

- Development of a "test suite" that is sensitive to the unique issues of different presses and representative of the applications to be printed in production
- Objective evaluation criteria that can be measured with a spectrophotometer
- Subjective criteria to be evaluated by a pre-selected group of "judges"

"The identification of metrics and the approval criteria emerges once you start comparing different papers, different measures, and different opinions," says Fenton. "You learn what is acceptable and what is not acceptable and then identify your upper and lower control limits."

However, since many customers who are new to the inkjet world don't have much experience with this type of testing, press OEMs and leading paper companies provide consulting services to test and linearize papers. These services can be a great time saver since an experienced paper expert can profile each paper in a couple of hours where a print professional with less paper testing experience might require 4 to 8 hours per paper, causing significantly more downtime on the press.

Of course the press and paper combination does not tell the whole story. Once an acceptable paper is profiled, this information must be used properly and optimally throughout the whole color workflow process from design to print. "It is not about one item; it truly is the entire workflow," suggests Mary Schilling, Digital Application Manager at Finch Paper. "I have seen some wonderful papers, profiled correctly but printed badly because of bad design, color space or improper PDF format. Remember, you get out of it what you put into it." And in the case of paper, when you put the right effort into testing and selection, what you get is better color with less ink.

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Watch the *Océ Inkjet Technology, Part 3: Inkjet Color Management & Media* video.



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