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Digital papers, digital printing and lots more!

9 Digital Printing Options to Blow Your Mind

We were stunned by how far digital printing had come – the quality, the colours, the substrates that could be utilized. But that was more than five years ago – nothing prepared us for the abilities these presses have now.

For several years, I was one of the proud judges of Xerox's PIXI Awards. Part of the excitement for the panel each year was taking note of the latest advancements. We watched as colour reproduction quality grew higher and higher. And we laughed about people who believed that digital would never rise to the standards of offset.

And while our crystal balls were oh-so accurate back then, I don't know that any of us could have foreseen just how far digital printing technology was destined to go.

Fast forward to 2013 ...

The *Rebus* book from Margreff is one of a kind. What started out as a promotional piece for drupa 2012 soon became a showpiece for great design and superb digital print quality and astonishing processes.

Just before the holidays, I received my copy. I leafed through the book, ooohing and aaahing along the way. Who would have thought digital presses could do this?

"There is no way a digital press can do this," an industry friend of mine proclaimed quite adamantly. He had just spoken to his local Indigo rep, and he was sure, absolutely sure ...

With printed proof in hand, I want to share with you some of the amazing things digital can do these days. I'm talking about much, much more than ink on paper. I'm talking about the bells and whistles ... and chimes too!

Adding Bells and Whistles

For the non-initiated among us, let me share a quick analogy. Digital production presses are like smartphones. You buy the phone, and it can do the basic calling and texting (read four-colour printing). To really take it to town, you start adding apps for the things you use or enjoy the most.

As new technologies arise, digital printers can do something similar to their presses – add a function or capability. Which new bells and whistles they choose depends on the market they serve, the niche they want to carve for themselves, and their clients' wants and needs.

Here are some of my favorite bells and whistles (as of March 2013 anyway!):

1. Paper and other Substrates

All the digital bells and whistles are wonderful, and I can't wait to see what they'll think of next; but no matter how great these special effects are, you need the right substrate to handle the digital printing process and to feature those bells and whistles in the proper light.

I was pretty shocked when I spoke to a young designer at a well-known studio the other day. As we talked shop, the topic of digital printing naturally rose. (I say naturally as 90% of designers utilized digital short runs in 2012.)

She was rather frustrated with the process though, as in her words, "You only had white paper to choose from." Seriously?!

Now I know there are some bad printer apples out there who always take the easy way out with their clients (there are in every industry and printing is no exception), but what a way for sales reps to miss out on the incredible opportunities digital substrates provide these days.

Yes, there are coated sheets – gloss and dull and other finishes in between – but let's not stop there.

On last count – and I know this because the core of PaperSpecs is the amazing paper database our members have access to – there are 554 papers available to you when you want to print digitally.

Of these, 298 are uncoated papers. With your classic smooth and linen finishes, laid, eggshell, but also linear ones and other embossed finishes.

Then there are metallic options with a colour range from Pearlized White all the way to Juniper Berry.

And where synthetic sheets a few years ago were still unsuitable for digital printing (the heat of the digital press environment caused them to melt), this is now by far the fastest growing area of digital substrates. The choices range from white sheets to clear film.



Metallic paper



2. PMS Colours

A major question I still hear from designers and colour-minded print buyers is *how are we supposed to simulate good – make that great – PMS colours with only cyan, magenta, yellow, and black?*

Pantone and press manufacturers have worked together to advance colour capabilities – from the number of colour choices to the accuracy with which they are rendered.

For example, since late 2004, Pantone has been certifying Kodak's NexPress assuring us that it can achieve commercially acceptable colour matches for a large number of PMS colours.

"The Kodak NexPress is licensed by Pantone and uses Pantone colour data developed specifically for the printer to provide optimal representations of Pantone colours on all configurations of Kodak NexPress Digital Production Colour Presses," explains Andy Hatkoff, vice president of Electronic Color Systems, Pantone Inc.

With the fifth imaging unit attached, the NexPress can achieve an extended colour gamut, simulating 86 percent of Pantone Matching System (PMS) colours. The results achieved with this combination are impressive.

HP Indigo prides itself on offering the widest colour selection in the digital printing industry. And they do offer various PMS matching options.

Most Indigo-minded print service providers (well, all the ones I know) run at least five colour units. With a fifth colour unit on the press, your printer can self-mix or readily order Pantone-licensed spot colour inks.

Another press configuration can run up to seven colours – cyan, magenta, yellow, black, orange, violet, and green – a definite enhancement for the simulation of PMS colours. This configuration claims a 97 percent match rate.

And if oh-so-close is not enough for you, HP even offers a Custom Special Inks Service. For years, you've been able to take any colour sample to your local paint store and ask them to create a matching paint. HP now offers the same for your print project through this service.

3. Print Big(ger)

Well, I'm not talking wide format big here (that's a story for another day), but today's digital presses can go beyond 8.5" x 11" or 11" x 17".

The average NexPress allows for a 14" x 20" sheet size while newer models go up to 14" x 36".

Leaving their 12" x 18" world behind, Indigo presses are moving up in size as well.

"The new 20" x 29" sheetfed press, the Indigo 10000, will begin shipping in March 2013," explains Vivian Cohen-Leis-orek, strategic marketing product manager at HP. "It's currently being tested in beta sites around the world. The Atlanta HP Graphic Arts Experience Center has had one of these for a few months already."

With its 29 inch format and built-in duplex mechanism, the press makes it possible to digitally print pocket folders, six-page brochures, posters, and large lay-flat books in one pass.

With the arrival of the iGen 150, Xerox has moved up in size as well from the average 14.33" x 22.5" to the wider 14.33" x 26".

4. Metallic Inks

To achieve any shiny metallic effect when printing digital, you had to settle for a metallic paper and print CMYK on top. Not for much longer though my friends. At last year's drupa, NexPress debuted its new Gold and Pearlescent Dry Ink solution.

The beauty about these inks is that you are not limited to just gold ... oh no. You can create thousands of different variations of gold-toned tints or different effects by putting combinations of process colours underneath the gold.

Even though announced mid-2012, these inks are not yet commercially available in North America. The estimated time of arrival was originally set for October 2012, and I am still waiting anxiously. I wanted to include this new option so you know it's around the corner ... and you can anticipate all the fun with me!

In the meantime, you have hundreds of beautiful metallic stocks to choose from, all certified for their respective digital presses.

5. Spot Varnish

Kodak's ClearCoat has been around for a while. It looks like a satin aqueous coating and can be used as a spot or flood coating.



Spot gloss varnish

While not exactly a coating, you can also simulate a spot gloss effect with translucent inks. Xerox's Color 800/1000 Presses and HP Indigo's 7x00 presses offer this option, which provides the same visual effects, if not necessarily the same level of image protection.



Raised ink effect

6. Texture

The transparent ink I mentioned above can be used to create a raised-ink effect (think thermography) as well.

"Transparent ink and raised printing are mainly the same, but in the case of raised ink, the transparent ink is laid down up to 50 times," explains Harald Margreff of Margreff Druck und Medien GmbH Germany.

Translucent ink allows you to create embossed-style textures on substrates to give ordinary applications a boost of creativity and uniqueness.

While this effect raises a type or pattern all to one level, Kodak's dimensional printing can be set to produce variable heights, so you can more closely mimic the texture of a specific image.

The textures especially appeal to our tactile senses. It allows your printed orange to actually feel like the piece of fruit, and your baseball image can have the typical rough leather texture to it.

They're all simple, affordable ways to add striking creative impact to digitally printed materials.

7. Emboss and Deboss

Yes, you read right. This is one of my favorite new processes. To be precise, HP uses the expressions "textured effects" and "reversed textured effects."

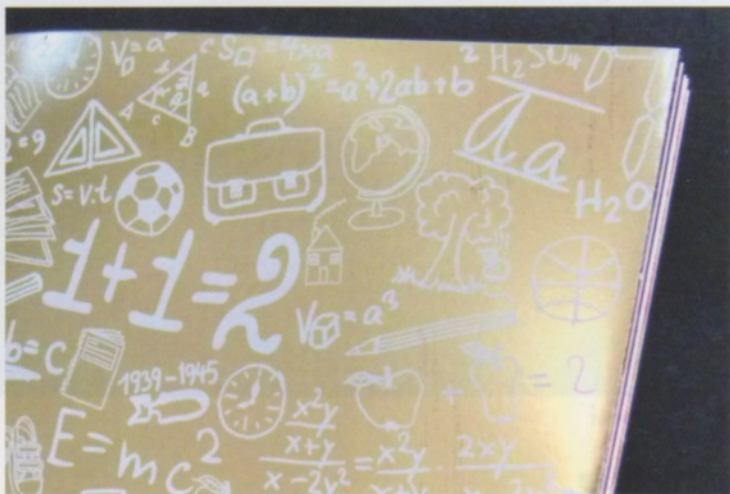
"Granted, you cannot compare this effect to classical embossing, but this is not the aim," elaborates Margreff. "The idea is to give a special effect to a small-run, high-quality print product ... and that it does very well."

The type or patterns to be "embossed" are impressed into the paper from a mold created on the press using layers and layers of a special ElectroInk. This gives the paper an embossed (or debossed) look that is created without leaving ink behind.

8. White Ink

Creating white type or a white graphic on a dark background has been done with this tried and true method: spec a white sheet and reverse the type or art out of a double hit of a dark ink, a rich black, or a process build of a dark colour.

This is a perfectly practical solution, which I've used numerous times myself. But in most cases, this means you limit yourself when it comes to tactile options. Plus, there's the telltale edge of the paper that remains white. And don't forget that smooth-looking solids can be tricky for some digital printers to achieve.



White ink on silver foil



White ink on uncoated paper

But about a year ago, HP recognized the potential of white as a sought-after design element and created a white ink to run on its Indigo presses. I, for one, was jumping with joy. This meant a whole new world of paper options had opened up for designers. Dark, textured stock with white type? No problem!

In fact, creatives also need to ask themselves, "How white do I want it?" Let me explain. Since white inks are not 100 percent opaque, this means you can play with the effect of the white ink on dark-coloured stocks.

You may want a translucent result that allows the paper colour to diffuse up through the white ink. You may want a truly opaque white, which requires multiple hits.

"At B Squared, our white ink pricing includes four to eight hits of white ink, and we often run multiple versions at the proofing stage to help our clients understand the varying impact," explains Megan Smith Valdez, director of Client Services at B Squared.

Keep in mind that in the digital realm, more hits do not necessarily translate into multiple passes. So while multiple hits of white are more expensive than a straight CMYK digital job, it still makes the white on dark stock option more cost effective than its offset counterpart – particularly if the project is a short run.

"As a general rule, a job with white ink is about three to four times the cost of a standard four-colour digital project," explains Valdez. "We often position white ink as a substitute for white engraving or white foil – you don't have the tactile qualities of these finer finishing techniques, but our solution is digital, so it's quicker and generally less expensive. The white also functions beautifully as a backdrop to 4-colour process on clear substrates, providing an opaque background."

If you're thinking the creative possibilities have exploded with this advancement alone, you'd be right.

9. Variable Data

When it comes to digital printing, there is of course the now-ubiquitous variable data capability. Yes, the options are astounding, but if I see my name written in sand one more time...

I know you agree with me. But then again, you and I are more attuned than the average consumer to print (digital or otherwise) and tend to notice details like this (and registration and flesh tones and ...). :-)

But beyond having my name included in the printed piece several times (sand and all), there are wonderful opportunities to really target an audience and deliver exactly what they are interested in at the time. From images that reflect their lifestyle to trackable personalized URLs and two-dimensional barcodes that deliver specialized content.

Amazingly, a recent industry study revealed that the top ten projects designers are printing digitally did **not** include variable data. Postcards, flyers, sales sheets, invitations – yes my friends, not one of them mentioned variable data printing.

My explanation for this is that very few clients actually have the ability (or willingness) to collect and mine the data necessary to ensure variable data printing is used in a meaningful way.

Oh the options!

If you're a designer or print buyer, let me issue a word of caution. Not every printer will have all the digital capabilities I've listed in-house today, but they definitely have access to all these amazing papers.

And as for the technology, start the conversation and let them know you're interested. Then keep on the lookout for the next astonishing options to hit digital presses. It won't be long. As they say, "I'm sure there's an app for that (soon)!" :)))

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