

## Showing Off Digital

Presstek demonstrates the precise registration abilities of the 52DI.



Participants in this month's IPA Digital Print Forum (results were released June 8th at the IPA's annual Technical Conference) were given the opportunity to run pieces showcasing the special abilities of their digital presses. Presstek's compelling sample, printed on its 52DI, featured CMYK, metallics and a combination of varnishes, run in multiple passes on each side of the sheet. While not revolutionary for a 7-unit press, it is impressive and a bit surprising to see the small-format direct imaging offset press run a 7-color job in three passes with direct imaging, and handle metallics in a waterless environment.

Printed on NewPage Sterling Ultra Digital 100-lb. gloss text, the first pass was Pantone 877 metallic silver, followed by a color-rotation reverse of KCMY. The silver leaf is a duotone, with the black being added in the KCMY pass. The third pass applied trapped dull (highlighted above in magenta) and gloss (highlighted in yellow) spot varnish, with no varnish applied to the metallic, to keep it bright.

The second side, gold and black, ran a more conventional CMYK for the first pass, creating a 4-color rich black of 100% K, 30% C, 21% M, 21% Y. The second pass laid down Pantone 871 metallic gold and the third consisted of trapped dull and gloss spot varnish, again leaving the metallic ink unvarnished.

The design was developed to demonstrate the unique characteristics of the 52DI—one of two presses to use direct imaging offset engines for the IPA comparison—that allow it to run rich and complex pieces requiring multiple passes in tight register. The four chemistry-free plates are imaged on-press in precise register per pass. A central impression cylinder and zero transfer printing (ZTP) prevent misregister during the run, and the stream feeder has a vacuum pull guide for right or left side edge alignment on the feed table to ensure register from pass to pass.

### Fine Print, Concentric Halftones

The precise registration enabled crisp rendering of 8-point reverse type knocked out of the rich black background—always a tricky technique to accomplish. Concentric screening, a technology developed by EskoArtwork and certified for use on the 52DI, also helped. The halftone dot technology divides the conventional round dot into thin concentric rings, so there is less ink usage, greater color purity and a wider color gamut.

The waterless printing process used by the landscape format press facilitates heavy ink coverage, resulting in a vividly printed piece. Faster drying time between passes through the press and fast change-over between passes, including automatic cleaning of rollers, make it feasible and cost-effective to run complex pieces.

The technology effectively bridges the 500 to 20,000 run length gap between toner and conventional offset. ■

Something you don't see every day, multiple passes on a direct imaging offset press created an unexpected strong example of what's possible on DI machines.

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