

BRIDGING THE GAP

Syd Northup discusses optimised ink-jet proofing for sublimation offset printing production

The ability to create digital proofs that depict and match the customer's desired image, and then reproduce those images in a production atmosphere, has been an issue for the greater printing industries for as long as there have been proofing devices. Add to that the dye sublimation process and the chance for an accurate, cost-efficient and optical match from digital to offset drops considerably. However, there is now a proven solution to the age-old problem of matching digital proofs to offset production.

The typical work flow for sublimation offset production starts with the graphic design file being sent to the offset printer, where it goes through pre-flight and is checked and amended for colour hue and optical density. The design is then output by a sublimation ink-jet printer and transferred onto the customer's final substrate. Minor changes are made to the art file and a suitable digital colour copy is created and approved by the customer.

The file is then sent to the plate department, where the computer-to-plate (CtP) software creates the first set of plates. These plates are hung on the press, production starts, standard densities are achieved and the first pulls are transferred onto the customer substrate. More often than not, the offset result does not look nearly as good as the ink-jet proof, as they might differ in overall colour accuracy or optical density.

At this point, the pressman begins to adjust ink density levels, starting and stopping the press each time to transfer a new press sheet at different ink densities. The offset press cannot match the approved ink-jet colour-copy and the job is kicked back to the pre-press department, which now tries to fix the image by manipulating the original file in

the graphic software. This results in the burning of new plates, and the production cycle begins all over again. On critical jobs, it's not unheard of for this circle of corrective action to go on for hours, creating wasted time and expensive materials, and a loss of the customers' patience and confidence.

BRIDGING DIGITAL AND ANALOGUE TECHNOLOGIES

The solution to this costly problem begins with the ink manufacturer. Gans Ink and Supply Co has more than 35 years of experience in analogue sublimation ink manufacturing, and possesses the specific knowledge base to create the bridge between the digital (ink-jet) and analogue (offset) technologies. In late 2009, the company completed development of what it claims is a unique matching process which, when implemented creates a consistent, repeatable and incredibly accurate turn-key digital ink-jet sublimation matching system. Then, it created a proprietary method of successfully linking the output of the front end (digital) to the output of the back end (analogue) to create perfect or nearly perfect matches consistently, with little or no adjustments required in either digital or offset. In most cases, the initial set of plates is the only one required and the first pulls match the ink-jet generated proof.

How is this solution achieved? The initial steps in setting up the process begin in the pre-press area. The ink-jet printer, with proprietary software installed, is linearised to the desired optical density and colour gamut and the process then moves to the press-room. The press is readied to print and the pressman is asked to run at prescribed achievable and realistic density levels the printing of the Gans Ink linearisation form. When those levels are reached, the printed sheets are then pulled for transfer and analysis.

After a series of densitometer readings and algorithmic calculations, it's time to go back to



Laboratory facilities at Gans in Los Angeles

the CtP and re-linearise to the now-measured specifications of the offset output. At this point, the linking solution is complete, and a unique plate profile is locked in for that particular substrate. For each new substrate, this process would need to be duplicated to ensure a reproducible match between the proof and the finished product.

OVERALL BENEFITS

The benefits to this solution are many. There can be huge cost savings to the offset printer in the form of reduced plates, ink and paper usage, as well as press downtime and overtime wages. The investment to achieve these reductions can be recouped in a very short pay-back period. Another advantage is the enhanced colour gamut that can be achieved on the offset press. An ink-jet printer, by its nature, can produce a richer, more saturated product than an offset press; but once the linearisation is set with this process, whatever is achievable on the ink-jet printer can be reproduced on the offset press.

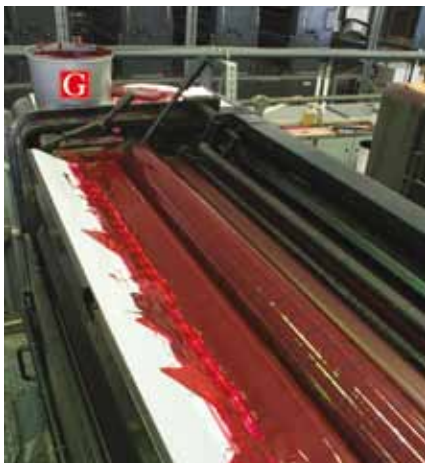
Yet another benefit relates to the graphic design aspect. Whether the design department is in-house at the offset printer or an outside independent, an ICC profile can be created that allows the designer to work within the identical colour space that is achievable both in the ink-jet printer and on the offset press. This allows the designer to produce realistic images and colour saturation levels that can be reproduced in the sublimation ink-jet and offset environments.

It is the belief of the author that no solution like the one described above is in existence today. The 'art' of offset sublimation printing can now be more scientifically approached to create consistent and reproducible results while minimising costs associated with the offset process. ■

Syd Northup is Inkjet Division Manager at Gans Ink & Supply Co

Further information:

Gans Ink & Supply Co, Los Angeles, CA, USA
tel: +1 770 499 7077
email: syd@gansink.com
web: www.gansink.com



Gans sublimation offset inks on a Heidelberg offset press



Pyrojet sublimation inks proofing on an Epson Stylus Pro 9890 ink-jet printer