10 TIPS FOR DIGITAL PRINT DESIGN

Digital printing is a growing part of most book publishers' production and fulfillment strategies. Designers are familiar with the nuances of offset printing because of its long and widespread use. But digital printing brings its own set of design issues.

Here are 10 tips that will help you design effectively for today's digital printing systems.

1. **Think DPI.** You're accustomed to line screens in offset, but they don't apply to digital printing. Presses will vary in the number of dots per inch (DPI) and levels of grayscale they can print. The crispness of the image reproduction depends upon the resolution of the image and the DPI of the press. The best advice is to create the images specifically for the DPI resolution of the digital press that will be printing your book or jacket. For example, since most new digital presses print at 600 DPI, you must capture the image with a quality digital camera or scan the image at 300 DPI for good reproduction.

2. **Garbage in. Garbage out.** No press, including digital presses, will perform miracles with images that are either poor quality or are being stretched beyond limits. Enlarge photos no more than 10 percent to 15 percent above their original size. Otherwise, the press receives too little data to fill the space, and your photos will look coarse.

3. **Don't overdo ink density.** Ink density is the thickness of the ink layer on the paper. The combination of all the process colors (Cyan, Yellow, Magenta and Black) at full strength would be 400% coverage. Technically you could do that, but you wouldn't be very happy with the results. Ink density maximums vary by process, and for digital the max is generally 320 percent, though some presses might require less. Check with your printer. These percentages are critical when creating CMYK blends and adjusting 4-color images.

4. **Approach Pantone® colors carefully.** Many digital presses have 4-color capabilities only. That means you need to create Pantone® spot colors in their CMYK equivalents. To achieve the greatest possible accuracy, be certain to use a Pantone® Color Bridge guide, which shows the actual Pantone color and the CMYK blend next to one another. You can also have your printer make the conversion. If you must have a particular color, consider the HP Indigo digital press, which features the only Pantone-approved digital inks currently in use.

5. **Choose a paper optimized for digital printing.** Papers designed for digital printing have different properties than ordinary offset paper. Strong growth in digital printing means that mills are producing a wide range of colors and surfaces specifically for digital presses. Having said that, regular offset paper can be used on most presses, including recycled paper, with the printer making a few adjustments. Still, an actual digital stock is the safest way to enhance the look and feel of the book and avoid potential production issues.

6. **Account for paper grain.** Aligning the paper grain correctly minimizes "toner cracking" on folds, buckling when binding and other quality defects. For example, when producing a book, grain direction should be parallel to the spine. Consult with your digital print provider to ensure that you're properly accounting for the paper grain.

7. **Minimize large color areas.** Digital presses reproduce color excellently, but toner-based systems perform only moderately well with large solids. A common result is lack of uniformity that surfaces as blending or banding. When you must use a few square inches of color or more, you can reduce the effects by incorporating a subtle texture into the solid. A press proof is also a wise choice. The problem is much less severe on digital presses like the HP Indigo, which use ink and not toner.

8. **Small type issues.** This is less of a problem than it used to be, as the resolution of digital presses improved. Standard text sizes of 10 and 12 point are no problem, and most new systems will handle type sizes of 4 points or larger. Keep in mind though, that legibility is always more than just the printing equipment. Font selection, color, background and paper will all influence the legibility of type. Also stick with Adobe Type I or TrueType fonts to avoid any possible type disasters in the conversion of your files.

9. **Enjoy real press proofs.** Time and costs made press proofs a thing of the past in offset printing. But digital presses enable the fast, cost-effective proofing on the actual machine that will produce the final run. Using inkjet solutions for conceptual proofs is still preferable.

10. **To trap or not to trap.** Talk to your printing source before investing the time required to trap your colors in the file. Some digital presses do automatic trapping while others don't. Regardless, show your printer a conceptual proof if at all possible and consider a test run if there are any concerns.

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