

An Ink Primer

The three main elements of any printing job are the design, the paper and the ink. After they select a color, many people don't think about ink, but different inks have different qualities so it's important to take ink into consideration when you plan a project. Certain inks are required to achieve certain color effects or to provide special qualities, such as scuff or fade resistance.

Of course, because ink is printed on paper, the two are related. Although most printing inks are somewhat glossy when they are dry, dark colors might look glossier than lighter ones. Additionally, uncoated paper absorbs ink more quickly than coated stock. That's why ink might appear duller on some uncoated papers. To create a matte look on a coated paper or a glossy look on an uncoated paper, you might need to specify a particular varnish or coating.

Inks have different qualities, depending on their intended use. Ink manufacturers work with four basic elements in combination to achieve different results. Ink contains pigments to create the color, transfer agents, which are the solvents and resins that cause the ink to spread, varnishes that control glossiness and drying additives. The way ink manufacturers combine these elements affects how the ink performs. For example, some inks are formulated for special purposes, such



as packaging. Boxes are often printed with "scuff-resistant" inks to withstand tough handling. It's always best to ask about ink options if you have a project with special requirements like these.

The standard inks used for offset printing are the consistency of molasses or thick honey. Like the inks in your desktop printer, offset printing colors are created from the four process colors: cyan (C), magenta (M), yellow (Y) and black (K). Tiny dots of these CMYK inks are mixed to create the visual impression of almost any color in the rainbow.

CMYK inks are great for most color printing, but there are some colors that they can't emulate. For example, you can't simulate metal with CMYK inks; you need special metallic inks if you want a truly shiny look. Metallic inks are shiny because real metal is added to the ink base. Silver ink includes aluminum, gold ink has bronze or copper alloy and copper ink contains copper. Not surprisingly, because metallic inks actually contain metal, they can tarnish. To prevent this problem, printers mix this type of ink just before using it. Metallic ink requires a thicker coating than most



other inks. This causes them to take longer to dry than standard four-color process inks.

Fluorescent color also does not render well with process inks so projects that require these colors work better if you specify fluorescent inks. Fluorescent inks display truer color when printed on white paper. It's also important to note that the brilliant color will fade, making it more suitable for short-term projects. Like metallics, fluorescent ink must be applied thickly, which makes these inks more prone to scuffing.

Because both metallic and fluorescent colors are "spot" colors, not CMYK colors, they require an extra pass through the press. When a job requires changing colors, press operators have to clean ink from the press, which takes extra time. This often results in an extra fee called a "wash up" charge. If your job requires spot color, make sure you have accounted for potential fees in your budget. **15**