



Offset ink analysis is essential for top quality products and performance in today's high-speed production printing industry. Image Source: Flickr' user Remy CARTERET

Today's printing industry is booming and production rates are reaching record level speeds as offset printers race to match supply with demand. Much like the benefits of high-octane fuel in a fast little sports car, press operators rely on high-performance ink quality to reach top speeds and maintain customer satisfaction.

Instrumental analysis is an important element in laboratory ink production and necessary for predicting various performance outcomes. Variables such as high-level press speeds and the many variations in substrates used in today's commercial labels and packaging all create challenges in offset ink performance. According to *Ink World Magazine*, "assessing printing characteristics is critical to determining how ink is likely to perform, and having standard equipment is essential. Without these instruments or procedures, an ink company would have a difficult time ensuring its products perform on press. In addition, an excellent ink laboratory can help when troubleshooting is required"¹. Developing standards and procedures for ink specifications and quality starts with advanced instrumentation. Spectrophotometers offer a variety of analytical options to ensure accurate color matching and consistency. One small yet effective tool can accomplish a variety of tasks and is a must for any ink laboratory.



Analysis of ink concentration levels effects production quality and performance and is necessary for maintaining quality control. Image Source: Flickr' user Remy CARTERET

Monitoring Color Quality

Using a spectrophotometer to develop a color quality system is one of the simplest ways to ensure better ink performance. Many variables can affect color perception and alter the outcome of ink color and appearance. Spectral analysis measures even the slightest variations in color that go undetected by the human eye. This reduces errors and guarantees color matches.

Spectrophotometers are also able to record and store data as a reference to ensure consistency across batches. From ink distribution facilities, to in house ink laboratory systems, this data saves valuable time and resources. The ability to quantify this information for recurrent use minimizes errors and allows for simple adjustments to improve performance and increase product yield.

Changes in lighting conditions can also alter color perception, leading to inconsistencies in ink color formulation. Advanced instrumentation provides an isolated light source to ensure accurate measurements. These measurements can then be used to monitor various performance changes throughout processing and bring attention to any possible contamination, allowing for changes to be made if necessary. [Determination of performance results and ink formulation changes](#) can all be regulated and modified with effective color quality control.



Variations in offset inks can create challenges in performance. Spectral technology helps to monitor these changes for consistency, quality, and repeatability. Image Source: Flickr' user Remy CARTERET

Specialized Ink Analysis

Offset inks are required for use in a variety of industrial applications and vary based on specific industry needs. From food production to chemical formulations, external variables often affect ink performance and appearance. Understanding these changes and how to monitor these variables is necessary for improved ink production and quality.

Monitoring color strength relies on spectrophotometric technology to compare standardized colors. Bleach or tint testing applications utilize this technology to monitor pigmentation dispersion and ensure accurate color matching results. Since the human eye alone is subject to [variations in perception](#), this process is necessary for reducing costly errors and other challenges is [color matching](#). Quality ink formulations depend on advanced spectrophotometric data to guarantee repeatability and color quality.

Manufacturers pay top dollar for products that are reliable and perform in the ways intended. Therefore, the use of advanced instrumentation in ink production laboratories is essential for developing high quality ink products.

The Right Instrumentation With the Support You Need

Setting up an ink analysis system is not confined to laboratory ink facilities alone. Ink technicians, production operators, and final quality inspectors can all benefit from the use of instrumental analysis. With materials and printing conditions continually changing, repeated analysis and changes are required to effectively utilize materials and maintain quality. A spectrophotometer is a versatile tool that offers simple and effective analysis throughout all stages of offset ink production and printing. However, not all spectrophotometers are created equal.

At HunterLab we strive to develop color measurement tools that are specifically designed to address industry needs. By working closely with industry leaders, we have developed spectrophotometers that are designed to address the challenges that arise in an ever changing and developing market. Not only do we create our tools with this in mind, but we also offer the support needed to utilize our instrumentation to its full potential. Making an investment in advanced instrumentation can save both time and money and is an economical choice in this fast-paced and highly competitive market. To learn more about HunterLab spectrophotometers and their advantages in offset printing, [contact us today](#).

1. "Analyzing Offset Inks", 10/02/2009, http://www.inkworldmagazine.com/issues/2001-08/view_features/analyzing-offset-inks/