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BETA FLUO – Makes Invisible Ink Quality Visible & Measurable



The Invisible UV Ink Densitometer, Protecting Your Brand While Improving Your Print Quality

Printing with "invisible ink" presents a unique challenge, now solved with the Beta FLUO Invisible Ink Densitometer.

Three Models to choose from:

FLUO BASIC Single UV LED for Near (365nm)

FLUO BASIC PLUS Dual UV LED for Near (365nm) and Far (280nm) UV Ink Analysis

FLUO ADVANCED Dual UV LED for Near (365nm) and Far (254nm) UV ink Analysis

Equipped with a 365nm (near UV) and optionally with a 280nm or 255nm (far UV) light source, this rugged, easy-to-use instrument is ideally suited for use in the press room and in the QC lab. The device is calibrated to the substrate and target fluorescence at

the beginning of the press run. Inking is adjusted during the press run to maintain consistent fluorescence in the same manner that normal colors are monitored and controlled. Target fidelity and brand protection are now optimized for your customer.

Today's global market is rife with risks of product tampering, diversion, and black markets, leading to billions in lost revenue every year. A manufacturer's retail product is the first and often only opportunity to convey their message of quality and build the customer's confidence in the brand.

Protecting the integrity of the brand requires a two-pronged approach; an overt and easily understood device such as a tamper-evident seal to let the customer know that the product has not been adulterated, and a covert, technically sophisticated system to allow supply chain partners to verify the authenticity of the product.

Many technologies exist to protect your labels, packaging, and products from the threats of counterfeiting. Optical, mechanical, and electronic systems offer varying degrees of protection at various price points.

When the product is the printed piece itself, such as currency and security printing, "invisible ink" systems offer many advantages. Colorless fluorescent inks are undetectable by the user and cannot be copied. With the proper tools, the image from the invisible ink appears, allowing the article to be verified as authentic, defeating counterfeiting and substitution of your product.

These specialized inks are created to respond to UV (ultraviolet) light of certain wavelengths, glowing red, green, or blue depending on the composition of the fluorescent pigments. Additional security can be obtained by using inks that fluoresce one color with 365nm UV illumination and a different color under 255nm UV.

The use of this technology does not require an upgrade to existing printing press or plate systems. The brand protection elements are printed using these colorless UV fluorescent inks. It is now widely understood that high quality print production requires control of solid ink density, dot gain, and ink shade. Conventional densitometers and colorimeters are used to implement these Quality Control procedures with conventional inks to adjust and control the visual appearance of the printed piece.

Printing with "invisible ink" presents a different sort of problem, now solved with the Beta FLUO Invisible ink Densitometer.

Equipped with a 365nm (near UV) and optionally with a 280nm or 255nm (far UV) light source, this rugged, easy-to-use instrument is ideally suited for use in the press room and in the QC lab. The device is calibrated to the substrate and target fluorescence at the beginning of the press run. Inking is adjusted during the press run to maintain consistent fluorescence in the same manner that normal colors are monitored and controlled. Target fidelity and brand protection are now optimized.

Two control modes are available with the FLUO;

- 1. INTENSITY Control measures the overall intensity of the fluorescence
- 2. COLOR Control measures the visual color effect of the fluorescence
- (1) Controlling the intensity of the fluorescent signal is analogous to controlling the density or ink film thickness of a conventional color on press. The REFERENCE value is set to zero at the start of the press run. Positive numbers on the current sample indicate a higher level of fluorescence than the REFERENCE, a negative number indicate level lower than what is required.
- (2) Controlling the color of the fluorescence is comparable to gray balance control with conventional inks. Overprints or specially formulated multi-pigment inks can be used to create special color effects. The FLUO operates as a colorimeter, giving true color appearance information, rather than a densitometer, giving only ink film thickness information.

FLUO Color Mode operates like the human eye, measuring true color appearance.

FLUOcol Software - optional

Color Control Mode is simplified with the use of the FLUOcol software. Connected to the USB data port on the FLUO instrument, measurements are automatically translated into color appearance information similar to CIE Lab. Deviation from the REFERENCE color is calculated as delta F (fluorescent color difference) and delta I (intensity difference).

Achieving repeatable fluorescent intensity and fluorescent color is now possible with the FLUO Invisible Ink Densitometer and FLUOcol software. Automatic data collection and color graphical display make it easy for the press operator to match the standard and the QC manager to verify quality reproduction of the brand protection and authentication marks.

