FLUO –

The invisible ink densitometer protecting your brand and supporting your production quality.

Today black market and product tampering are key risks of the global market, this leads to billions in lost revenue every year. We know that packaging of products with inferior quality due to being either faulty, or copies can lead to loss of confidence by your customers in your products.

It is therefore essential for your success in the market especially the global one to make sure that only your products are recognized as your products.

There are existing technologies to protect your labels, packaging, and products against copying.

One of the leading technologies for many years in banknote print and security print applications is the use of colorless fluorescent inks. The same technology can be used for brand protection by applying logos, text or symbols printed with colorless fluorescent inks. Scanning an original package layout for copying purpose will fail as the invisible logos will not be copied as these inks are invisible under normal light. However, with the proper tools the image from the invisible ink appears, now the logo can be identified as genuine, thus defeating the theft of your product.

So we expose the logo to UV light of a certain band width, it will show as either blue, green, or red – depending on its composition of fluorescent pigments. Some inks will shine in one color if exposed to UV at 365nm and in a different color if exposed to UV at 255nm.

The use of this technology does not require new printing presses or printing plate technology. Simply design your brand protection elements and print them on using a separate printing deck using colorless fluorescent ink. To improve the quality control, print a patch with colorless fluorescent ink that you have added to the control bar, you will also not over ink as you can measure this patch using the C!D FLUO device.

We know high quality printing requires the printing process to be controlled with a densitometer or Spectrophotometer, the same is valid for the invisible inks. C!D has now developed an easy to use measurement device for the press room to measure those invisible inks. FLUO is equipped with UV light sources at 365nm (Near-UV). FLUO can also be equipped with a second Far-UV light source at 280nm or 255nm should the necessity arise. In use, we calibrate the FLUO to the substrate and the target fluorescence at the beginning of the printing job, during the run we then take measurements

of the control patch monitoring the fluorescence element by adjusting the ink keys as we would for normal colors this giving us excellent brand protection

It sounds simple and is simple.

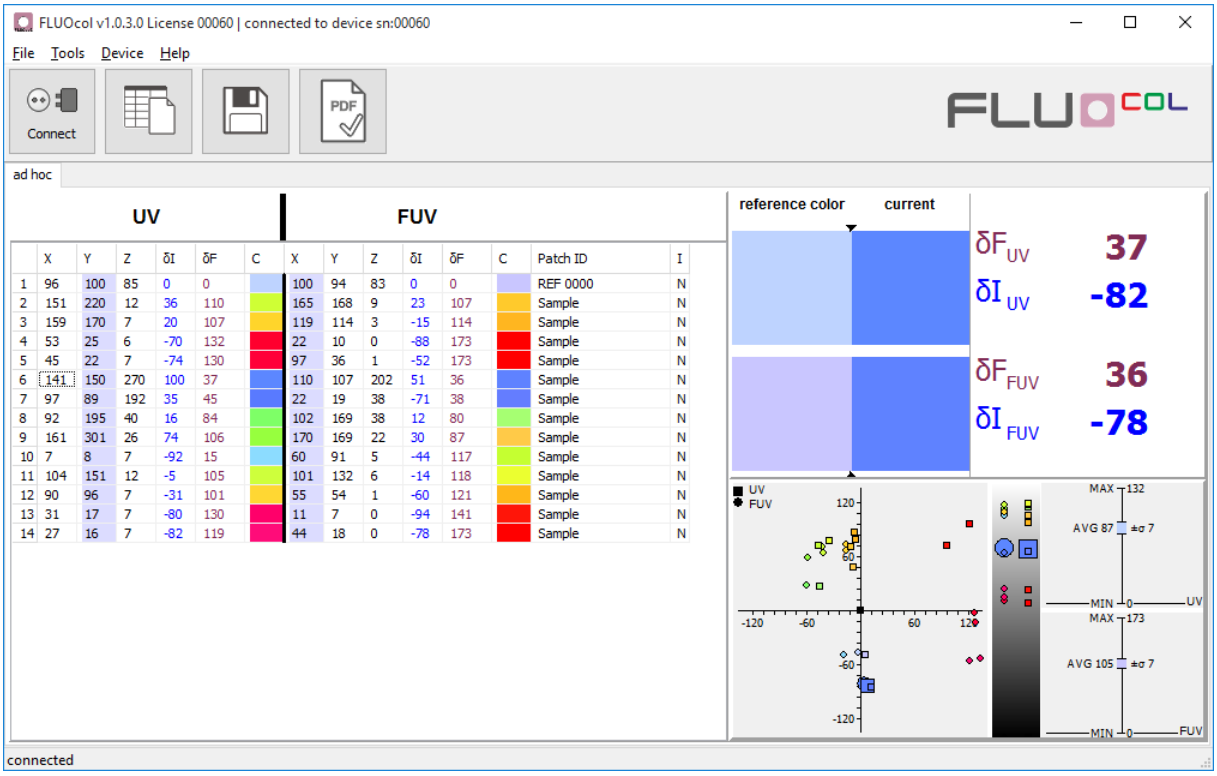
The FLUO gives you two different modes to control your printing process: (1) control the overall intensity of fluorescence (2) control the color of fluorescence.

(1) The fluorescence effect is expressed in a similar way but by a single number, positive numbers here tell you that the current sample shows a higher fluorescence than the reference, negative numbers tell you that the current sample shows a lower fluorescence than required. The intensity control can be understood like a solid density check on normal inks by giving you a number.

(2) The color mode it can be compared with a balance check application on a standard densitometer. Also an overprint of tint percentages of colorless fluorescent can be used to create special colors.

The color mode works like the human eye and measures the fluorescence according to the three eye sensitivities X (red), Y (green), and Z (blue). This makes it possible to assign information on color to the fluorescence.

In order to make the overall application even easier to handle, C!D developed the FLUOcol Software. The FLUO connects to the software via a USB port, the measurement data then is automatically downloaded to the software. FLUOcol translates the measurement data F(X,Y,Z) into color information – (similar to CIE Lab values) calculates color differences in delta F (fluorescent color) and delta I (intensity) numbers.



Using the FLUOcol makes quality control accurate from one run to the next re-run, and for different operators to show a continuity of measurement control between shifts through the run.

The FLUO makes the accurate control of these UV protection systems for your protection simple.

Dipl.Ing. Lukas Pescoller

www.fag.ch