

Colorimetric Print Analysis

Most pressroom measurements are made using density. These include solid ink density (SID), tone value increase (TVI), print contrast (PC) and apparent ink trap. Density measures are fine for process control, but do not correlate with the visual appearance of press sheets. For that, you need colorimetry - the science behind color management.

Doppelganger brings colorimetry to the pressroom by using tools developed for color management. Our small test object contains over 200 patches, yet can be measured in less than three minutes. Our software tools convert these measurements into a detailed report, containing a wealth of information about your presswork.

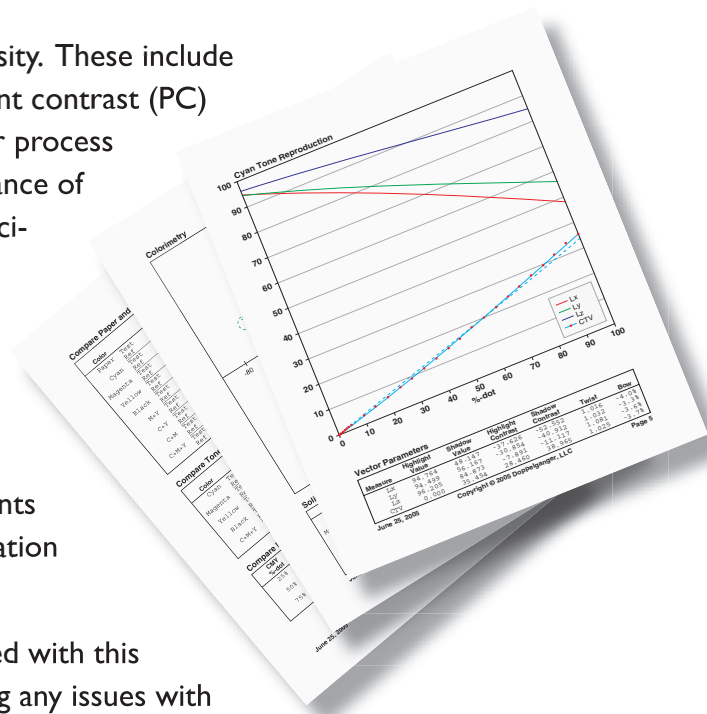
Many common printing problems are easily diagnosed with this tool. Tone ramps are plotted in great detail, revealing any issues with screening, highlight retention, linearization, and tone curves. Ink colors, overprinting and gray balance are analyzed thoroughly. You will be surprised at how much you can learn from this report.

In addition to diagnosing problems, the print analysis report can serve as a process control benchmark. If you take measurements on a regular basis, you'll be able to spot changes and avoid trouble. And when there are problems, it can really help to have documented measurements as a reference.

Producing the Report

The report is generated with the same test target used to make tone curves. Cut the target out of your press sheet, measure it, and upload the measurement file to the ColorMatch server. Within a few seconds, you can download the 13 page report as a PDF file.

Measurements are made using standard color management instruments. You may already own a supported device. If not, your investment in an instrument can be further justified by its additional uses for color management work.



- Detailed Report (13 pages)
- Colorimetric measures
- Density measures
- Compare test to reference
- Colorful graphs
- Create via Internet server
- Measurement database
- Troubleshoot print problems
- Process benchmark
- Create tone curves for matching

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Engineered Color Solutions

- Press to Proof Matching
- Stochastic Screen Calibration
- Printing Color Analysis
- Automated Color Workflows
- Color Workflow Training

Print to Your Full Potential with Pressroom Calibration!

Press to Proof Matching

Today's color management technology is more capable than ever. Ink jet proofs can be matched almost perfectly to a given press sheet. Why, then, do printers continue to struggle when matching client supplied proofs? The obvious reason is that the client's process lies outside the printer's control, and this prevents the proper use of color management techniques.

Doppelganger has developed technology to help solve this problem. There is so much variation in press work that it is simply impractical to color-manage a press in the same way as an ink jet printer. Instead, we focus on the use of tone reproduction curves. With CTP, it is simple to apply tone reproduction curves in platemaking. We have developed a simple method to create these curves quickly and accurately.

How it Works

Matching a press-sheet to a proof (or a proof to a press-sheet) takes only a single round of test printing and measurements. There are just three steps:

- Measure the PressCal™ target from a calibrated contract proof.
- Measure the PressCal™ target from an uncalibrated press-sheet.
- Upload the measure files to Doppelganger's ColorMatch server.

In seconds, you can download tone curves in the native file format of your CTP system. Plates made with these curves will enable the pressman to achieve an optimal match to the customer supplied proof. Your printing system (CTP and press) is now calibrated to be in "alignment" with the customer. The ColorMatch Server can be used in this manner to match your printing process to any reference standard (or vice versa).

Calibration and Color Management

Color management by means of ICC profiles is a powerful tool, and has many uses in a printing plant. When attempting to color manage a process, it is advisable to calibrate it first. In many cases calibration alone is sufficient to achieve the desired results. This is generally true in the pressroom, where inks are a constant and paper is a variable. It is much easier to build tone curves than to create ICC profiles.

Measuring Print

In order to control color, you must be able to measure it. We designed a small test target that is measured using colorimetry - the science behind color management. With our software we're able to distill thousands of spectral measurements into the essential characteristics of the proof or press sheet. From these characteristics we compute tone reproduction curves or device link profiles to achieve an optimal match of one process to another.



Paper Adaptation

Paper has a significant effect on the appearance of printing. With our calibration tools, it is now feasible to measure and compensate for these effects. A small collection of tone curves is generally sufficient for the various types of stock in a commercial plant.

Web-Based

Doppelganger maintains a web server to calculate tone curves and device link profiles. There is no software to buy. You pay only for your use of the service. The server stores your measurements in a database so you can access them when needed. It also permits collaboration among users.



Stochastic Screen Calibration

Stochastic screening has become increasingly popular. Its advantages include a larger color gamut, better tolerance for color misregister, elimination of rosettes and moire patterns, and reduced color variation. When you print with stochastic screening, it is necessary to recalibrate your printing system (CTP and press) to accommodate the different tonal characteristics of this process.

Generally speaking, stochastic screening increases midtone contrast and reduces shadow contrast. Simple tone curve adjustments do not produce a first-rate result, and may require many iterations. Furthermore, stochastic printing cannot be 'moved' on press - like conventional printing. Your tone curves need to be exactly correct.

Doppelganger's color matching method creates CTP tone curves for a superb printed result. We'll match your conventional AM screen printing, or any other color reference you choose.

How it Works

Matching a stochastic press-sheet to a proof takes only a single round of test printing and measurements. There are just three steps:

- Measure the PressCal™ target from a calibrated reference proof or press-sheet.
- Measure the PressCal™ target from an uncalibrated stochastic screened press-sheet.
- Upload these measure files to Doppelganger's ColorMatch server.

In seconds, you can download tone curves in the native file format of your CTP system. Plates made with these curves will enable the pressman to achieve an optimal match to the proof or press-sheet you chose.

Maximize Your Stochastic Investment

The decision to print stochastic may require a considerable investment to upgrade equipment and materials. But that alone doesn't guarantee good results. Many printers have struggled to make stochastic work. You can avoid problems and maximize your investment by employing Doppelganger to calibrate your pressroom.