

# Printing to the Numbers

## The Business Benefits of Color Quality Management Software

It's 4:00pm and you've just been informed that the spot blue on Acme Food's new chip wrapper went out of tolerance during the morning shift. While everything printed yesterday was in tolerance, for some reason, this press had trouble holding the correct blue today.

And, by the way, your customer was promised the job would be shipped by 5:30pm today.

You have a choice. You can deliver the job as-is. Not a good solution if you hope for repeat business from the customer. Or you can scrap the out-of-tolerance pieces and re-run the job. However, in an industry with razor thin margins, that's a big hit on your bottom line. Either way, you know it's not good for business.

What if you could have prevented this situation from happening in the first place? Keep reading and we'll show you how that's possible.



### A Predictable & Repeatable Process is Required for Growth

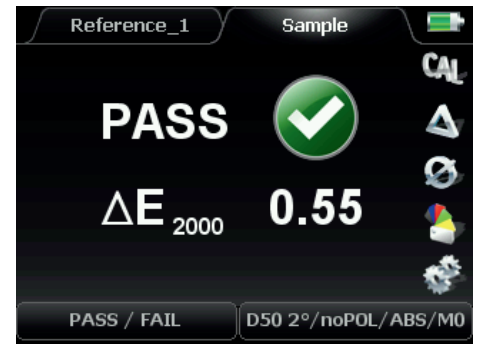
Today's printing and packaging customers are placing ever increasing demands for color accuracy and color consistency on their print supply chain. As brand owners continue to look for differentiation and easily identifiable brand colors across their product lines, they are holding printers more accountable than ever. Many ask printers to provide data proving the job adhered to color specifications agreed upon before the work started.

As a result, printing can no longer be considered a "craft" where "pleasing color" is good enough. Color reproduction cannot hinge on the eye of a few highly skilled pressmen. Instead, keeping color within a client's chosen specification, and consistently producing that color over time, requires a more predictable and repeatable print manufacturing process.

### Printing to the Numbers

For printers, achieving these exacting requirements introduces significant business risk: longer make-ready times, increased waste, and ultimately lower profit margins. But printers can reap significant rewards if they crack the code and "print to the numbers" every time and over time.

- They will win more business
- They will maintain customers and gain repeat business
- They will increase profit margins



While printers may be reluctant to abandon their traditional practice completely, the risks are well documented. This paper discusses the business advantages of technologies built and optimized for "printing to the numbers". The goal is to help businesses transition to a reliable print solution that improves the stability of their manufacturing processes.

### Foundations: Using a Measurement Device in The Press Room

The densitometer has long been the workhorse of operators looking to accurately measure, control, and manage color on press. A crucial first step toward "printing to the numbers", it can tell you immediately if you are hitting your density targets. Because press operators no longer have to solely rely on visual assessment, they benefit from better consistency throughout each press run, across multiple press runs, and across multiple presses.



In recent years, as the demands of brand owners and print customers have become more exacting, press operators have learned they need more than just density readings to achieve job specifications. Therefore, the trend has shifted away from traditional CMYK densitometers and moved toward spectrophotometer based densitometers, or Spectro-Densitometers.

This class of instrument can not only deliver density information, but can also provide precise color measurements and comparisons to the aim color values. This makes the Spectro-Densitometer a highly versatile press side tool that can arm operators with everything needed to control process and spot color inks.

A good Spectro-Densitometer will also work strictly to the standards valid for the graphic arts industry, including full support for ISO standards and G7® methodologies and will fulfill M0, M1, M2, M3 measuring conditions in accordance to ISO 13655. Clear PASS/FAIL indications make it easy for press operators to verify print-to-print and print-to-standard color quality, along with explanations of how to fix their color problems.

The only downside to using a Spectro-Densitometer as an “instrument-only” solution is that it does not record what it sees and it requires some user intervention to switch modes and access the various types of measurement results. It gives you the numbers you need only in that instant, but you have no history or traceability across the press run or job. More importantly, you don’t know when or why something went out of tolerance, which can lead to the scenario described in our opening paragraph. That’s why printers who go beyond the instrument-only option and implement a pressroom color quality software tool gain an even bigger advantage.

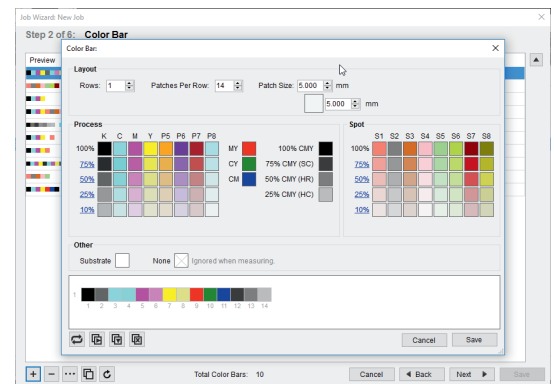
## Adding Value: Pressroom Color Quality Solutions

Today's brand owners are more involved in the print process and understand its possibilities. They know how printers use color data and ask for proof that the finished job meets the color specifications they contractually agreed to. At the same time, printers need to optimize every step of their process, from job deployment to delivery, to reduce time and waste, and maintain already delicate profit margins.

Printers that implement a color quality solution enjoy significant and measurable benefits:

### Benefit #1: Easy deployment of color standard and tolerance information

We've already discussed the importance of color specifications for the customer. Contractually agreed color standard and tolerance information needs to be communicated to each press operator. This is often a manual process, with handwritten instructions delivered in a job folder.



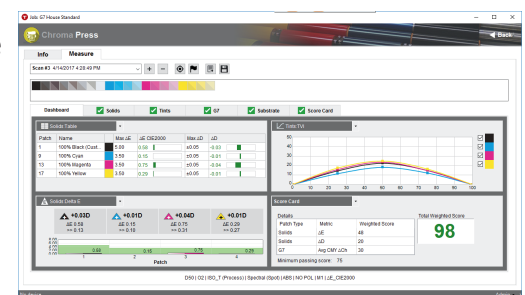
Color quality solutions allow color standard and tolerance information to be entered outside of the press room. The information is then delivered – via software - to the press operator who will immediately see it in his or her job queue. Not only is this faster, more effective, and eliminates potential communication breakdowns, it also ensures consistency across multiple operators, presses, and locations.

Because jobs are stored in a cloud database, they are easily accessed by any press operator, anywhere in the world. Permission controls ensure proper access and that operators only see jobs they are responsible for.

Software is simply the fastest way to deploy customer color specifications to multiple operators, wherever they are located. It ensures press operators are targeting correct customer standard and tolerance information and ultimately guarantees that the final printed product meets customer requirements.

## Benefit #2: Easier on-press monitoring

Because the specifications for each job are automatically delivered to the press, operators can see at a glance what's happening. Rather than making numerical comparisons themselves using measurements from a densitometer-only solution, the software shows them a simple PASS/FAIL indication for all of the key color attributes that were entered into the job. This could include target solid ink densities for process and spots colors, CIELab color values for substrate, process, spot, and overprint colors, target TVI (or dot gain) for tint patches, trap values for overprints, conformance to industry standards like ISO and G7, and more.



The beauty of the software is the ability to present all of these key color metrics in an organized way so it is readily available,

easy to digest by the operator, and actionable with specific density, dot area, and color adjustments to quickly achieve the desired color targets.

Real-time press room monitoring means operators detect problems early and can easily make the necessary adjustments before waste starts to eat into profits.

### Benefit #3: Accountability & traceability of color results

When printers enter into a contract with a customer, they are accepting an obligation to deliver a product that meets agreed upon color specifications, within stated tolerances. Proving adherence to these specifications is only possible with software that tracks and stores every measurement.

Although final accountability is to the customer, it begins at the press. We've already seen how software allows job information to be entered and delivered via the cloud. Color measurements taken during make-ready and throughout the job are stored in the same manner. They can be accessed and reviewed at any time, so internal stakeholders can audit work and ensure compliance with job specifications before delivering the printed product. This enhanced traceability means a more predictable and repeatable print manufacturing process.

Automated customer reports clearly illustrate conformance of printed products to the customer's color specifications. Delivering these with each job builds a level of confidence and trust that can only lead to happier customers and better printer-client relationships.

### Benefit #4: Data mining for continued process improvements

The power of software lies in its ability to store enormous volumes of data and then analyze that data, over time, to spot trends and find opportunities for improvement. In addition to the original color target specifications and measurement data, color quality software captures valuable data related to each press, operator, shift, paper stock, and more.

Advanced data-mining tools then make it possible to analyze the data and develop key learnings for continued process improvements. Over time, this data delivers invaluable – and actionable – insights to help ensure more accurate and repeatable color results and continued savings through reduced make-ready times, less waste, and fewer job re-do's.



## Conclusion

Brand owners will continue to place ever increasing demands for color accuracy and color consistency on their print supply chain. Achieving these exacting requirements is not only challenging, it can mean turning away, or losing business if existing technologies and processes are not able to meet the customer's quality specifications and pricing expectations. Luckily, delivering the right product at the right price, on every job, is easily within reach.

The combination of easier color standard deployment, real-time monitoring, traceability and process improvement benefits made possible by color quality software offers printers a tangible opportunity to improve both their top and bottom line. Printers who can demonstrate a process optimized for "printing to the numbers" are able to win more business, maintain happy customers who give them repeat business, and maintain a decent profit for each job they deliver.

**Ready to Learn More?** ChromaQA, Techkon USA's affordable color quality software, provides a powerful set of tools for printers to monitor the color quality of jobs on press, reduce the number of re-makes, and recognize a significant savings in ink and paper by detecting color problems early in the print production process. ChromaQA has been designed so that members of a printing team with different roles can be connected through a single-color quality system. While all functions can easily be performed by a single person at a smaller printer, ChromaQA is also scalable to large enterprises with multiple printing locations. **Visit Techkon to learn more and download a free – no obligation - trial version of ChromaQA to experience its ease of use, powerful functionality, and flexibility.**