Tips for a More Organized and Efficient Operation

By Mike Huey

Printing, like any business, has the goal of providing a great product to the customer while making a profit. We all know from experience that making money by producing labels, envelopes, preprinted linerboard or flexible packaging is much easier said than done. It is not just a simple matter of turning on the press and printing something; if that were the case, then anyone could do it. Competition drives the market and you must find new margins just to cover costs and make payroll.

Take a thorough analysis of your printing process to pare inefficiencies that needlessly cost you money. If you look within the workflow, the information and the preparation taken to complete each job, you will very likely find opportunities to streamline. Thorough preparation of processes will improve the understanding of job requirements and maximize time spent at press. We must accept the fact that no matter how efficient we may think our process is, we still have to become smarter and faster at what we do. We’ll start by taking a look inside our plants at how we manage workflow.

In this article, I would like to discuss a few areas of preparation and communication that I believe are crucial factors in getting a job to the press and off the press in a proficient and effective time manner. When we overlook the opportunities in these areas, it no doubt costs money and profitability. Let’s focus on specific communication and preparation issues for areas such as ink, plate, anilox, make ready procedure and general recipe control.

IN THE INK ROOM

A well-coordinated ink room is a necessity in today’s print environment. Inks are costly and get wasted if not managed properly. Ink Inventories can also be tying up valuable dollars,
taking up space and lead to further waste. A proper construction of ink process control includes the use of corrected and consistent ink formulas based on press, anilox volume and substrate. If you are spending time at press matching color then you may very well have an issue getting proper preparation done before press.

You can begin to organize the functionality of the ink room by recording exact formulations and using weighing equipment that allows for precise measurement. Compare ink production batches to verified wet samples drawn from prior runs. If there is a discrepancy with fresh ink and saved wet samples, you either have an error in the weighing process, a problem of strength with a base ink and/or the wet sample has settled and needs stirring. Any additions made at press to adjust color should be recorded so the formula can be adjusted for the next run.

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Make sure not to assume from the beginning that the scale system you use or your formulas are calibrated. You will be starting from “square one” in this endeavor. Communication to the ink room of the “customers” prior and current needs for color is essential to a successful print run. Color is the most obvious difference when comparing your product, so make sure to have a good understanding of customer expectations by getting a valid print sample. Customers may have color tolerances, so be sure you have the equipment to measure spectral data, density, dot gain, trap and so on. Evaluate your print capabilities before taking any job to press.

The biggest ally in the ink room is a drawdown tool or automated proofing device. Develop your proofing system to create a direct correlation to the press. Make your samples relevant to the customer by printing it. Remember a well-managed ink room thrives or fails on the quality of information regardless of the talent your ink personnel have in overcoming obstacles. Make their jobs easier and more effective by giving them the workflow and equipment to do their job.

PLATE PROCESSING

Once a fingerprint has been conducted, the prepress department will use the results to define compensation curves and colorimetric information. The concern now is making sure the plates are made consistently. Workflow checks and equipment should be implemented for measuring plate hardness (Shore A), plate relief and floor thickness. Technical information will come from the plate suppliers and specific data from thickness should come from measuring the fingerprint plates. Conduct exposure tests on a regular basis and use a micrometer to monitor floor and relief thickness. A further step of using a plate measuring device will allow you to check the images and dots themselves for consistency. Proper plate preparation must include a regular maintenance and upkeep program for any equipment used in processing.

Lay the plates out on a light table to look for any abnormalities in image formation, such as voids and underdeveloped images. In addition, check used plates for cracks. Ideally, plates are mounted before going to press. As such, the workflow will also have to include examination of plate cylinders for cleanliness, cuts on the surface, and gear wear. Additional details regarding plate measurement and control can be found in FIRST 4.0, within Prepress section 17.9 as well as 21.5. Follow up at press on plate performance and always thoroughly examine returned plates if you plan to reuse them. Ideally, you want to keep a finger on the pulse of your platemaking workflow to capture any changes in quality, so be sure to have the verification equipment available and functional.

THE HEART OF THE MATTER

As stated many times before, change the volume and you ultimately change the outcome of the job, regardless of what has been said. Yes, we have all heard the one roll scenario will do the trick, but nobody has yet to see that or prove that in a live circumstance or scenario. If an individual can show me that one roll will do all, I will go ahead and retire at 39 and be happy that I witnessed it. The short and sweet of it is similar to color being king. If you vary the thickness (volume) of the ink, regardless of how transparent it is, the color and or image is ultimately affected. With that said, we need to be consistent with the amount of ink being applied to a “raised image” of the plate regardless of what material it is made on.

Understanding the factors involved in the control of ink film and verification for consistency is essential to controlling color. All things being equal, when the ink room has color approval and can communicate the volume needed to achieve a given color to the pressroom, we have obtained that next step in ensuring color accuracy. At this point we are relying on our press personnel to make the proper anilox decision.

Anilox selection can be tedious; a 10-color press may have 20 anilox rolls to choose from. Get to know the details of your anilox inventory. Suppose the ink lab indicates on the shop order to use a 3.2bcm2 anilox. If you have six aniloxes at that volume, which should you choose? Typically, printers do not have the equipment necessary to confirm or deny that any anilox rolls will meet this requirement. We all have the ability to read journal ends or deadband areas for engraving details, but at that moment, what is the true volume of the roll? Thorough cleaning, basic observation and auditing by supplier or internally will give you a good handle on the true volumes of

Press mechanics can be optimized.
If you need timely information, verification equipment such as measuring scopes can be used. Below is a list of equipment that is essential to preparation and communication from the ink and plate areas:

- **Plate:** Micrometer, Plate analyzers, Shore A gauge
- **Ink:** Scales, Formulation Software, Densitometers, Colorimeters, COF gauges
- **Anilox:** Scope systems, stainless steel brushes for ceramic, cleaners

**MAKE READY PROCEDURES (RECIPE CONTROL)**

The key to the make ready process is making sure the press is clean and a stable platform for repeatability. The press is not meant to proof the plates, QC inks or discover design flaws. These issues should be worked out before coming to press with the work. The press operators should not concern themselves with making any adjustments to compensate for art or ink issues. On the other hand, operators should concern themselves with print variation related to press mechanics, function and registration control.

Press mechanics can be optimized. Check all gears, drive motors, bearings and surfaces for wear. Lubricate all gears and bearings as required by the press manufacturer. Keep the press and press area clean; remove oil and debris in and around the press area. You do not want mechanical or shopkeeping issues to contribute to the variables associated with printing. A final thought regarding make ready/recipe control is to make sure as a shop order comes through the workflow can satisfy the job requirement. Ensure that all measurements and procedures are documented for easy reference by the operator.

Efficiency in the work makes the difference between printers who stay open and grow and those that find it difficult to survive week to week. Although it appears the worst is over, the economy is still in some turmoil and hopefully recovering. All a printer can focus on to be successful is to learn to outperform prior efficiency levels and continue to earn the business of customers with better turn times and quality. Remaining profitable is the key to survival and you have to look within your workflow to improve your chances for success. If we fail to plan and communicate, the customer’s increasing expectations will no longer be met.

One missing piece of the puzzle will result in an incomplete understanding of the task. You have to learn how to identify the potential for problems and prepare to prevent their occurrence. Establishing workflows and procedures for the press inputs of ink, plate, anilox and make ready/recipe control allow you to realize better efficiencies. These types of process improvements are dynamic, meaning you must continue to make improvements. If you are not quite sure how to get started, contact industry experts to help you get going. Today is the day you should get started on the road to better profitability.

**ABOUT THE AUTHOR:** Mike Huey has been with Harper Graphics Solutions, a Division of Harper Corporation of America for the past eight years. His current role is to support and advise customers throughout the U.S. as technical graphics manager, Western Division. Huey has been employed within the flexographic industry for 20 years, holding positions from pressman to conversion manager for a flexible packaging company. He is certified by the National Council for Skills Standards as an expert flexographer, published technical articles and spoke at the FFTA Annual Forum in 2005 and 2006, as well as other workshops and trade events.

If you are uncertain of the true volume of your anilox, have your supplier conduct an audit.