Maximizing new investments

Every company’s goal is to achieve an efficient level of productivity to remain competitive and profitable. Maximizing today’s flexographic opportunities involves more than purchasing the latest available technology. When any new equipment is added to your environment it is imperative to find out from your supplier what is required to properly maintain and calibrate the equipment to ensure it is operating correctly. Once that is accomplished adjustments will also be required in the following areas:

• Internal culture change, requiring training for new workflow adjustments.
• Optimizing your converting process.
• Incorporating the new equipment in an efficient workflow.
• Controlling your processes by establishing measurable guidelines, tolerances and goals.

In this article I will go through each bullet point and cover areas where the adoption of information and guidelines provided from your vendor(s) play an equally important role as investing in the latest technology.

Internal culture change involves defining new guidelines and establishing training in each department to assure that investments made with new equipment(s) are maximized. Establish a higher level of accountability by mapping out the workflow from start to finish to incorporate each new piece of equipment. Once training programs are set, within each department it is also a good idea to incorporate an interdepartmental cross training schedule. This will give each group a better understanding of how the departments interrelate and depend on each other.

Optimizing your converting process comprises of defining your tolerances and specifications for graphics, anilox inventory, print cylinders, sticky-back or tape, inks and substrates. Having these stages optimized will enable you to achieve efficient productivity at a consistent profitable level.

Graphics guidelines – your capability – this should encompass the file formats and resolution requirements for graphic files, raster or vector. Included in your graphic guidelines will be the lpi for your polymer; the minimum size for positive and reverse fonts; the color-trap tolerances (one color to another); the minimum acceptable line width; maximum number of printable colors; print width and repeat specs. This information can be kept internally or can be part of what you provide outside companies who will be submitting artwork for printing.

Defining anilox specification for your process, combination, solids, whites and varnishes should be the start of your optimization process. Take the time to know what anilox specification will give you your desired print targets. It doesn’t matter if the target is density, dot-gain, L*a*b* color or G7 color method. The important point is to define the anilox specification as related to your print target numbers.

Once your targets are defined then you can establish your print tolerances. Your targets and tolerances will be your print production window for acceptability of quality goods. Incorporating the use of numbers in your workflow will result in improved consistency and will provide you an objective method for troubleshooting any print related challenges.

Removing as much of the subjectivity from your process will always lead to an efficient production environment.

I once audited an operation and was making my way through the press room when a lead press operator commented, ‘I hope you’re not about to require us to start writing down information. Our print processes are very complex and I don’t have time to be writing stuff down. That will only slow me down.’ Comments similar to that, show some of the challenges when wanting to adopt new processes and needing to make a change. Regardless, every print operation has the opportunity to incorporate the use of numbers in their workflow. Proper information and documentation is key to print repeatability and consistency. As you work through each phase, your suppliers and vendors should be a key source for information.

Polymer imaging and plating department will be another area that requires inspection and verification for consistent processing. All imaging and proofing devices must have a calibration schedule. Every device will over time experience a drift in consistency and will require a linearization and calibration.
test to be conducted. Your vendor/supplier can assist with a calibration schedule. Plates should be inspected for correct imaging of graphic elements using a light table. Plates should be inspected for consistent plate thickness, plate relief, dot reproduction and correct content. Incorporate a plate-measuring device that can be used to measure your print targets – 75 percent, 50 percent, 20 percent and minimum dots – on each plate prior to going to the press. In the plating department all imaging and plate processing devices must have a cleaning and calibration schedule that is known and posted.

Going hand in hand with the polymer specification will be your tape or sticky-back selections. Define your tape (sticky-back) choices for process, combinations and solids/whites. Be sure to keep on hand only what is needed. You don’t want eight choices lying around. The idea is to minimize your variables and limit your choices to your specific needs and processes.

Another area to address is the ink room, especially when matching line/spot colors and custom colors to meet your customer’s expectations. Your workflow should incorporate a method for matching your ink color proof to your press prior to going to production. This can be accomplished by adopting an ink proofing system. In today’s flexographic industry there are many different types of proofing systems, each with their plusses and minuses. Adopt a system that uses anilox inventory specifications which correlates to your on press anilox inventory. Having optimized your anilox specifications for your presses, you can do the same using your anilox inventory needed for an anilox proofing device. Adopting this proofing workflow can save hundreds of thousand of dollars annually in excess ‘work-off inks.’ The key to successfully accomplishing this efficient workflow is in the optimization stage – defining your anilox specifications for your print needs – process, combination, spot, whites and varnish – and carrying that information over to your ink proofing device for a measurable correlation – anilox specification (numbers) to color – CIE L*a*b* or L*C*H numbers.

An optimized operation should have defined targets, measurable guidelines and defined tolerances. With an optimized operation and defined specifications and tolerances it becomes imperative to incorporate the numbers within your workflow and document the numbers at each phase of your operation. Running to numbers will enable you to become efficient, and have a greater ability to raise the bar of your operation. Incremental increase in quality will require tighter control throughout the entire process.

Communication always plays a vital part of any successful daily production, especially when changes are required. I audited a customer that had frequent down-time at the press. Analyzing the underlying reasons, apparently the prepress department periodically made the decision to separate different graphic elements in order to make it easier to print at a faster production speed. But changes made in the plating section were never communicated to the other departments. Once the job arrived at the press with the extra plate(s) mounted, there were no inks prepared for the extra plate(s) and the press operators were not aware of the extra color(s). As a result they had not changed out the extra print station(s) required for the extra plate(s).

In addition to waiting on inks, the press operators now had to make adjustments in their setup to account for the other color(s).

Similar scenarios are played out on a daily basis and can be alleviated by incorporating a numerical workflow.

In today’s flexographic industry the press manufacturers continue to make technological enhancements to their presses that can greatly contribute to improved efficiencies and faster press speeds. Improvements can be seen in both the narrow web and wide web markets. Some of the technologies include anilox sleeves, servo drives, UV curing units, auto registration systems, turret die changing station, gravure...
presses. The information that it generates will need to be set up based on specifications, targets and tolerances. Once your specifications are established it will be imperative to document and maintain your parameters. Variations in inks such as temperature and viscosity will affect the results. Also any changes in impression, sticky-back and especially anilox specs will also affect the readings. Variations in tolerances will occur from time to time in order to meet the needs of your customer. When such variations do occur proper documentation will be critical to assure correct reproduction of the job when there is a repeat order. It is always unfortunate when your repeat orders are not quickly and efficiently produced. Most repeat orders should be your ‘money-makers’: after all you’ve already successfully printed the job once.

**ANILOX CLEANER**

Investing in an anilox cleaning device and a microscope will be necessary. The condition of your anilox inventory should be part of your product history. Ideally, standardizing your anilox inventory will enable you to know what specification will result in specific color targets. Having proper care and maintenance practices and documentation will be critical to ensure consistent on-press results. All these technologies can be tremendously beneficial. Investing in any new technology will require adjustments to your workflow to assure that you are maximizing the potential gains of your investment. Once you have optimized your operation, you then have the opportunity to define the workflow guidelines to assure that any new technology is efficiently incorporated into your production environment.

* If it is a press, do what it takes to maximize your uptime by having all supplies correct and ready for every job prior to running.
* If it is a new plating/imaging technology, establish a calibration schedule to assure the device is performing consistently. Any and every imaging device will drift. Therefore, it is imperative to define and establish a posted calibration schedule.
* If it is a plate processing device define a schedule for maintaining good fresh chemicals required for process/washing.
* If it is a change to new anilox specification – particularly for higher engraving specifications of 1000cpi-1400cpi – invest in a chemical bath cleaning system and a microscope for inspection of the anilox prior to use.
* If it is a new press, understand the what, why and how for each button required to maximize the operation of that equipment.

Investing in new technologies is a great idea, however the act of purchasing new equipment does not automatically guarantee success. Adopting and defining workflow guidelines for each new technological investment(s) will greatly improve your daily efficiency and contribute to your bottom line. Remember, your suppliers and co-vendors can be of great assistance in providing setup, calibration and maintenance guidelines. Maximizing today’s flexographic opportunities is possible and, yes, it does involve change. If you are not willing to incorporate a defined numerical workflow, in order to get it right the first time, raising the bar of your operation will be a painful experience.

As Steve Jobs famously said: ‘We had a fundamental belief that doing it right the first time was going to be easier than having to go back and fix it.’

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