Benjamin Franklin was known for many things, including being a printer. He once said, “By failing to prepare, you are preparing to fail.” He must have been thinking about printing. Our industry owes its success to following known processes to get the desired outcomes. Collectively, our future success rides on the great advancements that can be found in current technologies, especially flexographic presses. It behooves you to make careful preparations to extract the most benefits from your investment.

You will also have an investment in your anilox roll/sleeve inventory, and it is important to give it careful consideration regarding storage, transportation, cleaning and protection from debris. Unless you love the thrill of risk taking, the best advice would be to meet these new challenges head on. Develop a plan. Include a thorough map of all necessary steps. Complete its execution.

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New Press Anilox Protocol
Considerations to Protect Your New Anilox Inventory!

By Sean Teufler

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Where can you get all this information at a moment’s notice? When it comes to a press and press area, your best sources for understanding the challenges are your employees, press representatives and your suppliers. They are the
experts in their own disciplines and will guide you. We have done our best to assemble a strategic anilox/pressroom plan that once executed, will give you the best opportunity to be prepared and functional when it is time to start running. When it comes to anilox-related issues, you need to look at the operation broken down into three stages: before press; press assembly/testing and day-to-day operations.

BEFORE PRESS

Begin by establishing a new press “implementation team.” This team is to implement and integrate the new press and everything that comes with it to best optimize the investment. The team needs the management participants and representatives from the press OEM, equipment suppliers and your press team; plus maintenance, scheduling and material handling personnel.

Once your suppliers are chosen, solicit their input and suggestions, and when needed, their involvement. Keep in mind, it’s easier to change plans before equipment arrives, rather than after the floor is full. As with all teams, always assign “tasks and a timeline.”

You need to first make sure you have enough room for all the ancillary equipment (racks, carts, ink and solvent tanks, cleaning tanks, spare chambers, etc.) that will come along with, or are needed for, your new press. You have to consider work area, workflow around the press area and proper storage. Your suppliers will be able to help you understand and plan for the requirements for ink, anilox and plate staging and storage.

It is a good idea to draw out your press area on a detailed floor plan, decide placement of press and begin to place spacing requirements. Keep in mind, if you are installing your first sleeved press, it is typical for a press of this caliber to produce at twice the rate of an older press. You will have increased demand and faster workflow. Therefore, all floor-plan decisions must also consider the higher frequency of substrate transfers and higher frequency press component transportation.

Once you have the first round of planning completed, this would be a great time to share the plan with the OEM and suppliers. Determine if there is anything left out, or something in need of improvement. This is a great time to ask if you have all the necessary equipment. For large operations and convenience, a secondary (anilox and or pans, trays, chambers etc.) cleaning system(s) outside the press is a common sight. If you need it now or in the future, this is the time to plan for its inclusion.

In the example shown, magnets and filters are integral to keeping inks and press plumbing free of debris.
You will obviously need storage capacity, so make sure you have enough to store all aniloxes and with proper protection. Employee safety is the number-one consideration, so ask early on for the estimated weights of any hand lifted components. If you go with an established design or one of your own, have your anilox supplier review the storage system for any concerns or deficiencies that may have been overlooked. Consult your employees (implementation team) on how they would like the equipment arranged, so they have easy, convenient and quick access. Design your workflow to keep clutter and non daily needed items out of the pressroom.

You will also want to plan on both how and where to utilize debris mitigation tools, like magnets and filters, in your ink flow. This may include magnets and filtering for the inkroom as well, to capture any debris before going to press. Since the press area can be a source of debris from operating and servicing, you will also need to plan for in-line countermeasures. Any equipment you decide to use will need handy directions and instruction for the personnel who will use them.

Ask yourself the following questions before you take delivery of the new press:

- How will we store anilox rolls/sleeves?
- Do we have, or will we have a secondary cleaning system?
- Have we designated an area for anilox cleaning and storage?

- Do we have an action plan to prevent debris mitigation in the ink system?
- Have instructions been prepared for anilox care—cleaning, installation/removal, handling/transportation?
- Have we planned for magnets/filters handling in the workflow—installation, cleaning, inspection, etc.?

If you do not have a designated “trainer,” assign a member of the implementation team to read all instructions and be responsible to make sure all shifts get the proper training and information. We often see equipment used in a press area without any direction and a trial-by-fire learning experience that often ends badly and or costly. Worse, when equipment fails there is not enough knowledge to determine equipment failure, so you end up with problems whose source is unknown and therefore no effective solution.

PRESS ASSEMBLY / TESTING

When the press arrives and is getting assembled and dialed in, your next series of challenges begins. Press assembly and testing is a critical stage in saving the condition of your anilox engravings. All the components are coming together, some tested and some not, and debris can be an issue if left unchecked. Any components and piping carrying ink and flushing fluids (reclaim or detergents) will need to be flushed out to remove debris from the manufacture and assembly of the component.
Be sure to flush in both directions and repeat as necessary. Debris can get trapped in one direction and will only come dislodged when flushed in the opposite direction. Failure to do so may set you up for damage in the near future, as the debris gets free en masse, or one sliver at a time. Debris can get trapped in some pumps.

Once you get your press, do you have instructions on how to use the equipment properly? Are there any hazards you need to be made aware of? A great example would be the build of the enclosed chamber. While a simple process, someone building the chamber must understand the importance of the blade laying flat and the need to sustain a clean, pristine blade-rest area.

During the assembly, this is the perfect time to address training and take every opportunity to get “hands-on” before the clock starts ticking on production demands. Practicing the proper methods of changing blades and end seals can avoid costly anilox damage. Timing is everything, so if you require outside resources, please plan ahead so you have everyone and everything you need at your fingertips (anilox, sleeve, doctor blade, cleaning and other seminars). The extra effort will pay off later in day-to-day operations.

Develop a simple checklist for press assembly/testing:

• Examine need for added cushion points in press, storage and transportation of aniloxes
• Flush ink storage/dispensing system, ink delivery system and wash-up
• Use old anilox for initial deck calibration/setup
• Time all automated wash-up cycles to make sure rotating anilox is kept wet the full length of the engraving
• Double check all decks to make sure they do not rotate dry while waiting for ink
• Perform ink pump maintenance, including hose changing and adjusting pump speed or flow setting
• Distribute instructions on chamber and blade handling—calibration, assembly, installation, removal and cleaning

A overlooked area of concern is press modification, monitoring and debris control. Make sure there is a procedure in place that covers the drilling of all holes and grinding of any accessory installations. The shavings created must be contained; simple ways to address the issue include magnets, grease or even double sided tape near the area.

Never blow off machining area, as it will scatter the debris and make it impossible to account for all of it. Unaccounted-for shavings can fall, become trapped and later on become recurring anilox damage nuisance.

**DAY-TO-DAY OPERATIONS**

Day-to-day operations can be defined as processes in motion. How well your processes function and whether there is participation and engagement to make sure workflow procedures are followed are your two primary concerns. Your press operators, supervisors and managers must have full involvement or the desired process outcomes will not be sustainable over the long term.

Ben Franklin also said this about getting participation and engagement: “Tell me and I forget. Teach me and I may remember. Involve me and I learn.” It is not enough to put your whole pressroom in motion without auditing and diagnosis, so you must have a way to check your processes. Schedule a one month and two month follow-up meeting for the implementation team. You can certainly have your own auditing system set up, but you might want to take additional advantage of external review. Having a second set of eyes, especially from an external source, often helps you pinpoint conditions that need to change.

Your suppliers often have people who are trained and certified to do press-area audits to help make sure your implementations are successful. Don’t be shy about utilizing them. When it comes to anilox processes, monitor how aniloxes are being used, cleaned, installed, removed, stored and transported. Check peripheral items of the inking system, like doctor blades for wear and slivers; check ink magnets and filters for debris. It is a good practice to have the operators keep a log of all blade and filter/magnet maintenance, many of the new presses have available screen tabs for this purpose.

Here is a day-to-day auditing checklist for anilox rolls/sleeves:

• Are designated practices being followed?
• Is documentation filled out properly and consistently
• Confirm chamber pressure (when possible use 1/8-in. red tape and add to pressure gage at the maximum allowable pressure)
• Perform a used blade analysis to double check blade wear and alignment of chambers

You do not need a large press area footprint to store your anilox properly.
• Arrange a press-area walkthrough by a supplier to spot potential deficiencies
• Examine any solvent reclaim system looking for debris, before using in press (mesh filters with magnets are a must)
• Establish maintenance debris and trash removal procedures

Making your great investment pay off for you requires careful preparation. Alone, a new press will not make for a completely successful pressroom. You need to create processes and workflows that define how you want things done and take care of the equipment you have at the same time, especially aniloxes.

Focus on preparation, documentation, workflows around your press area, thoughtful training and utilize your suppliers to help you bring these goals to fruition. Make sure every employee understands the great investment you have made and how important it is to maintain it throughout the process of a new press installation and carrying it on long-term during your day-to-day operations.

Any adventure has its share of challenges. Don’t let your challenge become a failure to address the potential for anilox scoring, premature engraving wear or anilox handling damage. The major reason for anilox reconditioning is surface and or sleeve damage. You don’t want to use your aniloxes to detect debris in your system. The burden of determining what went wrong after the fact falls on everyone. It is better to be proactive.

Please consider the above protocols to help you on your quest to capitalize on the opportunity you have given your company so you can rise above those challenges. Start by planning for your new press anilox care today.

About the Author: Sean Teufler proudly serves the central United States as a technical graphics advisor for Harper Graphic Solutions, a division of Harper Corporation of America. He recently led the Flexo Quality Consortium (FQC) project on Narrow Web UV Ink Spitting and will serve as co-chair for FTA’s 2012 Fall Conference, “Efficiency in Flexography: Connecting the Dots.” The event is set for Milwaukee, WI, Oct. 15-17.