cores, nicks and gouges. Crushed cells, mushroomed sleeves and chipped ends. When you look at your anilox inventory, is this what you expect to see? How often do your employees complain to you about the condition of the rolls?

The costs of dealing with anilox damage should motivate every pressroom manager and supervisor to constantly pursue ways of reducing such damage. You have the power and authority to make the changes necessary for effective implementation of a plan to tackle the problems.

Here are a few questions to consider when thinking about ways to address the roll-damage issue:
• What can managers do to help their employees reduce the destruction of aniloxes?
• What would you find if you toured the pressroom floor and looked at the anilox inventory in detail?
• What are your expectations to reduce or even eliminate damage?

The topic of anilox damage has been explored and explained many times in articles, seminars and conferences, yet the problem continues to plague almost every pressroom. In this article, we’re going to look at three areas in which both anilox environment and operator awareness are critical to control anilox-related costs: storage, cleaning and installation. This information will help you identify the “missing pieces” of anilox care in your pressroom, with the ultimate goal of significant and measurable improvement.

Storage & Roll Protection
The key functions of storage are to house the anilox and to protect it from damage; the storage area should not be a source of damage. Storage is often overlooked as a source of anilox damage because off-press handling and cleaning typically bear the brunt of the blame. It is actually the most important source of impairment, simply because it gets little attention.

Your first step in assessing anilox storage should be to look at how well your storage area functions. You need accessibility to the area and room to maneuver. Observe the practices around the storage area and judge for yourself if adequate room is available.

What do you notice about the storage racks themselves? Racks often lack proper safeguards to prevent damage; they may have exposed metal areas that come in direct contact with the anilox. Such exposed areas must be shielded.

One example is the metal pegs that hold rolls. In day-to-day operations, pressroom workers miss seeing how often a roll face strikes an unprotected peg. You’ll spot the result-
ing dings not far from the edge of the anilox face. Consider the use of tubing for pegs that support the journals. Utilize plastic guides over metal-frame contact areas, and use foam pieces for cushioning.

If racking systems are not used, the cases that rolls were shipped in should serve as the primary storage area. This should not be a problem, provided that lids are kept in place to prevent tools and other items from falling into the cases and inflicting gouges and scrapes on the anilox’s surface. It is best to have a storage rack even for these shipping cases, specifically to avoid placement of tools under tool benches, which tend to draw a lot of activity and dropped items.

The worst possible scenario is no protection at all. I have witnessed aniloxes stacked up in pyramid form, occasionally with a few shop towels separating the faces from each other. This will not work in the long run—for obvious reasons—and puts the majority of the inventory at risk.

The greatest enhancement to roll protection during storage is roll or sleeve covers. They add mobility and help reduce damage when rolls are moved from the storage area to press and back. Without this protection, the face is exposed to every impact hazard for the entire time it travels.

Keeping it Clean

The next phase of anilox damage reduction is roll cleaning. The best method cleans the roll efficiently without damaging it in the process. An added benefit of effective cleaning is that, after the initial clean up when a station or deck is shut down, it will be less necessary to handle the anilox outside of the press.

Your cleaning procedure should be written by your top operators and documented on paper. When this has been done, review it with the entire staff. Make necessary adjustments, come to an agreement on the best cleaning practices, and implement those practices.

Documentation will be worthwhile, only if everyone who will be performing cleaning duties can demonstrate each step properly. Demonstration is truly the best way to ensure that procedures will be followed consistently, and that everyone has been trained.

Once employees are instructed on correct cleaning procedures, make sure they know how to identify whether the cleaners are working properly. To accomplish this, conduct side-by-side testing of different cleaners on the market.

In order for your employees to perform quickly and effectively, the cleaners must perform in a similar fashion. Some presses are designed for cleaning to be done at a station or sink away from the press. Make sure this area is designed for cleaning aniloxes.

If a sink is used, have non-slip pads installed and foam padding available on the edges of the sink to prevent scratches. All cleaning areas should be free of sharp corners and obstructions, and should allow rolls to be manipulated without interference.

Occasionally, aniloxes will not be cleaned well enough at press due to the nature of the ink or coating system. For those cases in which an anilox needs extra care, remove it and take it to an off-press cleaner such as an ultrasonic, blast media, water jet or similar system.

It is important to note that off-press cleaning systems are effective when properly maintained. They need occasional attention and cleaning, but are sometimes taken for granted. Make sure the off-press cleaning methods you use do not damage the roll due to poorly maintained and/or misused equipment.

Quite often, proper training and care of the cleaning systems will reap the benefits of rolls that are not only clean, but also undamaged. Damage to aniloxes will occur when cleaning systems are not functioning correctly either because settings for pressure, cleaning-solution condition requirements, blast-particle size and dwell time are raised; or because the controls themselves are too filthy to operate properly.

Careful Loading

Installation and removal seem like basic procedures that shouldn’t be causes of damage. Often, however, the difficulty of loading and unloading a sleeve or roll will contribute to many of the scrapes and gouges that an anilox sustains.

Confined space on press and around the adjacent press area makes for difficult anilox installation and removal. Frame walls and other press parts tend to make roll removal hazardous. Orientation of unwieldy rolls demands an adequate mobile racking system that allows control of the anilox.
Take a look at your press; observe anilox loading and unloading. In doing so, you will discover obvious points of contact or evidence of such bad habits as relocating the roll without clearing those hazards. Long scratches parallel to the face of the anilox roll, for example, are a strong indication of installation troubles. This problem can be eliminated by protecting the face of the roll during the critical loading and removal processes. Roll covers perform this function quite effectively for most presses.

Special rules apply for installation of sleeved aniloxes. The first rule is to make sure there is enough air pressure in the system at the proper level to allow removal of the sleeves. Low air pressure will prevent any motion of the anilox along the mandrel.

The second rule is to keep the sleeves clean inside and out. This is important for unloading the sleeve from the mandrel because even a small amount of ink wedged between the bladder and mandrel will create an adhesive bond that hampers sleeve removal. This is because the inner diameter of the sleeve is undersized by design to make a snug fit. Any contributions to this undersizing will increase the likelihood that the sleeve will sustain damage on the ends of the roll.

Attempts to pry the sleeve loose or work it back and forth can cause a mushroomed end, increase TIR (Total Indicated Runout) and result in loss of circularity. Striking the sleeve to drive it off the mandrel is an unfortunate practice that contributes to damage. This can be prevented entirely if the mandrel and inside of the sleeve are kept clean.

A Team Effort
There is no need for managers to continue to be frustrated by the continued costs of replacing aniloxes due to damage. They must focus on two factors: environment and awareness. The value of setting up a maintenance system and maintaining it properly more than compensates for the cost of roll damage and the administration of downtime that would otherwise occur.

Use the tools presented here to maintain the condition of your anilox rolls in their environment and to enhance employee skills in caring for anilox rolls. Skill enhancement is achieved by increasing workers’ awareness of anilox surroundings, documenting proper roll cleaning and handling procedures, and training. Seminars on anilox care and maintenance are always helpful.

Staff cooperation and teamwork are important for successful implementation of the changes required. Don’t overlook scheduling a shop tour and training sessions with your anilox supplier to help identify anilox roll environment problems. A second set of eyes always helps.

Finally, please remember that anilox damage cannot be effectively reduced—and aniloxes maintained—without a concerted effort on the part of your company’s management-level employees. Taking these steps will put you back in control and allow you to effectively manage your anilox inventory.

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