Making the right financial commitment in the pressroom is paramount for any printing company. If you invest in the right equipment, experienced people and staff training, the odds are in your favor in terms of keeping your existing customers and winning over new ones.

Part of the matrix is ensuring your investment is well-protected. If you take care of equipment and your people, you are ultimately taking care of customers.

For package printers and converters, anilox rolls represent an integral part of this investment.

The common goal of most printers is to achieve adequate color density, and being able to reproduce it in each successive run and from press to press.

When color density problems occur, in many cases the fault can be traced to the anilox rolls, which must have adequate volume and consistent engraving—from end-to-end and roll-to-roll—to achieve and reproduce the desired colors. Without either one of these key prerequisites, it’s money down the drain.

The life span of an anilox roll should be about five years. In the real world, alas, this just doesn’t happen, with the number one reason why an anilox roll is sent for reconditioning being some sort of damage that can be traced to operator negligence.

To help prevent this scenario from plaguing your pressroom operations, here are some simple precautions and procedures you can take to extend the life of your anilox rolls:

• Protective covers.
  Anilox rolls should always have protective covers on when not in the press. Too many nasty things can happen in the pressroom to cause a scratch or ding on the anilox surface. The resulting damage will show up in the printed product, and the roll will have to be repaired or tossed out.

• Anilox roll storage.
  Proper storage is vital to preventing damage. So either build proper storage racks or purchase them from the anilox suppliers themselves.

• Quality doctor blades.
  The second most-common cause of anilox damage is the lack of knowledge about the integral components in the press, and not ensuring that these components are of good quality.
  The inks, the doctor blade, the end-seal and the plate are four process components that come in constant contact with the anilox roll, with two of them—the doctor blades and the end-seals—easily capable of destroying the anilox roll if they don’t work in tandem with one another.
  It is imperative to remember that not all steel is equal, and some blades wear out quicker than others. It is the tensile strength of the steel, sometimes referred to as “micro particles,” which determines the strength of the blade. The more tensile strength or micro particles, the longer the blade will last, since less material is...
shaved off and circulated through the inking system.

Inferior doctor blade material can produce score lines on the anilox roll, and once the score line becomes visible, it is a clear sign that the grinding of the doctor blade fragments has flattened the cell walls in the circumferential area—rendering the roll useless.

• Quality end-seals.

All end-seals must have some type of lubrication on the radius of the seal where it comes in contact with the anilox roll. It is not uncommon in many pressrooms to see leaking end-seals, with the operators mistakenly reacting to the problem by instinctively cranking down on the chamber to stop the leaking.

This is a completely wrong response to the problem. Not all end-seals are equal, and most times it is not the end-seal itself that does the damage, but rather what is actually done on the press.

While there are many different materials used to fabricate the end-seals—foam, rubber, cork, plastic, styrofoam, etc.—the bottom line is that you should utilize a quality, lubricated end-seal that will seal the ink in the chamber without leaking, while allowing for the OEM-recommended settings of the chamber itself to be used.

A non-engraved area, sometimes referred to as a “dead band,” should always be positioned on the ends of the anilox roll, approximately the width of the seal. If the seal is a half-inch-thick, the dead band on the anilox should be a half-inch-wide, and so on. This is recommended because engraved cells underneath an end-seal will accelerate ink leakage and wear out the end-seal.

• Filter the inking system.

It is a given that foreign particles can and will find their way into the inking system one way or the other. Paper dust, dried ink on bucket lids falling off in the ink, doctor blade material, and metal particles from pump wear can all cause considerable damage to the anilox roll if it is not taken out of the ink system by filters and magnets on the press. A typical configuration to achieve this goal would involve a combination of a filter and a magnet mounted on the pump outlet and on the chamber inlet or the outlet.

A good analogy would be the oil filter in your car engine, which captures unwanted grease and sludge that can coat the valves and degrade the performance of the engine. The press needs and deserves the same level of care. By filtering inks, the inking system will remain free of debris and increase the life of your anilox investment.

• Anilox Roll Cleaning.

One of the most common anilox-related problems plaguing pressroom operations is having the anilox rolls lose color as the cells become plugged up with ink.

There are many ways to clean an anilox roll, but there is no replacement for elbow grease and a stainless steel brush for ceramic rolls, and a brass brush for chrome rolls.

It is important to be aware of the problems which can be caused by chemicals. Never clean a roll with a chemical that has a pH value over 11.0; but the pH should never go below 6.0, either. If a chemical is outside of this pH range, it can delaminate and lift the ceramic or, in the case of a chrome roll, cause the coating to become pitted.

There are many sound mechanical cleaning concepts and systems in the marketplace to address this problem, but it is important that you consult with your anilox manufacturer when purchasing a mechanical cleaning system as to the best method for cleaning their products.

Protecting your anilox investment is of utmost importance to printers and converters everywhere, as the cost-savings related to press downtime, roll replacement, seal replacement, blade replacement and general maintenance can save printers tens of thousands of dollars on an annual basis.

Bobby Furr is technical product manager for HarperScientific, a division of anilox rolls manufacturer Harper Corporation of America of Charlotte, N.C.