

Mild Acid Formulas Improve Print Latitude

by Michael Walsh
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There is no question that newspapers today are under continuous pressure to improve quality and lower waste. Advertisers and readers are demanding that newspapers offer output quality equal to what they receive from commercial insert printers.

In response, newspapers have greatly enhanced and upgraded their press capabilities. But here's another tactic publishers frequently overlook when they are want to boost print quality: If you're currently running a neutral or alkaline fountain solution, switch to a mild acid fountain solution.

Acid standard

Acid fountain solution is the industry standard for commercial printers. In fact, printing with a pH between 5.0 and 5.5 is very common in most European, Canadian and South American countries for coldset printing. Using a solution with that pH is also rapidly becoming a trend in the United States. Indeed, an acid pH and the addition of pure natural gum Arabic or a synthetic gum can greatly enhance the performance of the fountain solution. Mild acid solutions also yield another benefit: Water settings can be reduced by as much as 30 percent. This, of course, leads to a substantial reduction in ink. Consequently, reduced ink and water will give sharper reproduction, with brighter colors and sharper half tones. Another benefit is less set-off and less show-through. Finally, research has determined that running less water can help reduce or eliminate such pesky hassles as paper curling, fan-out and circumferential register.

Keeping it clean

Mild acid fountain solutions have been used for many years to help reduce print problems associated with tinting, toning and other plate issues. Indeed, my first venture into using a mild acid fountain solution, more than 20 years ago, was to solve a toning problem. Mild acid also offers a wider window of ink and water balance. This extra latitude can help minimize some of the plate surface defects and variances. The constant replenishing of the non-image area with natural gum Arabic or gum substitute, meanwhile, helps keep the non-image area clean. I have also seen mild acid eliminate fingerprints.

Paper efficiencies

Mild acid — as opposed to neutral or alkaline fountain solutions — also helps reduce paper waste on press restarts. Cleanups are also less onerous thanks to the fact that mild acids have stronger desensitizing properties. Years ago, concerns with acid fountain solutions lead to the development of alkaline, and eventually, neutral fountain solutions. However those legitimate past concerns were, innovations in mild acid solutions have all but erased those worries. One valid worry is press corrosion. But unlike most neutral and alkaline products, acid fountain solutions contain corrosion inhibitors. It is for this reason that many of the European press manufactures recommend mild acid products for the startup of a new press. Users concerned about their acid content can have their fountain solutions tested by FOGRA, a print process organization based in Germany. For a fee, FOGRA - www.fogra.org will evaluate fountain solutions for corrosive properties. Bacteria concerns, meanwhile, have been addressed by reformulating some of the ingredients used to develop the latest generation of mild acids.

Dampeners

Mild acid has been used successfully for years on presses armed with spray bars. Mild acid does,

however, appear to be more effective with direct dampeners than with ink train dampeners. That's because ink-train dampeners require the ink to carry the fountain solution to the plate. Mild acid normally removes as much as 25 percent to 40 percent of the water pickup of the ink. Depending upon the type of ink used, this can either be a benefit or an obstacle. To eliminate problems, perform a water pickup test on your existing ink prior to evaluating the use of mild acid solutions.

Costs

Acid fountain solutions generally cost more than alkaline or neutral alternatives, however, I believe they can cost less to use. The savings in ink and paper alone can far outweigh the increase in purchase price. So the next time your pressroom has tinting, toning, fingerprints, mottled print, poor laydown, excess emulsification, curling, slow restarts or complaints from advertisers about the quality, try mild acid and see what happens.

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