

NO ALCOHOL IS THE RULE FOR US PRINT FIRMS

With keen interest I read your articles: *Jarrols Test New Chemical*, *Alcohol Free Cheers*, *Don't Mess With The DoE* and *One Jump Ahead Of The Law*. Here in Great Britain's largest colony, virtually all cold and heatset web offset printing presses are and have been printing without the use of Isopropyl alcohol.

It is estimated that 20 per cent of all multicolour sheetfed offset presses are also currently out of alcohol. Over the years there have been claims from many fountain solution manufacturers that their product is truly an industry revolution. The fact is just Saying NO to Alcohol and joining the revolution may have you saying yes to some nasty alcohol substitutes.

Two part solutions can be double nasty as many single step solutions will not hold ample amounts of solvents without separation. This necessitates fountain companies adding the second drum of alcohol substitute to get the job done. Butyl Carbitol Solvent, Butyl Cellosolve Solvent, 2-Butoxyethanol, EB, Glycol Ether EE Acetate, Chromic acid, Formaldehyde, to name few can be some nasty customers in a closed environment like a printing plant. With higher and higher speeds one can expect a misting of these chemicals.

Disposal of contaminated solutions containing these chemicals also present a longer term problem as our environmentalists and health care experts can testify. Chemicals which dissolve the oils or polymers in rollers make the rollers shrink, thus increasing the durometer and altering the roller settings. Alcohol, along with many of the above mentioned solvents, has just this reaction to rollers. So what is the answer or, to coin a pun, solution?

A. Ink. Get your ink company involved with your fountain solution supplier. With your solution mixed in your actual water used on press-run pH drift tests with water pick ups one minute, three minutes seven minutes and 10 minutes. Fountain solution with high mixtures of solvent like Butyl Cellosolve actually force ink manufacturers to body up their inks to prevent misting and maintain print density. When utilising a fountain free of Butyl Cellosolve while eliminating IPA, the printer can actually run lower ink/water balances. If the inks remain formulated to high solvent solutions and IPA usage, the printer will experience a 'drying up' of the inks as the ink/water balance is reduced. Thus the water levels are increased, the ink can no longer take on the excess water and over emulsification occurs.



B. Dampening rollers. Have your roller manufacturer test your fountain solution for its cause and effect on your roller train. You are not going to print free of nasty solvents and alcohol if your rollers continue to drift above 35 durometer, especially on your water form. Some dampening systems have a habit of flooding the centre of the plate and forcing the printer to run heavy stripes and IPA to carry the excess water out of the system. Look at dual-durometer water rollers to spiral the excess water to the gear and button side of the press.

C. Once your rollers and chemistry stop fighting each other the settings can be lighter. Remember you can force an ink/water/high solvent emulsion through a tight squeeze yet when you remove this high solvent emulsion you will achieve far better control.

D. Accurate proportioning. Ensure you use a conductivity meter to check your water and fountain mix. With highly buffered solutions the pH is stabilized. This means you can add one litre to the whole drum and your pH is the same. You need a system to check the accuracy of your blender and conductivity is the system. Don't get caught up in the conductivity of the circulation tank, only check the blender to ensure it is mixing to the proper conductivity.

E. Temperature. Save your electricity and compressors, set your chill tanks at 60°F or 15.6°F and ensure your feed and return lines are insulated so pan temperatures remain stable and uniform top to bottom and unit to unit.

F. Filtration. Install a good primary and secondary filtration system from the press return lines to the refrigeration tank. You will print with less variables and the solution will last a longer time between draining and cleaning.

G. Down. Down is the buzz word. Low ink/water balance will improve your print and stability of

Inks: get your ink company involved in your fountain solution.

colour, registration and lower paper waste. With a cool fountain pH coupled with a thinner ink/water emulsion you can lower the web exit temperatures, thus improving ink gloss and web shrinkage which is a direct cause of web breaks, corrugation, and overriding your chill drums so you never will achieve a proper ink set. Remember the ink is not heat-dry ink, it is heatset ink.

H. Paper. Just as you the printer must turn the pages over to hand your industry to the next generation with a cleaner, healthier and brighter future, so must the paper mills. Acidic wet end forming coupled with chlorine bleaching of the fibre results in an environmental problem. Alkaline wet end forming has provided the mills with a remedy to this problem and the ability to utilize more calcium carbonate (CaCO₃) or PCC (precipitated CaCO₃). Put your fountain solution in a eye dropper and put a drop of the straight solution on a paper containing CaCO₃. If you see tiny bubbles and the solution sits there and makes the paper transparent, you have a problem and so does your fountain manufacturer. The problem is insoluble salts that build on the blankets, cause piling and add petrol on the fire of slip roller build up.

I. Get It together. Training, team work from crew to crew and the desire to make the change will take 90 per cent of the printer's perceived problems and toss them to the wind.

The notion that quality will suffer could not be further from the facts. I have personally printed a 400 line screen on a heat-set web press without a problem, running free of alcohol and void of nasty solvents.

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DEAR Sir!