

SOME FT. SOLUTIONS ATTACK AQUEOUS COATINGS

Alcohol substitute fountain solutions that use Butyl Cellosolve as a component should be avoided! The use of these fountain solution formulations has been found to retard the drying/curing of aqueous coatings, significantly softening the coating film. This raises the potential for blocking, rub and slip problems.

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The past several years have seen a continuous effort on the part of fountain solution formulators to supply an effective product while eliminating the use of alcohol. This has resulted in innumerable 1 - step fountain solutions, so called alcohol substitutes being offered the printer.

The alcohol substitutes utilized are chosen because they are low VOC (volatile organic compounds) materials. By nature they are not as volatile (quick to evaporate) as alcohol. It follows that these slower evaporating materials do not readily volatilize in the press fountains, from the ink rollers or from the printed job. Roller train build up is something that requires watching because build up will cause ink and water balance problems.

Another problem that can develop when excess non-volatiles do not evaporate from the printed job is retarded ink drying. An ink film that remains soft may produce unwanted marking, offsetting, picking and blocking problems.

It is key that the printer recognizes that the minimum amount of alcohol substitute fountain solution (non-Butyl Cellosolve type) be run. High solid sheetfed inks formulated with the minimum total solvent content should also be used. This combination will raise the odds for the printed job to dry/cure effectively producing a desirable rub resistant surface.

The water and ink oil absorption rates of the paper, and or paperboard stocks being printed can also affect aqueous coating quality. If for example, the holdout of ink oils is high, then inks will tend to set very slowly under aqueous coating. Blocking, offsetting, and picking can result. If the holdout of water (fountain solution) is high, then fountain solution not absorbed by the paper, and or paperboard, will be held in the ink. This can produce an unwanted softening, (plasticizing) of the aqueous top coat as the ink film tries to dry over time.

In conclusion, successful printing and aqueous coating is the result of many variable elements being brought together correctly by the printer. Alcohol substitute fountain solution is one of these elements and it must be chosen with knowledge and great care.