



CANADIAN PRINTING INK MANUFACTURERS ASSOCIATION INKS AND AQUEOUS COATINGS – A CONSIDERED MATCH

Aqueous coatings can improve or modify the characteristics of the final product. Some advantages of aqueous coatings include:

- improved rub, scuff, grease and/or oil resistance
- a gloss, semi-gloss or satin finish
- prevents bronze powders from rubbing off

Obtaining a top quality aqueous coated product involves the interaction of many factors. Substrate variations, printing ink composition, ink coverage, fountain solution, printing process, coating process, speed, drying, shipping/handling and environmental conditions can all affect the acceptability of the final product.

Aqueous coating will function well on ultra quickset inks with a low polyethylene wax concentration. Inks with micro-crystalline, PTFE and silicone additives should be avoided. The quicksetting characteristic is important as the faster the underlying inks set, the faster the aqueous top coating will dry. The drying conditions should include an infrared energy source and/or directed hot air, along with extraction fans to move the moist air out of the pressroom.

Ink pigments, particularly alkali and solvent sensitive pigments, may show undesirable colour shifts after an aqueous coating is applied. The colour shift may occur immediately or take 24 hours or more to develop. Pigments that should be coated with caution include: Rhodamine Reds (yellow and blue shades), Reflex Blue, Methyl Violet and Red Lake C. Colour shifts may also occur with pigments such as Lithol Rubine, Red 2B, BON Red and Lithol Red and some fluorescent pigments, primarily the pinks and bluer shades.

Alkali resistant permanent pigments such as Naphthol Reds and Quinacridones are recommended, especially in light tints where any colour shift is more readily noticeable.

Providing the ink formulator with information on the coating and coating process can minimize color shifts. At a minimum, the information should include a sample of the coating. This will allow the ink formulator to test the coating on the ink and stock. The test can mimic the actual printing process by applying coating wet over wet inks or wet over dry ink. Colour and other performance properties can be checked a minimum of 24 hours later.

Accurate information and pre-press testing are essential in ensuring a quality coated product.

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