Tech Talk From Prisco®

Tech Talk #C15

PIGMENT BURNOUT

The number of variables in the printing process is oftentimes staggering and controlling the variables can seem impossible. The variations found in substrate, printing inks, pigment types and percentage used, ink coverage, ink and water balance, printing process, coating process, press speed, drying ability, pile temperatures, shipping and handling, environment, etc. can be challenging to control.

This Tech Talk from Prisco® focuses on the pigments of ink and the issue of "burnout" or color shift. Most sheetfed inks are made using transparent organic pigments. Some of these pigments are susceptible to color shift when exposed to an alkaline environment, i.e. aqueous or UV coating. The burnout is typically caused by the differences in pH between the alkaline environment and the acidic pigment. A chemical reaction creates a neutralization causing the pigment to reflect different light wavelengths ultimately changing the color. Sometimes other contributing factors are involved to facilitate the reaction such as heat, pressure, and time. The color shift can take twenty-four hours or longer to develop. Other times color shift may be observed immediately.

The alkaline sensitive pigments and colors include:

- Rhodamine Red
- Purple
- Violet
- 072 Blue
- Reflex Blue
- Fluorescents and Pastels
- Or any color made using these bases

To address this issue, ink makers have developed imitation or synthetic pigments. Some refer to them "aqueous or UV coatable". Please contact your ink supplier to be certain the pigments are compatible with coating PRIOR to application or production of the work. Ask the question, "Will this ink accept Aqueous or UV coating?"

Pre-press testing of all the variable elements of the planned work is essential and always recommended before starting production.

As always, your local PRINTERS' SERVICE office is happy to answer your questions:

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