Viewing tinting in new light

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By Frank Bourlon

Have you experienced tinting problems?

The problem can be localized or sometimes very severe. And the problem can stem from multiple sources: plates, plate chemicals, plate processor, light exposure to the plates, chemicals in the ink that attack the plate, press cleanliness, fountain solution and the condition of the water being used to process the printing plates and the water being used in the printing process.

And the best approach to solving your tinting issues is attacking each probable cause individually.

If it's plates, you might have to try another source of printing plates. If you can't do that, then sample a plate from another manufacturing lot.

You might try to contact another print site that uses the same plates, and processors, that you do and ask them if they're experiencing the same tinting problem. Your plate supplier should be able to get you in touch with sites near your operation.

Assuming plates aren't the culprit, then tackle the processor. Is it clean? Is the light source constant?

How about the quality of the water used to process the plate? Reverse osmosis, distilled water or de-ionized water should be used to condition the water supply to the plate processor.

Once you are certain that the problem is not the plates or processor then you can concentrate on the press.

Clean surfaces, rollers

Cleaning the press' interior is very important to reduce any contamination that might exist on the ink rollers, oscillating drums and in the dampening system. Hard ink rollers will not carry ink very well and will tend to carry excessive water. The excessive water in the ink will contribute to the tinting problem that you may be experiencing.

The solution in this case would be to replace the glazed ink rollers with new ones. Improper print impression from the plate to the blanket or from the blanket to blanket will cause unwanted tinting as well. Normally, this type of tinting problem would be isolated to a single printing unit.

Ink and water balance will also increase tinting problems. The plate will tint if the ink density is too high, which decreases the ability of the water source to keep the non-image area of the plate

clean. Too much water in the ink will cause the ink to emulsify into the water, which makes the water less effective.

Additionally, a recirculating water system can contribute to tinting problems. In this type of system, water/fountain solution is pumped from a central tank to the water trays. The water/fountain solution then picks up contaminates from the water tray (mainly ink and paper lint with some solvents used to clean the printing units). The water/fountain solution is then recycled to the central water tank where it is filtered (somewhat) and then reused.

Go with non-return

This recycling introduces contaminates that will cause tinting on the printed page. Converting to a non-return water system is the best solution, especially since the water settling in the return lines overnight will grow bacteria, further increasing the likelihood of tinting problems.

Lastly, be wary of using tap water in your systems. I've seen dramatic improvements where press operators replaced the tap water they were using with de-ionized or distilled water.

Water temperature will also affect tinting. The easiest way to see if cooler water will help is to add ice cubes to the water tray while the press is running. If this helps, lower the temperature of the water source or the ambient temperature of the room.

Remember: Tinting can be eliminated over time through persistency and a methodical approach to solving your problem.

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