

# Problems maintaining ink density?

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By Frank Bourlon

It is normal to have some changes in ink density while the press is running, but how much is acceptable?

This depends upon the type of inking system. Digital inking systems are generally better than mechanically driven pump systems in keeping ink densities consistent.

But issues surrounding ink density may not always stem from the type of inking system a press is equipped with. Instead, problems may flow from the system's condition or how well the underlying infrastructure has been cleaned and maintained.

The problem may in fact be hard or glazed ink rollers, which will not allow a smooth transfer of ink through the system because of the roller's deteriorating condition. These rollers also become more sensitive to water, which makes the ink roller train less stable.

Out-of-round ink rollers will have a negative effect as well.

Operators should also check the condition of the oscillating drums along with the type of material used to cover them. As the copper plating wears off the drums, wear may be uneven, leading to additional ink density problems throughout the press run.

Additionally, ink pickup rollers or the micrometric roller can wear or become out-of-round. Irregularly shaped ink fountain rollers are other culprits.

## Check cylinders

Don't forget the main printing cylinder. If the plate or blanket cylinders aren't perfectly round, that will affect the amount of pressure between the components and change the ink density. Worn cylinder bearings will have the same effect. Normally, both of these conditions are easily diagnosed.

Dampening systems also contribute to ink density variations. Ductors, or water pickup-type systems, alternate between the water fountain roller and water oscillator drum, flooding the water delivery system every time it moves from one position to the other.

Although sock and brush systems deliver consistent water through the system, they become dirty, thus reducing the ability of press operators to apply the correct amount of water to each page.

The spraybar is a definite advantage, mainly due to the fact that water remains clean and that the apparatus is a one-way system that does not recirculate contaminated water.

Still, care has to be taken to ensure that pulse widths and spray duration are monitored closely. If the duration is too long flooding could occur; if the width is too short, the spray will become so fine that water droplets won't be directed to the plate.

It is important that nothing be overlooked when attempting to achieve consistent ink densities.

Here's a test: First, use a solid image across the entire plate. Then print the image at a density of .9 to 1.00 without water. Copies should be collected at various press speeds. After allowing the units to settle, collect 100 copies at each of the various press speeds. Doing this will also allow you to decide what steps need to be taken to correct your density problems.

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