

# Ink and Dampening Solution in Balance // Part 1

TIPS  
AND  
TRICKS

**IDEAL PRINT QUALITY** requires a stabile balance of ink and dampening solution in all printing units. To achieve this goal, Fogra developed a unique tool – the dampening control test form.

All printers want to set up their printing presses for the respective order as best as possible. Previously, machine set-up – and therefore indirectly also the regulation of the balance between ink and dampening solution – took place by measuring the ink density of the control patches on the edge of the printed sheet. Up until now, a suitable tool for testing and documenting the correct printing press settings was missing.

## Creating Uniform Print Conditions

Fogra therefore developed a dampening control test form which makes it possible to check and correctly regulate dampening solution application. With the test form and the corresponding adjustments, stable printing conditions can be achieved reliably in the printing presses.

Visual control patches show whether the inking and dampening units are nearing critical conditions. Thanks to the test form, printers recognize immediately if the print result will be even across the entire sheet format. In addition, they also see how big the differences are from printing unit to printing unit and can correct the settings accordingly.

## Identical Print Test Procedures

The print tests take place in all inking units according to the same procedure: First, the solid colors are set with as high a concentration as possible only by varying the inking ductor rate – without changing the usual mechanical settings. As soon as the target density range has been reached in all zones, dampening can be reduced to the point of smearing as well as full toning in one next step. If the printer wants to find out the range of dampening, over-dampening can also be tested. The ductor rates in the dampening unit are increased in separate, individual steps until a clear ghosting appears.

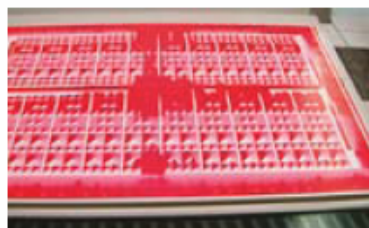
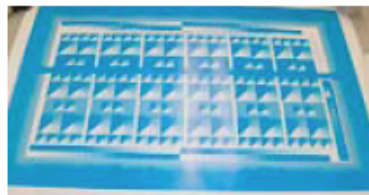
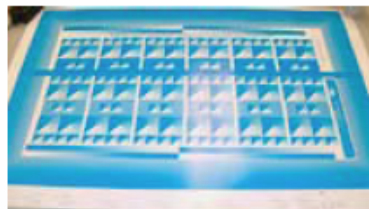
## Suitable for Nearly all Types of Presses

An ideally adjusted balance of ink and dampening solution shows only minimal deviations in tonal value analysis at various levels of dampening. Illustrations 1 and 2 show the printed sheet in the case of an ideally set printing press with over-inking and under-dampening. Illustration 3 depicts the printed sheet from a machine with poorly set dampening unit.

The Fogra dampening control test form is suitable for nearly all types of printing presses and smooth printing stocks, that can be used – including all combinations of inks, dampening solution additives, plate types, printing blankets and roller materials. ■

How can print shops get the test form? You can get more information on the test form, costs for the service or an appointment for consultation from Ulrich Schmitt, Tel.: +49-(0)89-4 3182-337, schmitt@fogra.org

Part Two of this article provides other examples of unfavorable or faulty settings that can be quickly recognized and corrected with the help of the test form and will appear in the next issue of the Heidelberg News.



*Illustration 1:*  
Ideal print results with the Fogra dampening control test form, with over-inking and ideal dampening on a small format printing press

*Illustration 2:*  
Convincing results using the test form with clear under-dampening on a small format printing press

*Illustration 3:*  
Unfavorable result with clear under-dampening

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