

Printing without alcohol

In commercial offset printing (sheet-fed offset and heatset printing) usually isopropyl alcohol is added to the damping water.

The effect of isopropyl alcohol (IPA)

- Fast, stable ink-water balance
- Decreases the surface tension
- Cools by evaporation forces
- Avoids nucleation
- Increases the viscosity of the water
- Foam inhibiting effect
- Reduces ink build-up on the damping rollers
- Suppresses the comb stripes (surface waves)



Because of environmental and cost reasons the problem of substituting IPA has been tried to solve for a long time. In the following a few tips for printing without any alcohol with our **SCHWEGO soft** damping water additives:

1. Exhausting the damping water circulation. Possibly cleaning of the system with **SCHWEGO® fix 8110**.
2. New preparation of the damping water by adding 2-3% **SCHWEGO® soft**. No IPA-proportioning.
3. Cleaning of the ink rollers with **SCHWEGO® calci clean 8179**.
4. Cleaning of the damping rollers with **SCHWEGO® damp 8174**

Hardened rollers or rollers with worn surfaces should be replaced.

5. Adjusting of the ink and damping rollers. Roller stripes that are too strong (contact of the individual rollers to each other) will have a negative influence on the emulsion behaviour by the mechanical load and development of heat. It is recommended to keep to the specifications of the machine builders.

6. Reduction of the ink/water feeding. Quite often the ink and water values can be reduced drastically (-50%) without any decreasing of the ink density. On the contrary, the ink/water emulsion will not be that „rich“, there is less tendency to scumming, the dot will print sharper, ink build-up on the metering rollers and the blanket is considerably reduced.

Please note: „As little ink and water as possible!“

The best conditions for production printing are given if the printing is done at the „border to smearing“ – the very moment there is just enough water in order to keep the image-free spots free from ink.

Due to the reduced transport behaviour of the water without IPA, it might be necessary to increase the speed of the damping duct roller. It is also possible to increase the water transport by an increased distance between the damping rollers.

7. Temperature conditions
As far as a temperature equalization of the ink distributor roller is available, it should be at about 26°C at reflux.
The damping water temperature should possibly not have more than 12°C at the reflux.
8. Carrying out of regular roller and damping water maintenance. (See points 1. and 3.)



Tip: You will find comprehensive information on the topic damping in offset printing in our brochure **„Fountain water in offset printing“**

Order a free copy from:
info@SchwegmannNet.de
Fax: +49 (0)2225 922633
Tel: +49 (0)2225 92260

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