<table>
<thead>
<tr>
<th><strong>Title</strong></th>
<th>Keyless offset - boon or bane?</th>
</tr>
</thead>
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<tr>
<td><strong>Author(s)</strong></td>
<td>Fuchs, Boris.</td>
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<tr>
<td><strong>Date</strong></td>
<td>1994</td>
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<td><a href="http://hdl.handle.net/10220/2483">http://hdl.handle.net/10220/2483</a></td>
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<td><strong>Rights</strong></td>
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</tbody>
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Keyless Offset - Boon Or Bane?

By

Boris Fuchs
Keyless Offset - Boon or Bane?

Boris Fuchs, IFRA
PRINTING PROCESSES IN NEWSPAPER PRODUCTION

OFFSET - CONVENTIONAL

FILM INKING

1. UNDERSHOT
2. OVERSHOT
3. PUMP INKING
   (INJECTION INKING)

DUCTOR INKING (Not used in newspaper printing)
## DEMANDS ON NEWSINK

<table>
<thead>
<tr>
<th>UNDERSHOT</th>
<th>OVERSHOT</th>
<th>INKPUMPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscous</td>
<td>Less viscous</td>
<td>Even less viscous</td>
</tr>
<tr>
<td>Short</td>
<td>Long</td>
<td>Long</td>
</tr>
<tr>
<td>High relative polarity for a high water take-up</td>
<td>Low relative polarity for a low water take-up</td>
<td>Even lower relative polarity to avoid excessive water take-up</td>
</tr>
</tbody>
</table>
IN PRACTICE

- Viscous and short inks create greater tendency to linting and rub-off
- if undershot inking is used > use newsprint with low linting and rub-off propensity (rough newsprint)
- Long and low viscous inks have tendency to ink misting and strike-through
- if overshot or pump inking is used, special additives in ink and newsprint with good opacity properties are needed
- High water take-up requires fountain solution with good wetting properties

> Ink, fountain solution, paper, inking unit and blanket properties are inter-related and must be dealt with as an entity
Harold Dahlgren

Friction roller
Ink blade without zones
Ink pump
Fountain roller
Film roller
Friction roller

B
P
I
Louis Jean Chambon

var. pressure setting
Roller doctor blade
Ink pump
var. pressure setting

Squeeze doctor blade with swing-away movement

Ink pump

Wifag experimental.
B = blanket cylinder
P = plate cylinder
I = ink forme roller

Chamber doctor blade
Ink pump
Anilox roller

MAN Roland
Distributor
Transfer roller
Scraper roller with doctor blade to remove residue ink
Film roller
Brush roller
4 ink pumps, var. driven

Rockwell
Foam roller with doctor blade to remove residue ink

Metering blade

Pan roller var. driven

Ink pump
Rider roller
Adjustable
Scraper roller with doctor blade to remove residue ink
Orange skin rubber roller = film roller
Fountain roller, var. driven
Ink pump

Mitsubishi
Distributor

Ink pump

Pan roller

Transfer rollers

Orange skin metering roller with doctor blade

Ink pump pan roller

Ikegai-Goss
Goss digital ink pump page- or column-wide

Ink distribution rail

Filming inking roller, runs at the same speed as the ink fountain roller, is covered with an exchangeable PVC brush tape (affixed by a zip).

Bristle length: approx. 2.5 mm
Distance from distributor: 1.5 mm

Ink distribution roller

Rilsan-coated

Ink transfer roller

Conventional rubber-coated

Doctor blade bar

And worm shaft for ink return

Goss standard jet spray damping system

Ink forme rollers

Conventional

Plate cylinder

Blanket cylinder

Scraper roller with special hard plastic covering 1/3 of the ghosting of conventional inking systems is eliminated
Anteil der in den letzten 4 Jahren georderten Anilox-Offset-Farbwerke in Westeuropa

(Basis: Auftragseingang aller Hersteller für 16-Seiten-Zeitungsoffset im Zeitraum GJ 90/91 - 93/94)

Marktdurchdringung Anilox-Offset in Westeuropa
Single-Fluid Lithography

Inker

Scraped Ink & Water

Reconstitution

Fresh Water

Fresh Ink

Emulsion Distribution

Precision Pumps

Source: Rockwell Graphic Systems
Ink Pump
Ink Rail
Ink Pickup Roller
Ink Scraper Roller
Point of Maximum Shear Rate

Scraper Blade & Auger for Ink Return

Source: Rockwell Graphic Systems.
App. 1—Solid tone density vs print length

Example of a small variation

Example of a large variation