<table>
<thead>
<tr>
<th>Title</th>
<th>Recycled newsprint on the press.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author(s)</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>1995</td>
</tr>
<tr>
<td>URL</td>
<td><a href="http://hdl.handle.net/10220/1353">http://hdl.handle.net/10220/1353</a></td>
</tr>
<tr>
<td>Rights</td>
<td></td>
</tr>
</tbody>
</table>
Recycled Newsprint On The Press
Session 3:

Recycled newsprint on the press

The results of an IFRA Forum (IFRA Special Report 1.10)
Deinking of different printed products

Deinking coefficient DEM (%)

Maximum value: 96
Average value: 67
Acceptable value: DEM = 60%
Minimum value: 28

6 inserts

Source: ifra Munich

© ifra April 94

Figure 1
Figure 2

Deinking coefficients of different ink types according to two laboratories

Source: IFIP Darmstadt and PTS Munich
Specific energy consumption for the treatment of waste paper

- Waste paper use (in tonnes air dry / day)
- Specific energy consumption (in kWh/tonne waste paper)

Source: Haindl Schongau mill

Figure 3

© ifra April 94
Estimated use of deinked pulp as a percentage of total furnish for the main grades

Western Europe

North America

Source: Jaakko Pöyry

Figure 4

© ifra April 94
Age distribution of fibres for German newsprint (Scenario 2000)

Mass distribution of total furnish, %

- One-parameter-model (a)
- Multi-parameter-model (b)
- Mod. multi-parameter-model (c)

Source: Institut für Papierfabrikation Darmstadt

Figure 5 © ifra April 94
Laboratory simulation of recycling for two different types of pulps

Source: Institut für Papierfabrikation Darmstadt

Figure 6
Development of the strength index of different pulps at the Haindl Schongau mill

Strength index = BF (N) + 0.1 TI (mJ/m)
BF: breaking force
TI: tear index (measured according to Brecht-Imset)

Source: Haindl Schongau mill

Figure 7

© ifra April 94
**Comparison of tension/stretch characteristics of different newsprints**

**Newsprint, 49g/m²**
- 70% recycled fibres
  - Cross direction
  - Machine direction

**Newsprint, 49g/m²**
- 100% TMP
  - Cross direction
  - Machine direction

Source: E. Glöckner, KBA

*Figure 8* © ifra April 94
Comparison of tension/stretch characteristics of different newprints

Newprint, 45 g/m²
Edge of tambour

Newprint, 45 g/m²
Middle of tambour

Figure 10

Source: E. Glückner, KBA
1. At approx. 25°C and 55% relative humidity, the tensile strength must be greater than 200 daN/m.

2. The ratio between longitudinal and cross tensile limits must be greater than 1:2.5.

Figure 11

Source: E. Glöckner, KBA

© ifra April 94
3. In the lower range of the longitudinal tension/stretch characteristic (up to app. 60 daN/m), the ratio between tensions ($\sigma_{\text{dry}}$ and $\sigma_{\text{hum}}$) must be less than 2:1 at 10% moisture content.

4. In the tension/stretch characteristic in cross direction, the difference between stretch when dry and with 10% water added ($\Delta l = q_{\text{hum}} - q_{\text{dry}}$) at 10 daN/m should not exceed 0.26%.