



## Accidental Deinking Trial: Liquid Toner Prints Cause Significant Damage in German Paper Mill

For the first time, a significant production loss could be traced back to a printing technology that is not compatible with the existing paper recycling system. For a long time it had been suspected that small flakes resulting from liquid toner films as used in HP Indigo's production printers are difficult to remove. Still, trials in labs and pilot plants lead to no convincing evidence to ban liquid toner prints from the deinking paper mills' list of raw materials. It had been assumed that sufficient dilution would allow the paper mills to cope with this new challenge.

In late August, paper engineers at a German paper mill were alarmed by rapidly increasing dirt speck numbers in control samples during the production of high quality graphic paper.



Though an intense search within the raw material used began immediately, seven tambours with 20 tons of paper each had to be dumped until liquid toner prints coming from a photo book printer could be identified to be the source. This material had been bought together with other high quality recovered paper specified as grade "Multi Printing" (3.10).

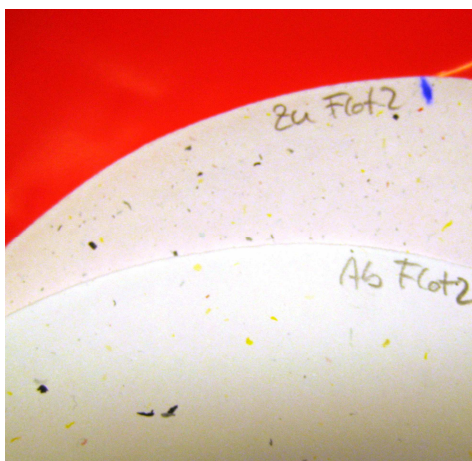
As the share of liquid toner prints had already been less than 10 percent, the remaining stock had to be diluted further and monitored carefully during the following weeks. The paper mill affected has the most sophisticated

deinking plant in Europe, using a two-loop flotation system with two dispersers that were operated at high energy input during the production. The estimated paper production loss sums up to about 140 tons of premium quality paper.

### Liquid Toner Prints To Be Avoided

As a consequence, liquid toner prints should be avoided in recovered paper for deinking and directed towards board production. In other mills where less effort is used to produce e. g. newsprint, a comparable load of recovered paper could have lead to even more intense quality problems.

*Axel Fischer*



## CALENDAR OF EVENTS

27 Oct 2010  
**INGEDE-Seminar**  
"Rezyklierbarkeit von  
Druckprodukten"  
Berlin, Germany

3-5 Nov 2010  
**European Paper Recycling  
Conference**  
Frankfurt, Germany

16-18 Nov 2010  
**European Paper Week**  
Brussels, Belgium

16 Nov 2010  
**PPI Awards 2010**  
Brussels, Belgium

9 Feb 2011  
**INGEDE General Assembly**  
hbw Munich, Germany

10 Feb 2011  
**INGEDE Symposium**  
hbw Munich, Germany

1-2 March 2011  
**INGEDE Working Group**  
"DIP Quality Management"  
Kwidzyn, Poland

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## Deinkability is a Hot Topic at NIP26's Environmental Session in Austin



A couple of years ago, INGEDE's contribution about deinkability had been an island in the sea of presentations about advances in "non-impact" (digital) printing, in toners, inkjet and imaging technologies. This year, a series of presentations in the environmental session, now called "Design for Environmental Sustainability", attracted a bigger audience than ever at NIP26 in Austin, TX. Researchers of HP's Palo Alto labs presented investigations to recycle Indigo prints together with mixed office waste, effects of surfactant chemistry on deinkability and a new alkaline-based deinking chemistry that they say can improve the processing of inkjet prints. At last year's NIP conference, HP scientists had already presented a "novel

deinking chemistry" that was said to improve the process for all current challenges such as Indigo and water based inkjet inks. This near-neutral process using detergents like SDS and fatty alcohol ethoxylates was claimed to be cheaper and more environmentally friendly than the process currently used – and easy to adopt by the paper industry. Still, the disadvantage was high losses for offset prints. Axel Fischer of INGEDE this year reported about past experience that deinkers already have with this proposed process. The use of surfactants had already been investigated more than ten years ago – and given up due to poor flotation efficiency and intolerable high yield losses, creating a lot more waste.

*Axel Fischer*

## Meeting of the INGEDE Working Group Recovered Paper in Hamburg

The Working Group Recovered Paper Quality held its autumn meeting in Hamburg on 6-7 October 2010 in connection with the INGEDE Board Meeting and the IFRA conference and exhibition. As usual at the last meetings a recovered paper sorting plant was visited. VEOLIA runs a quite unconventional system at its Hamburg location. After removing the big boards by a disc screen and the fines by a drum, a multi-stage air classifier system follows.

Besides the standard topics like experience exchange, the group dealt with some special topics. A new project proposal launched by PMV regarding the requirements of recovered paper quality was discussed intensively. This was followed by the final presentation of the INGEDE project "Recovered Paper Quality", a survey about the regional situation in Europe.

A new approach was the attempt to figure out if INGEDE could support any activities to influence the availability of recovered paper. For this purpose a guest was invited who is an active member in CEPI's recycling committee. The group was not able to set clear tar-



*Recovered Paper Sorting Plant of Veolia Umweltservice*

gets at this first discussion but we believe there are possibilities for INGEDE to do a supportive job in this area. For sure the working group will follow up this topic. Due to a lively discussion the group did not manage to handle all the topics on the agenda.

The working group will meet again on 5-6 April 2011. The venue is not fixed yet, but Austria and Belgium are an option.

*Manfred Geistbeck*