

Facts about Paper Recycling

Press Release 2/2010



INGEDE welcomes necessary research activities towards deinkability of inkjet printed paper

Good recyclability is a crucial feature for the sustainability of the graphic paper loop. Using actual offset and rotogravure paper printing processes in combination with modern recycling technology based on flotation deinking, the paper fibres can be used more than five times to produce newsprint and magazine papers.

Separating the paper coming from household collections into fractions of different printing technologies like offset and rotogravure from flexo, dye based inkjet, and pigment based inkjet inks to treat them separately seems **no feasible option**. Therefore one optimised recycling process for **joint deinking** of the printed paper mix has been developed in many years of scientific and mill based work.

Flotation deinking is the key process step to produce bright papers in modern paper recycling plants. **INGEDE Method 11** simulates the flotation deinking behaviour of printed paper products in the flotation stage of typical industrial deinking plants.

Bleaching the deinked pulp with peroxide or dithionite **is not a standard process** for standard newsprint paper, but is used for pulps with higher brightness for improved paper grades.

Contrary to DPDA's last press releases, the deinkability of production inkjet printed paper products still needs a lot of improvement in order to ensure sustainable recycling not only of these papers but of the whole paper mixture. DPDA claims encouraging results from a first study with dithionite bleaching though **water soluble dyes cannot be removed** in the flotation deinking process at all.

Many open questions remain

INGEDE welcomes this kind of studies but wants to point at the many open questions of that complex topic:

- A **bleaching** step necessary for a small amount of inkjet printed papers within the mixture would be an **additional step** to the existing newsprint deinking process, resulting in **additional costs and environmental impact by additional chemicals**.
- The result of additional process steps like bleaching is that also **higher targets** than the ERPC Deinking Scorecard have to be fulfilled. Else the quality requirements of paper grades better than standard news cannot be achieved in the mills.

- The preliminary research gives **no evidence** whether the dyes tested are just decolourised or irreversibly chemically decomposed. It has to be proven that the bleaching effect is **irreversible** and the **colour will not reappear** with time; not under the oxidative pulping condition or later paper storage.
- Also the **relevance** of the alleged results is open – which dyes are currently used in inkjet, and which share of them is bleachable? How do pigment based inkjet inks behave in the reductive bleaching step?

The DPDA's experiments have been done with bright woodfree papers. But for newspapers which are a major expected growth sector for inkjet, usually wood-containing grades are used. The question remains what the results would be with the wide range of the paper grades on the market? Also downcycling higher grades to newsprint standards would not comply with the efforts of the European Union to promote the utilisation of recovered paper in higher grades.

INGEDE disagrees with DPDA's statement that INGEDE Method 11 does not match for water soluble inks*. The fact is that **water soluble inks do not match with flotation deinking**. INGEDE Method 11 does nothing else than simulating the key process conditions of typical deinking plants. Negative ERPC Deinking Scorecard deinking results for paper printed with water soluble inks indicate that these inks will not flotate in industrial deinking plants and therefore will have a **negative impact on the recycling process**.

INGEDE invites DPDA for a genuine scientific cooperation to develop a sustainable inkjet printing business that covers **all environmental aspects** from printing to recycling.

INGEDE is an association of leading European paper manufacturers founded in 1989. INGEDE aims at promoting utilisation of recovered graphic paper (newsprint, magazines and office paper) and improving the conditions for an extended use of recovered paper for the production of graphic and hygiene papers.

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This press release can also be found in the internet: www.ingede.com.

*More information and links to the relevant documents are available there.