January 2018

INGEDE News

Where Does the Deinking Industry Stand Today?

INGEDE Symposium Deals With Digital and UV Prints, Process Water, and More

What are today's challenges in paper recycling, what is coming up? On 28 February the deinking community meets in Munich for the 27th INGEDE Symposium. With an extended programme, covering also quality aspects of paper for recycling up to process automation and closing the loop for paper towels, the symposium attracts a wider audience than ever: Guests from Voith, Heidelberger Druckmaschinen, Valmet, BIM Kemi, IST Metz, or Entsorgungstechnik Bavaria and many others represent the entire spectrum of the paper chain, from plant engineering via chemical suppliers, ink and printing machine manufacturers, to sorting and waste and resource management.

The challenges: UV inks, varnishes, adhesives, collection systems

INGEDE has initiated many deinkability investigations on digitally printed products and print products foreseeable to be difficult to deink. It was about time for a new look into the deinkability of print products – into those which make up the majority in sorted graphic paper for deinking. *Hans-Joachim Putz* of PMV will present results of a recently finished INGEDE project. Important categories of print products were chosen, such as newspapers, rotogravure magazines, offset magazines, catalogues, and advertising leaflets. Besides several mixtures, subgroups allowed to look into the effect of dispersion or UV varnished magazine covers.

The growing market for UV-drying technologies worries deinkers and challenges ink manufacturers: *Roland Schröder*, Product Manager UV at hubergroup, will explain the market and how the ink manufacturer deals with both the growing market in digital and offset printing as well as with the deinkability – and what kind of activities are underway. *Axel Fischer* of INGEDE will add a short overview of recent examples and their behaviour in the test.

Stickies are the origin of many problems in the papermaking process – deposits, defects, breaks both in the paper machine and during converting. There are various methods to quantify macrostickies, but none of them is able to measure both quantitatively and qualitatively. In this context, CTP developed a new macrosticky sensor which will be presented by *Benjamin Fabry* from the Grenoble institute. This can determine the chemical nature of the identified contaminants, not only of sticky particles.

CALENDAR OF EVENTS

15 February 2018
Digitaldruck-Kongress
Düsseldorf, Germany

28 February 2018
INGEDE Symposium
Munich, Germany

5–7 March 2018
Pulp & Paper Conference
Barcelona, Spain

7–9 March 2018
International Munich Paper Symposium IMPS
Munich, Germany

12 April 2018
Internationaler Altpapiertag
Düsseldorf, Germany

24–25 April 2018
Altpapier im Focus
Dresden, Germany

INGEDE News
In this issue:

The solutions: Deinkable inkjet inks, and management of process water and waste streams

More solutions that help the paper chain to maintain its sustainability are presented by *David Croll* of Océ Printing Systems, giving an overview about the development of inkjet inks from a nightmare for deinkers towards a technology that has gained a significant part of the market not only for transactional printing such as bank statements and billings, but also for lower and lower runs of books and brochures. Here different concepts today help to fulfil the requirements for good deinkability.

Some of the water-soluble inkjet inks still contribute to problems: Deinking mills are forced to reduce their fresh water consumption with a resulting higher load of various contaminants in the process water. This has an influence on achieving the target brightness levels since more bleaching chemicals are now required to recover the optical properties. *Elisabeth Hanecker* of PTS will present a systematic assessment of differences in process water quality and their impact on the development of optical properties in the deinking process.

Sourcing deinking grade paper for recycling from households can be done in several ways. Predominant is the municipal collection of graphic paper together with paper-based packaging products – the so-called mixed paper. This has to undergo subsequent sorting. Highly filled and coated graphic products as well as white top liners in packaging affect the mechanical properties. And the household collection brings more and more packaging. So *Andreas Faul* of INGEDE will talk on rethinking existing concepts: How can one provide the optimum quality of paper for recycling to the paper recycling and deinking industry?

The European Parliament, the Commission and the Council have reached a new agreement on the circular economy package and potential orientations for paper recycling in December. What will be the impact for paper mills and collectors? *Ulrich Leberle* of CEPI will provide first-hand information from Brussels.

Full programme on the INGEDE website

The symposium will offer a full day of information with enough breaks to exchange information with speakers and fellow participants, and it will conclude with a Bavarian dinner in the heart of Munich. The full programme with summaries for most of the presentations is available on the INGEDE website at www.ingede.org/symposium. If you have not completed your registration yet, please contact the INGEDE Office at office@ingede.org!

Axel Fischer

Revised INGEDE Method 11 available!

Fillers and coating pigment have different flow characteristics and rheology than fibres. In pulping, this results in lower shear forces and thus a different behaviour, possibly also in ink detachment and fragmentation. At the time when INGEDE Method 11 "Assessment of print product recyclability – Deinkability test –" was developed in its first version, the focus was on the testing of newspapers and magazines. Over the years, the usage of mineral pigments increased, and also the testing programs contained more high-quality paper grades. Industrial pulping systems can easily be adjusted to the optimum stock concentration. In case of a laboratory method as INGEDE Method 11, which is also the base for a Europe-wide assessment scheme for deinkability and thus an important element of the ecolabelling of printed paper products, the possible consequences of adjustments have to be thoroughly judged.

In the last years, the deinkability discussion reached international level and triggered some activities in ISO standardisation. Since an assessment is only meaningful if the underlying method is clearly defined, INGEDE proposed the laboratory method to be standardised on ISO level. The work is in progress as ISO 21993. There, the fibre concentration during pulping is set to a fixed level of 12 %. This means that the stock concentration increases with the ash content of the print product.

A similar change was made in INGEDE Method 11, which had a fixed stock concentration in the previous versions. The consequences for print products with high ash content are positive – their ink films have the chance to be fragmented better, thus delivering a better deinkability result. In order not to discriminate print products on paper with low ash content, e. g. newspapers, the test conditions for ash contents below 20 % are the same as in the previous versions. Therefore, the revised INGEDE Method 11 is fully compatible with the current EPRC Scorecard "Assessment of Printed Product Recyclability – Deinkability Score –".

The revised INGEDE Method 11 was released on 26 January 2018 and can be downloaded from INGEDE's homepage. This release also concludes INGEDE Project 151 16 which will be documented by a brief final report in due time.

Andreas Faul and Christian Trieb

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INGEDE News

Papierrecycling ist Thema im Hörfunk:

WDR 5 Leonardo – Wissenschaft und mehr

Papierrecycling im Radio: Der Chemiker und Wissenschaftsjournalist Nordwig im Gespräch mit Michael Pfisterer und Thomas Krauthauf.

Künstliche Intelligenz, Rodeln in der Wüste oder Handy-Akkus – das sind Themenbeispiele aus dem Programm der Wissenschaftssendung "Leonardo" im Hörfunkprogramm des WDR. Nun kommt auch das Thema Papierrecycling dazu. Im Auftrag des WDR hat der Münchner Wissenschaftsjournalist Dr. Hellmuth Nordwig eine zehnminütige Reportage zum Thema Papierrecycling zusammengestellt. Bei einem Besuch bei UPM in Augsburg besichtigte er die Deinkinganlage und ließ sich den Prozess vom Michael Pfisterer und dem INGEDE-Vorsitzenden Dr. Thomas Krauthauf erklären (Bild). Der Besuch vermittelte nicht nur den nötigen fachlichen Hintergrund, im Radio sind gerade die Umgebungsgeräusche wichtig, um beim Hörer die richtige Atmosphäre aufkommen zu lassen. Anschließend befragte er Axel Fischer zu Fragen des Alltags – was geschieht mit welchem Papierprodukt oder Karton, die im Haushalt anfallen, und wie sind sie am besten zu entsorgen?

Die Reportage des Chemikers Nordwig wird am 1. März 2018 im Rahmen der Wissenschaftssendung Leonardo zwischen 15:05 und 17 Uhr in WDR 5 (Hörfunk) gesendet und um 0:05 Uhr wiederholt, der Podcast zur Sendung kann anschließend auf der Webseite von Leonardo heruntergeladen werden: https://www1.wdr.de/mediathek/audio/wdr5/wdr5-leonardo/index.html

Axel Fischer

Typographical Society Interested in Deinking

Photo: Ralph Kirchbeck, Igepa

A rare occasion to transport INGEDE's message to producers from publishing companies and agencies: For their annual event, the Munich Typographical Society (Münchner Typographische Gesellschaft) invited Axel Fischer of INGEDE to present about the deinking process in general and especially the challenges that UV-cured prints mean to the process. Representatives of Random House, Langenscheidt, Springer, Conde Nast, Funke Magazines, BMW, Lego, and more major companies, also many printers from the Munich region, filled the room for the fully booked event hosted by Igepa, and asked many questions.

Axel Fischer