Subject: Deinkability and Paper Recycling
Issued: September 2024

This is to confirm that paper material printed with toners sold by Xeikon (QA-P, QA-CD, QB-I, QB-IC, QB-CH, QA-SR, QBE and SPOT colours) will not pose any problem in paper recycling. Reference is therefore made to the following statements and reports:

- The first statement originates from the INGEDE organisation (International Association of the Deinking Industry – www.ingede.org).

  In the course of a survey on the deinkability of digital prints that has been conducted late 2006/early 2007. INGEDE had various samples tested at three research institutes (PMV Darmstadt, PTS München and CTP Grenoble).

  The samples that have been submitted to us had been printed with a uniform test file. Before passing them on to the institutes they were made anonymous.

  The evaluation of the data showed that the test prints with V3 and FA-toner from the XEIKON 5000 Digital Printing Press did comply with the requirements regarding dirt specks which is the critical requirement for toner based digital prints. The additional requirements as they apply to comparable offset or gravure prints (luminosity ink elimination, chromaticity coordinate, filtrate darkening) are not relevant for dry toners and have been fulfilled without any difficulty.

  Thus, as state of the technology and the requirements of the paper industry are now, prints produced with these printers together with the paper tested (UPM Digi Color laser 100 g/m² and 130 g/m² respectively) can be regarded as good deinkable"

- In 2013 this procedure was repeated with QA-P toner prints from a XEIKON 8800 Digital Printing Press. In this case, "Digi Finesse Premium Silk", 200 g/m²" paper was used.

  "The specified print product was tested according to INGEDE Method 11 and evaluated according to the "Assessment of Printed Product Recyclability – Deinkability Score" (ERPC 2009) and the deinkability was rated 'good'."

- An additional positive test has been performed at the Western Michigan University (USA) studying both PA toner and FA toner. This study was initialized by the IPA (International Prepress Association, now the Association of Graphic Solution Providers and joined with IDEAlliance) comparing different printing engines from different brands. The complete report of their findings is available upon request.

End-of-life deinking residues

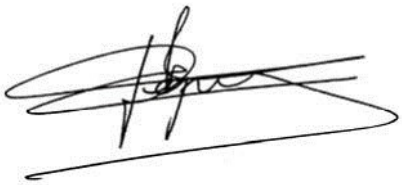
The deinking residues are mostly burnt to recover energy for steam creation for the drying section of the paper mill.

Depending on the location, an alternative is the utilization in the cement industry. Some clays are low in aluminum, so this is being boosted by adding deinking residues that also contain kaolin (an aluminium containing mineral used in the coating of coated papers).

A third option is to utilize the deinking residues in the brick industry. There it is also added to the clay before forming the bricks. When the bricks are burnt, the fibers pyrolysis, leaving micropores that both increase mechanical stability and thermal insulation of the bricks.

Therefore, it worths to mention that toners are also not a source of microplastics after the printing process, since they have been melted or coalesced into a continuous film during the digital printing process.

Dr. Lode Deprez



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