

The new EU Ecolabel for Printed Products and its Requirements for Deinkability

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Abstract

Not only for consumer products, one quite accepted way to differentiate is any kind of credible certification. For ecolabels also the life cycle of this product is being looked at and what happens after using this product. Can it be recycled? Graphic paper in Europe is recycled into new graphic paper; this is why recyclability here includes deinkability. In order to receive the new EU Ecolabel, print products need to fulfill this criterion.

Introduction

With increasing environmental awareness of consumers, companies try to differentiate not only with performance or price, but also with their environmental efforts. Especially after printing now is being challenged by digital ways of distributing information, “Green Printing” has also become a marketing argument. But what makes a printer to become a “green printer”?

But ecolabels are not only a marketing tool, they are a mild form of regulation where legal action is not present, still giving the consumer an “informed choice” about a product he desires. Ecolabels are usually voluntary; the criteria being developed and agreed upon by scientists, NGOs and stakeholders.

With printing and printed products getting into the focus of authorities and consumer organizations after many years of discussion about paper and its environmental impact, now print also has to prove its compatibility. Being the “product” that a printer releases into the environment, also the life cycle of this product is being looked at – and therefore its recyclability which for graphic paper in Europe means deinkability. The new EU Ecolabel includes this criterion.

The Austrian Ecolabel

Not only for consumer products, one quite accepted way to differentiate is any kind of credible certification. In 2004 already, the Austrian authorities were the first in Europe with an Ecolabel for printed products.

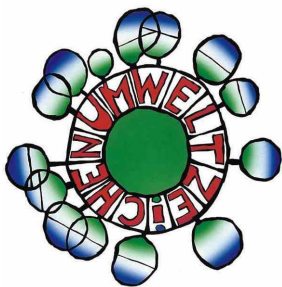


Figure 1. Logo of the Austrian Ecolabel, designed for its introduction in 1990 by the Austrian artist Friedensreich Hundertwasser (1928–2000).

The directive by the Ministry of Life, administered by the Association for Consumer Administration (Verband für Konsumenteninformation, VKI), not only rules for paper to be manufactured with fewer emissions to air, climate and water than average.

It also for the first times mentions the recyclability of a printed product. Assuming that offset prints are good recyclable and inkjet undeinkable in general, in the first edition it required just dry toners in digital printing to be deinkable and did not mention other digital printing technologies.

The latest update of the regulation (as of Jan 1st, 2013) [1] reflects the current situation by claiming that “toners and inks for digital printing as well as UV inks have to prove to be deinkable, in order for prints to remain recyclable for higher paper grades after use”.

Nordic Swan

The “Nordic Ecolabel” is a joint label, established in 1989 by the Nordic Council of Ministers, and is locally implemented by the governments of Sweden, Norway, Iceland, Denmark and Finland. It is the official ecolabel in the Nordic countries.

Similar to other ecolabels, it judges “the environmental effects a product has from several aspects: energy and water usage, kinds of chemicals used, recycling and reuse of waste products”. But the group also sees the label as an active steering instrument: “If we believe that by providing Nordic Ecolabel criteria for this group we can positively influence the production processes for that product group, then we work in our Nordic organisation on developing criteria” [2].



Figure 2. Logo of the Nordic Ecolabel, also called Nordic Swan, has criteria for 63 product groups.

The different actual criteria for printing companies contribute points to a sum; the minimum required depending on the printing process. This reflects that different printing processes include or not include different environmental challenges. Recyclability of the different specified printing ink contributes in average 10 percent of the required minimum score, it has to be tested according

to INGEDE Method 11 “Assessment of Print Product Recyclability - Deinkability Test” [4] and the ERPC Deinkability Scores [5].

The Nordic Ecolabel also honors recycling friendly adhesives: “Pressure-sensitive adhesives, used for example on envelopes, must not damage the recycling process. The adhesive must be tested in accordance with INGEDE’s test method no. 12” [3].

The EU Ecolabel

The EU Ecolabel (Euro flower) has been introduced in 1980, labeling consumer goods that are particularly compatible to both environment and health.

After several years of consultation, EU Member States last year adopted criteria for an EU Ecolabel on printed paper. Once it's on a product, the EU Ecolabel shall demonstrate “commitment to a better environment” and guarantee

- Low air and water pollution during paper production and printing process
- Reduced environmental damage or risks related to the use of hazardous chemicals
- Increased recyclability.



Figure 3. The European Ecolabel for printed paper products is being managed by different “National Competent Bodies” that also manage national labels.

By asking for increased recyclability, this regulation forces printers to look beyond costly paper certifications or surrogate fees that shall improve the climate somewhere else in the world: “Eco-labeled products shall be recyclable and deinkable.” With this claim, many printers for the first time were confronted with the fact that their product is also a raw material for others. Also, adhesives may be used only if their removability can be proved.

The EU flower can be awarded to any printed paper product that “consists of at least 90% by weight of paper, paperboard or paper-based substrates, except for books, catalogues, pads, booklets or forms that shall consist of at least 80% by weight of the referred paper substrates”. One important prerequisite is that the paper itself has to have the EU flower certification already. A detailed 27-page “User’s Manual for the application” dealing with many questions has been published in March 2013 [6].

How to Apply

With the application, the applicant has to provide “a dossier containing all relevant data and manufacturers’ declarations related to the ecolabelled product. The application has to be addressed to a “competent body” that handles the certification procedure in the member state where the printing takes place.

Who Needs the European Ecolabel?

The first driver is a proposed legislation on taxing unaddressed direct mail in Denmark. The draft proposes to tax unaddressed printed advertising at 50 cent per kg. The tax would apply only to unaddressed printed advertising which is distributed door to door and free of charge. The tax would be lower, 30 cent per kilo, for EU ecolabelled printed products. This is why printers from Germany and Sweden, Holland and Estland already have the deinkability of mainly heatset offset products tested – to prove their qualification for the Ecolabel. Similar taxation models are currently discussed in France.

A Finnish and two German printers were the first to receive the new label, there are now at least 13 print products that carry it, all but one of them advertising brochures or “household distributed advertisements”.

Testing Deinkability

The process of deinkability testing has been described earlier e. g. at this conference [7, 8]. Basically, the key steps taking place in an industrial deinking plant are applied in a lab test – the detachment of the ink from the fibers and the removal of the ink from the system. For this assessment, deinkability tests carried out according to INGEDE Method 11 [4] serve as the basis for comparing deinkability of prints.

This method had been published as draft for the first time in August 1999 in German language. In March 2009 the European Recovered Paper Council (ERPC) adopted the latest version of “Deinkability Scores” as assessment scheme. The ERPC is the committee of the signatories and supporters of the European Declaration on Paper Recycling. For this scheme, five parameters are determined and converted to a score system [5]. This allows expressing the deinkability assessment in one figure by weighing the parameters according to their importance. Within the last years, INGEDE has collected data from several hundred printed products.

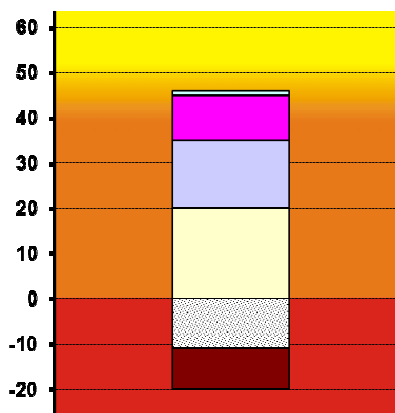


Figure 4. Deinkability Scores: Results for a typical pigmented inkjet ink used to print a digital newspaper. From Top to bottom: Scores for (here low) ink elimination IE, dirt speck area A250 and A50, color shift a*; negative are luminosity and filtrate darkening.

INGEDE Method 11 is a widely accepted method to investigate the deinkability of a printed product. In general, the majority of offset prints and almost all gravure prints pass the test. The deinkability becomes more of a problem when crosslinked inks

like UV or polymerized liquid toner (Indigo) are used. All prints with these printing processes have yet failed the deinkability test. A new liquid toner based on a different polymer system that has been introduced at drupa 2012 by Xeikon shows excellent deinkability in preliminary tests.

The other challenge for the deinking process are water based inks that are difficult to remove from the system. Especially dye based inks cannot be removed at all. For hydrophilic pigments in flexo inks better deinkable systems have been developed but are not used commercially. For pigmented inkjet inks, different good deinkable systems have been developed, some of them are already in use.

Outlook

Ecolabelling can have a significant impact on the development of consumer goods. Products with e. g. bad ratings in consumer magazines due to failing the respective criteria can lose market share from one day to another. Therefore, for consumer goods it is advantageous to meet ecological criteria as good as possible even if the manufacturer wants to avoid the costly certification process. This is especially relevant for printed products as currently paper faces severe competition from electronic media and has to prove its environmental advantage.

References

- [1] VKI, UZ 24, 1. Jänner 2013, Druckerzeugnisse www.umweltzeichen.at/dbadmin.css/richtlinie-kurz.png
- [2] Nordic Ecolabel, www.svanen.se/en/Nordic-Ecolabel/
- [3] Nordic Ecolabelling of Printing companies, printed matter, envelopes and other converted paper products, Version 5.0; 15 December 2011 – 31 December 2014
- [4] Assessment of print product recyclability – Deinkability Test –, INGEDE Method 11, December 2009, www.ingede.org/ingindexe/methods/meth-e.html
- [5] European Recovered Paper Council, Assessment of Print Product Recyclability – Deinkability Score, 2008 (www.paperrecovery.org)
- [6] EU Ecolabel. User's Manual for the Application for Printed Paper. ec.europa.eu/environment/ecolabel/documents/User_Manual_printed_paper.pdf
- [7] A. Fischer, Recent developments in the Deinking of Inkjet and Liquid Toner, IS&T NIP27 Conference Proceedings (2011)
- [8] A. Fischer, Advances in Deinking and Deinkability of Inkjet Inks, IS&T NIP26 Conference Proceedings (2010)

Author Biography

Axel Fischer studied chemistry at Munich Technical University. He worked as a Science Writer for TV, print media and Germany's major news agency. Now he works as communications consultant for the chemical industry and the paper industry. Since 1994, he is responsible for the public relations of INGEDE, the International Association of the Deinking Industry. He chairs the "Digital Round Table", a forum initiated by INGEDE to improve the Deinkability of Digital Prints.