

For our Environment

Umwelt
Bundesamt

INGEDE Symposium 2015

New Blue Angel Basic Award Criteria for Printed Paper Products RAL UZ 195

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BLUE ANGEL FOR PRINTED PAPER PRODUCTS RAL-UZ 195

Structure

- 1 INTRODUCTION BLUE ANGEL FOR PAPER PRODUCTS
- 2 BACKGROUND AND DEVELOPMENT OF BASIC AWARD CRITERIA OF PRINTED MATTER
- 3 CRITERIA FOR PRINTED MATTER RAL UZ 195
 - Scope
 - Fibres
 - Deinkability
 - Inks and Toners
 - Emissions
- 4 OUTLOOK

1. Introduction - The Blue Angel

- Established 1978 → 35th anniversary in 2013
- World's 1st environment-related eco-label,
- Currently: approx. 12,000 products and services, 130 product categories, 1,500 companies → incl. 22 % from abroad
- Protection goals



- ISO 14024 Typ I Label
- Award criteria GOES BEYOND state of the art & existing legal requirements
- Multi-criterial approach, based on LCA results
- Regular revision is a must

www.blauer-engel.de

1. Introduction - The Blue Angel of paper products

	RAL-UZ 5	RAL-UZ 14	RAL-UZ 35	RAL-UZ 56	RAL-UZ 65	RAL-UZ 72
as at February 10 th , 2015	Sanitary paper products made of Recycled Papers	Recycled Papers	Wallpapers and Woodchip Coverings primarily made of Recycled Paper	Recycled Cardboard	Unbleached Filter Paper for Use with Hot or Boiling Water	Printing and Publication Paper
1,641 certified products	291	699	162	326	27	136
578 vendors	81	251	66	103	20	57

BASIC CRITERIA FOR THESE PRODUCT GROUPS:

based on recycled fibres,

> 65 % lower and medium recovered paper grades

because of environmental benefit (resources and emissions) compared to the use of virgin fibres

No halogenated bleaching agents, no use of not readily biodegradable complexing agents, optical brighteners, limitations on other chemicals

Printing processes not covered so far

2. Environmental impact of printed matter

13 mio. ha/a forest destroyed, 4 mio. ha/a primary forest

paper consumption per capita 2012:

Germany 249 kg
 EU 160 kg
 India 9 kg
 China 74 kg

Paper production:

World 400 mio. t

Germany 22.6 mio. t
 8.7 mio. t graphic papers

Fibre input:

10.2 mio. fm wood
 16.5 mio. t recovered paper
 3.5 mio. t imported pulp (Brazil, Sweden, Finland ...)

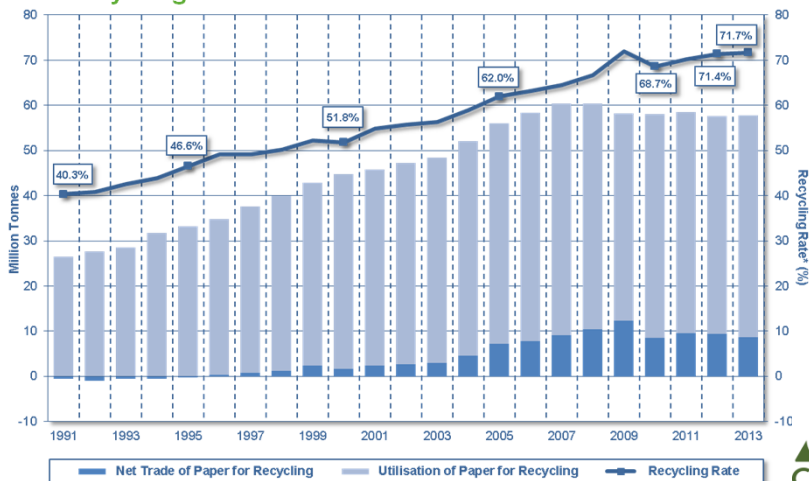
74 % waste paper utilisation rate

imported paper products → imported virgin fibres > 50 % of consumed paper

Emissions to air and water from production
 High energy consumption



More recycling - saves resources



Challenge: narrow fibre cycle → pollutants are building up

10,000 different formulations for printing inks, based on more than 100 substances

60,000 t mineral oil in printing inks enter the fibre cycle each year

2. Background

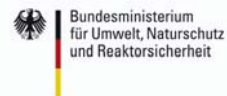
In order to produce sustainable products it is essential to integrate all environmental impacts along the whole value chain from the extraction of raw material to the recyclability of the product

- High share of recycled fibre
- Lower wastewater emissions and micro pollutants: Solvents, bleaching chemicals, chelating agents
- Limitation of risks for human health and environment
- Use recycling friendly inks and toners and other additives (deinkability and removability)
- Use energy efficient processes

Research project “Development of Basic Award Criteria for printed matter ”

(2013-2015) Partners: oekom Verlag; Institute for Energy and Environmental Research Heidelberg (IFEU), Institute for Environmental Strategies - Ökopol, commissioned by UBA/ BMUB (FKZ: 3712 95 338/3)

- Development of draft Basic Award Criteria Paper criteria for printed matter based on results from previous project “Green Publishing”
- Criteria that go beyond the existing EU Ecolabel for printed matters (e.g. recycled fibre content, criteria on base oil for offset, coldset inks without mineral oil aromatic hydrocarbons (MOAH)
- Scientific support during stakeholder discussions finalizing the Basic Award Criteria
- Communication within the publishing sector



3. Criteria of RAL UZ 195 for printed matter

SCOPE

Products > 90 mass% = Paper/Board including printing ink

All relevant standard printing processes are covered:

- sheet-fed offset printing
- web offset, coldset
- web offset, heatset
- rotogravure printing
- digital printing
- flexographic printing

- Printed packaging products are excluded

3. Criteria of RAL UZ 195 for printed matter

SCOPE (2)

Single products defined by title

(Periodicals, magazines, telephone books)

→ *Evaluation of the first proposed product*

Defined product groups

(e.g. brochures, catalogues, 2 to 96 pages, A2-A5)

→ *Evaluation of a "worst case" sample product (as EU Ecolabel)*

Defined single product

(e.g. annual reports)

→ *Evaluation of the proposed product*

3. Criteria of RAL UZ 195 for printed matter

FIBRE (CRITERIA 3.3)

The used paper has to fulfill the strong fibre criteria of UZ 14 recycled paper or UZ 72 printing paper as precondition

UZ 14: CRITERIA 3.1; 3.2

The paper fibres of the products [...] must be made from 100 percent recovered post consumer paper. [...] At least 65% waste paper of ordinary, medium and kraft waste paper grades as well as of the special grades (groups 1, 2, 4 and 5 – except for the individual grades 2.05, 2.06, 4.01, 4.07 and 5.09) – related to the total fibre content shall be used for the manufacturer of the products.

UZ 72: CRITERIA 3.1

A minimum of 800 kg of waste paper shall be used for the production of 1000 kg of new paper (air dry). The portion of virgin fibres must not exceed 250 kg per 1000 kg of newly made paper (air dry). [...] A minimum of 80 percent of the waste paper pulp used in the manufacture must be from Group 1 of the waste paper grades.

3. Criteria of RAL UZ 195 for printed matter

VOC EMISSIONS FROM PRINTING (CRITERIA 3.3)

Recycled paper designed for use on electrophotographic printers or copiers („digital printing paper“) must not exceed the following limits:

Total Volatile Organic Compounds (TVOC):	60 micrograms per gram of paper
Total Semi Volatile Organic Compounds (TSVOC):	200 micrograms per gram of paper,
DIPN:	20 micrograms per gram of paper

Testing shall be performed by thermal extraction (TE) in accordance with the test guidelines in Appendix 4 to the Basic Award Criteria RAL-UZ 14.

3. Criteria of RAL UZ 195 for printed matter

RECYCLABILITY OF THE PRINTED PRODUCT (CRITERIA 3.4)

The product shall meet the recyclability requirements of the European Recovered Paper Council (ERPC).

Testing shall be based on INGEDE Methods 11 and 12:

„Assessment of the Print Product Recyclability - Deinkability Test“ (July 2012) and
“Testing of the Fragmentation Behavior of Adhesive Applications“ (January 2013)“.

Assessment in accordance with the ERPC guidelines using the scorecards for deinkability or the scorecards for the removability of adhesive applications
Water-based adhesive are exempted from the testing requirement under INGEDE 12.

<http://www.ingede.com/ingindx/methods/ingede-method-11-2012.pdf>
<http://www.ingede.com/ingindx/methods/ingede-method-12-2013.pdf>

3. Criteria of RAL UZ 195 for printed matter

REQUIREMENTS ON PRINTING INKS, TONERS AND VARNISHES (CRITERIA 3.7)

- No azo colorants or pigments that may split off any of the amines listed in Directive ,2002/61/EEC or TRGS 614₃ may be used as colorants.
- No colorants (pigments or dyes) may be used which contain manganese, mercury, lead, cadmium, chromium (VI), cobalt, copper or nickel compounds as constituent ingredients (max. 0.5 mass-%).
- Copper phthalocyanine pigments are allowed

3. Criteria of RAL UZ 195 for printed matter

REQUIREMENTS ON PRINTING INKS, TONERS AND VARNISHES (CRITERIA 3.7.5)

- Only mineral oil based aliphatic hydrocarbons with a carbon chain length C 10 – C20 may be used;
- In addition to that the following aliphatic compounds (with a C > 30, and a maximum content of C20 –C30 of 1.5 %) may be used: microcrystalline waxes, vaseline, polyolefin-, paraffin- or Fischer-Tropsch-waxes
- As constituent ingredient < 1 mass-% of mineral oil based aromatic hydrocarbons
- For polycyclic aromatic hydrocarbons (PAK) limits of EU-regulation 1272/2013 have to be met.
- Compliances has to be declared by the producer of printing inks or varnishes
- **Transitional period for this criteria until 1.1.2017**

3. Criteria of RAL UZ 195 for printed matter

CLEANING AGENTS (3.8.1)

No halogenated hydrocarbons, terpene, n-hexane, secondary amines and amides
Limits for toluene, xylene, and aromatics > C9:> 1%; Benzenes < 0.1%

CLEANING AGENTS IN OFFSET PRINTING (3.8.2)

Flash point > 55° C

Declaration necessary if (flashpoint > 100° C is not possible)

3. Criteria of RAL UZ 195 for printed matter

ORGANIC SOLVENTS USED IN PRINTING PROCESS (3.8.4- 3.8.7)

Rotogravure printing, flexo printing offset printing (except sheet-fed offset): less than 2 organic solvent per tone of paper (kg/t);
sheet fed offset: less than 5 kg/t

WASTE GAS EMISSIONS AND PRODUCT

heatset-offset printing: 20 mg/Nm³ (continuous measurement or 15 mg/Nm³ during 10 day-measurement or 5 mg/Nm³ as single measurement); diffuse emissions < 20%
rotogravure printing: 50 mg/Nm³ (continuous measurement); diffuse emissions < 3%;
product: 300 mg/kg
Flexo printing : 20 mg/Nm³, 50 mg/Nm³ when biofilter is used

3. Criteria of RAL UZ 195 for printed matter

IN ADDITION:

- Requirements on chemicals comparable to EU-Ecolabel
- Requirements on waste water treatment of rotogravure printing
- Requirements on waste management
- Energy management system depending on the energy consumption
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Outlook

- Criteria have been published in January
- Some bigger companies are preparing for application
- Printing shops are checking if the criteria can be fulfilled even after the transitional period for mineral oil adjusted printing inks

Thank you for your attention!

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