

ANNEX

EU Ecolabel criteria for awarding the EU Ecolabel for printed paper, stationary paper and paper carrier bag products

FRAMEWORK

Aims of the criteria

The EU Ecolabel criteria target the best environmental performing printed paper, stationary paper, and paper carrier bag products on the market. Whilst the use of chemical products and the release of pollutants is an inevitable part of the production process, a product that bears the EU Ecolabel guarantees to the consumer that the use of such chemicals and associated emissions of pollutants have been restricted to the extent technically possible without prejudice to the fitness for use of the final product.

As part of the promotion of circular economy aspects, the criteria particularly aim to promote printed paper, stationary paper and paper carrier bag products that comply with minimum recyclability requirements in order to improve yields from paper mills that accept these products in recycled paper deliveries at their end of life.

The criteria also focus on the reduction of VOC emissions and help guarantee associated benefits for worker health and for reductions in local and regional atmospheric pollution.

The criteria for awarding the EU Ecolabel to 'printed paper, stationary paper, and paper carrier bag products' are as follows:

1. Substrate;
2. Hazardous substance restrictions;
3. Recyclability;
4. Emissions;
5. Waste;
6. Energy;
7. Training;
8. Fitness for use;
9. Information on the product
10. Information appearing on the EU Ecolabel.

The ecological criteria cover the manufacturing of printed paper, stationary paper, and paper carrier bag products, including all constituent sub-processes from the paper production to the site(s) and dedicated production lines where the printed paper, stationary paper and paper carrier bag products are printed and/or converted.

The ecological criteria do not cover the transport and packaging. Labels and stickers are exempted from fulfilling the criteria.

~~If there are converting, printing, coatings and finishing processes exclusively used for ecolabelled products, criteria 2, 4, 5, 6 and 7 shall apply to those processes only.~~

All printing or converting on the printed paper, stationary paper and paper carrier bag products shall fulfil the respective requirements. Parts of the final product that are printed or converted by a sub-contractor shall therefore also fulfil the related requirements. The application shall include a list of all the printing houses and subcontractors involved in the production of the product, and their geographic locations.

~~Criterion 1 applies only to paper substrates used in the final product.~~

~~Criterion 2 applies both to the non paper components of the final product and to the converting, printing, coating and finishing processes of the paper components.~~

~~Criteria 3, 8, 9 and 10 apply to the final product.~~

~~Unless separately specified, criteria 4, 5 and 6 apply to the converting, printing, laminating and finishing processes.~~

~~Criterion 7 applies to the production site where the final product is manufactured.~~

~~The ecological criteria do not cover the transport of raw materials, consumables and final products.~~

An application can be submitted for a specified product type group such as e.g. glued brochure of 2-30 pages. In the application, all chemicals, types of paper and other components that may be used in the printed or converted matter, the maximum number of pages, the maximum format, all possible types of binding must be specified. The EU Ecolabel can be used for all subsequent products that comply with the defined criteria for the sample product. Any change in the production process that is addressed by the criteria should be notified to the competent body being a subject of the further evaluation.

For a product type printed on a recurring basis or a product type that will only be manufactured once, the application should address a specific product.

~~The applicant shall provide a list of chemical products used in the printing house for the production of the products. This requirement applies to all consumables used during the converting, printing, coating and finishing processes. The list provided by the applicant shall include the amount, function and supplier of any chemical product used, together with the Safety Data Sheet, designed in accordance with the guidance in sections 10, 11 and 12 of Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council (1).~~

Assessment and verification: *The specific assessment and verification requirements are indicated within each criterion.*

Where the applicant is required to provide declarations, documentation, analyses, test reports or other evidence to show compliance with the criteria, these may originate from the applicant and/or his supplier(s) and/or their supplier(s), etc. as appropriate.

Competent bodies shall preferentially recognise attestations and verifications that are issued by bodies accredited according to the relevant harmonised standard for testing and calibration laboratories, and verifications issued by bodies that are accredited according to the relevant harmonised standard for bodies certifying products, processes and services.

Where appropriate, test methods other than those indicated for each criterion may be used if the competent body assessing the application accepts their equivalence.

Where appropriate, competent bodies may require supporting documentation and may carry out independent verifications or on-site inspections to check compliance with these criteria.

The following definitions shall apply:

- (1) 'Adhesive application' refers to processed adhesives used in finished paper products (typically applied as films). The physicochemical properties responsible for the behaviour of the "adhesive applications" during the paper recycling process depend on the composition of the adhesive, the setting mechanism and the geometry (mainly thickness) of the application;
- (2) 'Cleaning agents' (also sometimes known as washing agents or cleaners) means the following: (a) liquid chemicals used to wash printing forms, both separate (off-press) and integrated (in-press), and printing presses to remove printing inks, paper dust and similar products; (b) cleaners for finishing machines and printing machines, such as cleaners to remove adhesive and varnish residues; (c) printing inks removers used in washing off dried printing inks. Washing agents do not include cleaning agents for cleaning other parts of the printing machine or for cleaning other machines than printing machines and finishing machines;
- (3) 'Converting process' means a process whereby a material is processed into a converted paper product. This process can include a printing process (pre-press, press, and post-press operations);
- (4) 'Converted paper product' is a paper, board or paper based substrates, either printed or unprinted, generally used to protect, handle or store items and/or notes, for which the converting process is an essential part of the production process, comprising three main categories of products: envelopes, paper carrier bags and stationery paper products;
- (5) 'Flexography' means a printing activity using an image carrier of rubber or elastic photopolymers on which the printing areas are above the non-printing areas, using liquid inks which dry through evaporation;
- (6) 'Fugitive emissions' means any emissions not in waste gases of volatile organic compounds into air, soil and water as well as solvents contained in any products, unless otherwise stated in Part 2 of Annex VII of 2010/75/EU¹;
- (7) 'Halogenated organic solvent' means an organic solvent which contains at least one atom of bromine, chlorine, fluorine or iodine per molecule;
- (8) 'Heatset web offset' means a web-fed printing activity using an image carrier in which the printing and non-printing area are in the same plane, where web-fed means that the material to be printed is fed to the machine from a reel as distinct

¹ OJ L 334, 17.12.2010, p. 17–119

from separate sheets. The non-printing area is treated to attract water and thus reject ink. The printing area is treated to receive and transmit ink to the surface to be printed. Evaporation takes place in an oven where hot air is used to heat the printed material;

- (9) 'Laminating' means adhering together of two or more flexible materials to produce laminates;
- (10) 'Pressure-sensitive adhesive coatings' (PSA): means adhesives with still mobile molecules on their surfaces, even after setting, can produce sufficient adhesion by pressing their cohesive films (coating) against the surface to be bonded. Since they can be "activated" by pressure, they are also called "pressure-sensitive adhesives / PSA"(i.e. labels or tapes). PSAs can be formulated to feature a wide variety of physicochemical properties. Since, in paper recycling, the separation of non-paper components is mainly achieved by mechanical sorting, it is desirable for the PSA coatings to have a "minimum size", a sufficient thickness;
- (11) 'Publication rotogravure' means a rotogravure printing activity used for printing paper for magazines, brochures, catalogues or similar products, using toluene-based inks;
- (12) 'Rotary screen printing' means a web-fed printing activity in which the ink is passed onto the surface to be printed by forcing it through a porous image carrier, in which the printing area is open and the non-printing area is sealed off, using liquid inks which dry only through evaporation. Web-fed means that the material to be printed is fed into the machine from a reel as distinct from separate sheets;
- (13) 'Rotogravure' means a printing activity using a cylindrical image carrier in which the printing area is below the non-printing area, using liquid inks which dry through evaporation. The recesses are filled with ink and the surplus is cleaned off the non-printing area before the surface to be printed contacts the cylinder and lifts the ink from the recesses;
- (14) 'Varnishing' means an activity by which a varnish or an adhesive coating for the purpose of later sealing the packaging material is applied to a flexible material;
- (15) 'Volatile Organic Compounds' (VOC) means any organic compounds having an initial boiling point less than or equal to 250°C measured at a standard pressure of 101,3 kPa as defined in Directive 2004/42/EC² and which, in a capillary column, are eluting up to and including n-Tetradecane (C₁₄H₃₀);
- (16) 'Waste paper' means paper generated during the production of finished product and which does not form part thereof.
- (17) ~~'Consumables' means chemical products used during the printing, coating and finishing processes and capable of being consumed, destroyed, dissipated,~~

² OJ L 143, 30.4.2004, p. 87–96

~~wasted, or spent. Consumables include products such as printing inks and dyes, toners, overprinting varnishes, varnishes, adhesives, washing agents and damping solutions;~~

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EU ECOLABEL CRITERIA

Criterion 1 — Substrate

The paper substrate, including board and cardboard, used in a final product shall bear the EU Ecolabel for “Graphic paper, tissue paper and tissue products” in accordance with Commission Decision (EU) 2019/70³.

***Assessment and verification:** the applicant shall provide the specifications of the products concerned, including the trade names and amounts of paper used. The list shall also include the names of the suppliers of the papers used.*

The applicant shall provide a copy of a valid EU Ecolabel certificate for each paper substrate used in a final product according to Annex I to Commission Decision (EU) 2019/70.

Criterion 2 — Excluded or limited substances and mixtures

The basis for demonstrating compliance with each of the sub-criteria under criterion 2 shall be the applicant providing a list of all the relevant chemicals used together with appropriate documentation (safety data sheet and/or a declaration from the chemical supplier). All process chemicals used in the relevant printing or converting processes must be screened. This criterion does not apply to chemicals used for wastewater treatment unless the treated wastewater is recirculated back into the printing or conversion process.

2(a) Restrictions on Substances of Very High Concern (SVHCs)

The product, and any component article therein, shall not contain substances that have been identified according to the procedure described in Article 59(1) of Regulation (EC) No 1907/2006 and included in the Candidate List for Substances of Very High Concern in concentrations greater than 0.10 % (weight by weight). No derogation from this requirement shall be granted.

***Assessment and verification:** The applicant shall provide a declaration that the product does not contain any SVHC in concentrations greater than 0.10 % (weight by weight). The declaration shall be supported by declarations from suppliers of any component articles and by appropriate declarations or safety data sheets from chemical suppliers regarding process chemicals used by the applicant.*

The list of substances identified as SVHCs and included in the candidate list in accordance with Article 59(1) of Regulation (EC) No 1907/2006 can be found here:

http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp.

Reference to the list shall be made on the date of application.

2(b) Classification, Labelling and Packaging (CLP) restrictions

Unless derogated in Table X, the product, and any component articles therein, shall not contain substances or mixtures in concentrations greater than 0.1 % (weight by

³ Decision of 11 January 2019 on establishing the EU Ecolabel criteria for graphic paper (OJ L15, 17.1.2019, p.27)

weight) that are classified with any of the following hazard statements in accordance with Regulation (EC) No 1272/2008:

Group 1 hazards: Category 1A or 1B carcinogenic, mutagenic and/or toxic for reproduction (CMR): H340, H350, H350i, H360, H360F, H360D, H360FD, H360Fd, H360Df.

Group 2 hazards: Category 2 CMR: H341, H351, H361, H361f, H361d, H361fd, H362; Category 1 aquatic toxicity: H400, H410; Category 1 and 2 acute toxicity: H300, H310, H330; Category 1 aspiration toxicity: H304; Category 1 specific target organ toxicity (STOT): H370, H372; Category 1 skin sensitizer: H317*.

*only applies to dye formulations, colourants, surface finishing agents and coating materials used.

Group 3 hazards: Category 2, 3 and 4 aquatic toxicity: H411, H412, H413; Category 3 acute toxicity: H301, H311, H331; Category 2 STOT: H371, H373.

The use of substances or mixtures that are chemically modified during the production process so that any relevant restricted CLP hazard no longer applies shall be exempted from the above requirement.

Table X. Derogations to the CLP hazard restrictions and applicable conditions.

Substance / mixture type	Applicability	Derogated classification(s)	Derogation conditions
Mineral oils and distillates	Heatset, coldset or digitally printed paper products	H304	The applicant shall demonstrate to the Competent Body that all relevant instructions included in the safety data sheet regarding safe handling and storage and suitable exposure controls and personal protection are in place and declare that these are being complied with.
Nickel	Metal components	H317, H372	H351, The applicant must provide information to the consumer regarding the use of nickel for metal electroplating, coating or alloying.

Assessment and verification: *the applicant shall provide a list of all relevant chemicals used in their production process together with the relevant safety data sheet or chemical supplier declaration and any relevant declarations from component article suppliers.*

Any chemicals containing substances or mixtures with restricted CLP classifications shall be highlighted. The approximate dosing rate of the chemical, together with the concentration of the restricted substance or mixture in that chemical (as provided in the safety data sheet or supplier declaration) and an assumed retention factor of 100 %, shall be used to estimate the quantity of the restricted substance or mixture remaining in the final product.

Justifications for any deviation from retention factor of 100% (e.g. solvent evaporation) or for chemical modification of a restricted hazardous substance or mixture must be provided in writing to the competent body.

For any restricted substances or mixtures that exceed 0.10% (weight by weight) of the final printed paper, stationary paper or paper bag product, or of relevant component articles therein, a relevant derogation must be in place and proof of compliance with any relevant derogation conditions must be provided

2(c) Biocidal products and biocidal active substances

Printed paper, stationary paper and paper carrier bag products shall not be treated with any biocidal products, including those of type 7 (film preservatives) and of type 9 (fibre, leather, rubber and polymerised materials preservatives).

Only in-can preservatives (biocidal product type 6: preservatives for products during storage) present in printing inks, varnishes, lacquers and any other formulations used during the production processes may be permitted, subject to:

- their having been approved, or being under examination pending a decision on approval, by Regulation (EC) No 528/2012 for product type 6 uses;
- their inclusion in Annex I of Regulation (EC) No 528/2012;
- their inclusion in Annex XXXVI to the BfR recommendations for preservatives in paper and board for food contact.

If any biocidal active substance meeting the above condition(s) is classified as H410 or H411, its use shall only be permitted if the bioaccumulation potential (log Pow octanol/water partition coefficient is < 3.0 or if the bioconcentration factor (BCF) is ≤ 100 .

Assessment and verification: *the applicant shall provide a declaration of compliance, supported by copies of safety data sheets for all biocidal products used during the production process, together with any relevant declarations and test reports from the manufacturer of the biocidal products.*

2(d) Cleaning agents

Cleaning agents used for routine cleaning operations in printing processes and/or sub-processes shall:

- not contain solvents with a flashpoint $< 60^{\circ}\text{C}$.
- not contain benzene in concentrations $> 0.10\%$ (by weight).
- not contain toluene or xylene in concentrations $> 1.0\%$ (by weight).
- not contain aromatic hydrocarbons ($\geq \text{C}_9$) in concentrations $> 0.1\%$ (by weight)
- not contain any ingredients based on halogenated hydrocarbons, terpenes, n-hexane, nonylphenols, N-methyl-2-pyrrolidone or 2-butoxyethanol.

These restrictions do not apply to cleaning agents used in special formulations that are only occasionally used such as dried ink removers and blanket revivers.

The restriction on toluene does not apply to cleaning agents used in rotogravure processes.

Assessment and verification: the applicant shall declare the different cleaning agents that are used and whether they are used for routine cleaning procedures or for special procedures such as dried ink removal or blanket revival. A Safety Data Sheet shall be provided for each cleaning agent used. For the routinely used cleaning agents, the Safety Data Sheets shall be supported by a declaration of compliance with the relevant restrictions listed above from the supplier of the cleaning agent.

2(e) Alkyl phenol ethoxylates, halogenated solvents and phthalates

The following substances or preparations shall not be added to inks, dyes, toners, adhesives, or cleaning agents used for in the printing process or sub-processes used to produce the printed paper, paper stationary or paper carrier bag product:

- Alkyl phenol ethoxylates and their derivatives that may produce alkyl phenols by degradation.
- Halogenated solvents that at the time of application are classified with any of the hazard classes listed in point 2(b).
- Phthalates that at the time of application are classified with risk phrases H360F, H360D, H360FD, H360Fd, H360Df, H361, H361f, H361d, H361fd or H362 in accordance with Regulation (EC) No 1272/2008.

Assessment and verification: the applicant shall provide a declaration of compliance with this criterion.

2(f) Printing inks, toners and varnishes

The following restrictions shall apply to all substances or mixtures used in printing inks, toners and varnishes for use in the printing process or sub-processes used to produce EU Ecolabel printed paper, paper stationary or paper carrier bag products:

No substances or mixtures with CLP classifications for category 1A or 1B carcinogenic, mutagenic and/or toxic for reproduction (CMR): H340, H350, H350i, H360, H360F, H360D, H360FD, H360Fd, H360Df shall be used.

- no substances or mixtures with CLP classifications for category 1 and 2 acute toxicity: H300, H310, H330 shall be used.
- no substances or mixtures with CLP classifications for category 3 acute toxicity (oral, dermal): H301, H311 shall be used.
- no substances or mixtures with CLP classifications for category 1 specific target organ toxicity (STOT: single exposure or repeated exposure): H370, H372 shall be used.
- no pigments or additives based on antimony, arsenic, cadmium, chromium (VI), lead, mercury or selenium or any compounds thereof shall be used. Cobalt can only be used up to 0.10% (w/w).
- no azo dyes, which by reductive cleavage of one or more azo groups may release one or more of the aromatic amines listed in Appendix 8 of entry 43 of Annex XVII to REACH, shall be used (see indicative list in Appendix I).

- the following solvents: 2-Methoxyethanol, 2-Ethoxyethanol, 2-Methoxyethyl acetate, 2-Ethoxyethyl acetate, 2-Nitropropane and Methanol shall not be used.
- the following plasticisers: chlorinated naphthalenes, chlorinated paraffins, monocresyl phosphate, tricresyl phosphate and monocresyl diphenyl phosphate shall not be used.
- diaminostilbene and its derivatives, 2,4-Dimethyl-6-tertiary-butylphenol, 4,4'-Bis(dimethylamino)benzophenone (Michler's Ketone) and Hexachlorocyclohexane shall not be used.

Assessment and verification: *the applicant shall provide a list of all the printing inks and related products used in the production of EU Ecolabel printer paper, paper stationary or paper carrier bag products, together with a safety data sheets and declaration of compliance with this criterion for each printing ink and related product from the supplier/producer of each product.*

2(g) Toluene recovery from rotogravure printing

Any rotogravure printing processes used to produce EU Ecolabel printed paper, paper stationary paper or paper carrier bag products must have a closed loop solvent recovery system in place and be able to demonstrate a toluene recovery efficiency of at least 97%.

Assessment and verification: *the applicant shall provide a declaration of compliance with this criterion supported by a description of closed loop solvent recovery system and a mass balance of toluene that demonstrates a recovery of at least 97% during the most recent completed calendar year.*

Current criterion on metal components for converted paper products established by Commission Decision 2014/256/EU

Criterion 3 — Excluded or limited substances and mixtures

(g) Metal components (Proposed to remove requirement)

~~*Metals shall not be coated with cadmium, chromium, nickel, zinc, mercury, lead, tin and their compounds.*~~

~~*The surface treatment of metal surfaces with nickel or zinc can be accepted for small parts (such as rivet, eyelet, and flat bar mechanisms) where this is necessary due to heavy physical wear.*~~

~~*Both nickel plating and zinc galvanisation shall make use of wastewater treatment, ion exchange technology, membrane technology or equal technology in order to recycle the chemical products as much as possible.*~~

~~Emissions from surface treatment shall be recycled and destroyed. The system shall be closed without drainage, with an exception for zinc where the emission can be a maximum of 0,50 mg/l.~~

~~The chemical products used in the surface treatment must be in compliance with the criteria 3 (c) Biocides and 3 (e) Alkyl phenol ethoxylates — Halogenated solvents — Phthalates.~~

~~This requirement applies to each separate metal-type component exceeding 10 % by weight of the final products in the subcategory of suspension file, folders with metal fastener, ring binder and lever arch file.~~

~~Assessment and verification: the applicant shall provide a declaration of compliance with this criterion.~~

Criterion 3 — Recyclability

3(a) The non-paper product parts of stationary paper product such as metal bars or plastic covers shall be easily removable to ensure that those components will not hinder the recycling process.

Assessment and verification: *the applicant shall provide a declaration of compliance supported by a declaration of the paper collecting company, the recycling company or an equivalent organization. The declaration shall be supported by a list of non-paper materials used in a product.*

3(b) Stationary paper and paper carrier bag products shall be re-pulpable.

- i) Unless otherwise specified wet strength agents shall not be used. For paper carrier bags and wrapping paper products, wet strength agents can only be used if their recyclability can be proven. Printed paper products are exempted from the requirement.
- ii) Lamination, including polyethene and/or polypropylene, shall only be used to increase the durability of products with a life span of at least 1 year, for example, books, binders, folders, exercise books, calendars, notebooks and diaries. Lamination shall not be used in magazines, paper carrier bags, or wrapping paper. Double lamination shall not be used in any product.

Assessment and verification: *the applicant shall provide a declaration of compliance supported by the following documentation.*

For paper carrier bags and wrapping paper products the applicant shall provide the result of test report proving re-pulpability according to the PTS method PTS-RH 021/97, the ATICELCA 501:2019 evaluation system or equivalent standard methods that are accepted by the competent body as providing data of equivalent scientific quality.

The applicant shall provide a declaration of non-use of lamination for newspapers, magazines, paper carrier bags or wrapping paper. Otherwise the applicant shall provide the result(s) of test report(s) proving re-pulpability according to the PTS method PTS-RH 021/97 or ATICELCA 501:2019 evaluation system or equivalent standard methods that are accepted by the competent body.

For laminated products, the applicant shall provide a declaration of non-use of double lamination.

Where a part of a converted paper product is easily removable (for example a metal bar in a suspension file, a magazine insert or a plastic cover or a reusable exercise book cover), the re-pulpability test may be made without this component.

3(c) Unless otherwise specified, adhesives may be used only if their removability can be proven with a score of at least 71 on the EPRC Adhesive Removal Scorecard.

Pressure sensitive adhesive coatings shall be used only if their removability can be proven with at least a positive removability score on the EPRC Adhesive Removal Scorecard.

Water based adhesives are exempted from this requirement.

Assessment and verification: *the applicant shall provide a declaration of compliance with the adhesive removal scorecard according to the guidelines of the European Paper Recycling Council (EPRC). The declaration shall be supported by adhesive removability test results according to INGEDE Method 12, or equivalent standard methods that are accepted by the competent body as providing data of equivalent scientific quality.*

For water based adhesives, a declaration of the water-based nature of the adhesive shall be provided by the adhesive manufacturer.

Adhesive applications listed in the Annex of the “Assessment of Printed Product Recyclability, Scorecard for Removability of Adhesive Applications”, are considered compliant with the requirement.

3(d) The deinkability of printed paper products and envelopes based on white paper substrate shall be proven

The printed product is considered compliant with the requirement if it meets a minimum score of 50% of the maximum score available for each individual parameter of the EPRC deinkability score, or equivalent.

For envelopes, internal printing shall only be used for the privacy reasons in envelopes made up of paper with a grammage of less than 135 g/m² (or opacity level lower than 98%). The internal printed surface shall be less than 80% of the total interior surface minus the glued area and shall be printed with light colour shades.

Assessment and verification: the applicant shall provide a declaration of compliance with deinkability scores according to the guidelines of the European Paper Recycling Council (EPRC). The declaration shall be supported by deinking test results according to INGEDE Method 11, or equivalent standard methods that are accepted by the competent body as providing data of equivalent scientific quality.

For envelopes, the applicant shall provide a declaration of compliance with the requirement, supported by specifications of the weight/m² of the paper used according to UNE-EN ISO 536:2013 (or opacity according to ISO 2471), colour of printing ink, and % coverage of any internal printing pattern.

Printing technologies and material combinations listed in the Annex of the “Assessment of Printed Product Recyclability, Deinkability Score” shall be considered compliant with the requirements.

Testing of printing technologies or inks must be performed on three types of paper: uncoated, coated and surface-sized paper. If a type of printing ink is only sold for one or two specific types of paper, it shall be sufficient to test only the paper type(s) in question.

Criterion 4 — Emission

TWO ALTERNATIVE OPTIONS ARE PROPOSED FOR FURTHER DISCUSSION DURING THE 2nd AHWG MEETING

OPTION I (Revision of the reference values established in the currently valid criterion)

4a). Emissions to water from rotogravure printing

~~4a(i) Rinsing water containing silver from film processing, as well as from plate production, and photo-chemicals shall not be discharged to a sewage treatment plant.~~

Proposed to be withdrawn as an obsolete technique

~~**Assessment and verification:** the applicant shall provide a declaration of compliance with this criterion, together with a description of the management of photo-chemicals and silver containing rinsing water on site. Where the film processing and/or the plate production are outsourced, the sub-contractor shall provide a declaration of compliance with this criterion, together with a description of the management of photo-chemicals and silver containing rinsing water at the subcontractors.~~

The amount of Cr and Cu discharged into a sewage treatment plant must not exceed, respectively, 20 mg per m² and 200 mg per m² of printing cylinder surface area used in the press.

Assessment and verification: discharges of Cr and Cu into the sewer shall be checked at rotogravure printing plants after treatment and immediately prior to discharge into the sewer. A representative composite sample of Cr and Cu discharges shall be collected each month. At least one annual analytical test shall be carried out by an accredited laboratory to determine the content of Cr and Cu from the composite

sample according to EN ISO 11885 or equivalent standard methods that are accepted by the competent body as providing data of equivalent scientific quality.

Compliance with this criterion shall be assessed by dividing the content of Cr and Cu, as determined by the annual analytical test, by the cylinder surface used in the press during the printing. The cylinder surface used in the press during printing is calculated by multiplying the cylinder surface ($= 2\pi rL$, where r is the radius and L the length of the cylinder) by the number of printing productions during a year (= number of different printing jobs).

(4b) Emissions to air

The criterion shall apply to all printing and conversion processes where organic solvents are used.

Volatile Organic Compounds (VOC)

The following criterion must be met:

$$(P_{\text{VOC}} - R_{\text{VOC}})/P_{\text{paper}} < 3 \text{ [kg/tonnes]}$$

Where:

P_{VOC} = the annual total kilograms of VOC contained in the purchased chemical products used for the annual total production of printed products

R_{VOC} = the annual total kilograms of VOC destroyed by abatement or recovered from printing processes and sold or reused

P_{paper} = the annual total tonnes of paper purchased and used for the production of printed products.

Where a printing house uses different printing technologies, this criterion shall be fulfilled for each one separately.

The P_{VOC} term shall be calculated from SDS information regarding the VOC content or from an equivalent declaration provided by the supplier of chemical products.

The R_{VOC} term shall be calculated from the declaration on the content of VOC contained in the chemical products sold or from the internal counting register (or any other equivalent document) reporting the annual amount of VOC recovered and reused on site.

Specific conditions for heat-set printing:

(i) For heat-set offset printing with an integrated after-burner unit in place for the drying unit, the following calculation method shall apply:

$$P_{\text{VOC}} = 90\% \text{ of the annual total kilograms of VOC contained in dampening solutions used for the annual production of printed products} + 85\% \text{ of the annual total kilograms of VOC contained in washing agents used for the annual production of printed products.}$$

(ii) For heat-set offset printing, without an integrated after-burner unit in place for the drying unit, the following calculation method shall apply:

$P_{VOC}=90\%$ of the annual total kilograms of VOC contained in damping solutions used for the annual production of printed products + 85% of the annual total kilograms of VOC contained in washing agents used for the annual production of printed products + 10% of annual total kilograms of VOC contained in the printing inks used for the annual production of printed products.

For (i) and (ii), proportionately lower percentages than 90% and 85% may be used in this calculation if more than 10% or 15% respectively of annual total kilograms of VOC contained in the damping solutions or washing agents used for the annual production of printed products are shown to be abated in the treatment system for combusting gases from the drying process.

Assessment and verification: a declaration of the VOC content in alcohols, washing agents, inks, damping solutions or other corresponding chemical products shall be provided by the chemical supplier. The applicant shall provide evidence of the calculation according to the criteria laid down above. The period for the calculations shall be based on the production during 12 months. In case of a new or a rebuilt production plant, the calculations shall be based on at least three months of representative running of the plant.

(4c) Emissions from publication rotogravure printing

4 c(i) Publication rotogravure printing emissions of VOC to air shall not exceed 16 mg C/Nm³.

4 c(ii) Equipment for reduction of emission to air of Cr(VI) shall be installed

4 c(iii) Emissions of Cr(VI) to air shall not exceed 15 mg/tonne paper

Assessment and verification: the applicant shall provide appropriate documentation showing compliance with this criterion.

For the monitoring of total VOC (TVOC) emissions to air in waste gases, any stack with a TVOC load less than 10 kg C/h should be performed at least once a year according to EN 12619, or equivalent. In the case of a TVOC load less than 0.1 kg C/h (as an annual average), or in the case of an unabated and stable TVOC load of less than 0.3 kg C/h, the monitoring frequency may be reduced to once every three years or the monitoring may be replaced by calculation provided that it ensures the provision of data of an equivalent scientific quality.

The applicant shall provide a description of the system in place, together with a documentation related to the control and the monitoring of Cr6 + emissions. The documentation shall include the test results related to the reduction of Cr6 + emissions to the air.

(4d) Printing processes not covered by the Industrial Emissions Directive 2010/75/EU

The following requirements shall apply to printing processes not covered by Annex VII Part 2 of Directive 2010/75/EU.

In all cases where no legislative measures apply, the emissions of VOC to air must not exceed 20 mg C/Nm³. In addition, fugitive emissions should be lower than 10%.

Volatile solvents from the drying process of heat-set offset and flexography printing shall be managed by means of recovery or combustion or any equivalent system.

~~This requirement does not apply to screen printing and digital printing. Moreover it does not apply to heat set and flexography installations with solvent consumption lower than 15 tonnes per year.~~

Assessment and verification: the applicant shall provide a description of the system in place together with documentation and test results related to the control and the monitoring of emissions to air.

For total or fugitive VOC emissions, an applicable solvent mass balance calculation based at least on the production during 12 months shall be compiled. In case of a new or a rebuilt production plant, the calculations shall be based on at least three months of representative running of the plant.

A declaration of the VOC content in alcohols, washing agents, inks, damping solutions or other relevant chemical products shall be provided by the applicant or a chemical supplier.

For the monitoring of total VOC (TVOC) emissions to air in waste gases, measurements in any stack with a TVOC load less than 10 kg C/h should be performed at least once a year according to EN 12619, or equivalent. In the case of a TVOC load less than 0.1 kg C/h (as an annual average), or in the case of an unabated and stable TVOC load of less than 0.3 kg C/h, the monitoring frequency may be reduced to once every three years or the monitoring may be replaced by calculation provided that it ensures the provision of data of an equivalent scientific quality.

OPTION II (Harmonize the Criterion with BATs requirements)

4(a) Emissions to water from rotogravure printing

~~4 a(i) Rinsing water containing silver from film processing, as well as from plate production, and photo-chemicals shall not be discharged to a sewage treatment plant.~~

~~*Assessment and verification: the applicant shall provide a declaration of compliance with this criterion, together with a description of the management of photo-chemicals and silver containing rinsing water on site. Where the film processing and/or the plate production are outsourced, the sub-contractor shall provide a declaration of compliance with this criterion, together with a description of the management of photo-chemicals and silver containing rinsing water at the subcontractors.*~~

The amount of Cr and Cu discharged into a waste water treatment plant must not exceed, respectively, 20 mg per m² and 200 mg per m² of printing cylinder surface area used in the press.

Assessment and verification: discharges of Cr and Cu into the sewer shall be checked at rotogravure printing plants after treatment and immediately prior to discharge into the sewer. A representative composite sample of Cr and Cu discharges shall be collected each month. At least one annual analytical test shall be carried out by an accredited laboratory to determine the content of Cr and Cu from the composite sample according to EN ISO 11885 or equivalent standard methods that are accepted by the competent body as providing data of equivalent scientific quality.

Compliance with this criterion shall be assessed by dividing the content of Cr and Cu, as determined by the annual analytical test, by the cylinder surface used in the press during the printing. The cylinder surface used in the press during printing is calculated by multiplying the cylinder surface ($= 2\pi rL$, where r is the radius and L the length of the cylinder) by the number of printing productions during a year (= number of different printing jobs).

~~The reference test methods are for Cr: EN ISO 11885 (Water quality. Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES)), and EN 1233 (Water quality. Determination of chromium. Atomic absorption spectrometric methods), and for Cu: EN ISO 11885 (Water quality. Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES)).~~

4(b) Volatile Organic Compounds (VOCs) emission from rotogravure publication printing

4 b (i) Fugitive VOC emissions as calculated by the solvent mass balance should be lower or equal to 2.0% as calculated by the solvent mass balance and total VOC (TVOC) emissions to air in waste gases shall be lower or equal to 16.0 mg C/Nm³.

4 b (ii) Equipment for reduction of emission to air of Cr(VI) shall be installed.

4 b (iii) Emissions of Cr(VI) to air shall not exceed 15.0 mg/tonne paper.

Assessment and verification: *the applicant shall provide data and detailed calculations showing compliance with this criterion, together with related supporting documentation.*

For total or fugitive VOC emissions, as applicable solvent mass balance calculation based at least on the production during 12 months shall be compiled. The solvent input output mass balance shall meet the rules defined in Part 7(2) of Annex VII to Directive 2010/75/EU as specified in Commission Implementing Decision (EC) 2020/XX/XX. In case of a new or a rebuilt production plant, the calculations shall be based on at least three months of representative running of the plant.

A declaration of the VOC content in alcohols, washing agents, inks, damping solutions or other corresponding chemical products shall be provided by the applicant or a chemical supplier.

For the monitoring of total VOC (TVOC) emissions to air in waste gases, any stack with a TVOC load less than 10 kg C/h should be performed at least once a year according to EN 12619, or equivalent. In the case of a TVOC load less than 0.1 kg C/h (as an annual average), or in the case of an unabated and stable TVOC load of less than 0.3 kg C/h, the monitoring frequency may be reduced to once every three years or the monitoring may be replaced by calculation provided that it ensures the provision of data of an equivalent scientific quality.

The applicant shall provide a description of the system in place, together with a documentation related to the control and the monitoring of Cr6 + emissions. The documentation shall include the test results related to the reduction of Cr6 + emissions to the air.

4(c) Volatile Organic Compounds (VOCs) emission from heatset web offset printing

Total VOC emissions as calculated by the solvent mass balance should be lower or equal to 0.03 kg VOCs per kg of ink input; alternatively fugitive VOC emissions as calculated by the solvent mass balance should be lower or equal to 8% and total VOC (TVOC) emissions to air in waste gases should be lower or equal to 12.0 mg C/Nm³.

4(d) Volatile Organic Compounds (VOCs) emission from flexo and non – publication rotogravure printing

Total VOC emissions as calculated by the solvent mass balance should be lower or equal to 0.24 kg VOCs per kg of ink input; alternatively fugitive VOC emissions as calculated by the solvent mass balance should be lower or equal to 9.6% and total VOC (TVOC) emissions to air in waste gases should be lower or equal to 16.0 mg C/Nm³.

Assessment and verification: For criterion 4 c) and 4d) the applicant shall provide detailed calculations and test data showing compliance with this criterion, together with related supporting documentation.

For total or fugitive VOC emissions, as applicable solvent mass balance calculation based at least on the production during 12 months shall be compiled. The solvent mass balance shall meet the rules defined in Part 7(2) of Annex VII to Directive 2010/75/EU as specified in Commission Implementing Decision (EC) 2020/XX/XX. In case of a new or a rebuilt production plant, the calculations shall be based on at least three months of representative running of the plant.

A declaration of the VOC content in alcohols, washing agents, inks, damping solutions or other corresponding chemical products shall be provided by the applicant or a chemical supplier.

For the monitoring of total VOC (TVOC) emissions to air in waste gases, any stack with a TVOC load less than 10 kg C/h should be performed at least once a year according to EN 12619, or equivalent. In the case of a TVOC load less than 0.1 kg C/h (as an annual average), or in the case of an unabated and stable TVOC load of less than 0.3 kg C/h, the monitoring frequency may be reduced to once every three years or the monitoring may be replaced by calculation provided that it ensures the provision of data of an equivalent scientific quality.

For any stack with a TVOC load higher or equal to 10 kg C/h the monitoring shall be continuous according to EN15267-1, EN15267-2, EN15267-3 and EN 14181.

4(e) Printing processes not covered by the Industrial Emission Directive 2010/75/EU

The following requirements shall apply to printing processes not covered by Annex VII Part 2 of Directive 2010/75/EU

In all cases where no legislative measures apply, the emissions of VOC to air must not exceed 20 mg C/Nm³. In addition, fugitive emissions should be lower than 10%.

Volatile solvents from the drying process of heat-set offset and flexography printing shall be managed by means of recovery or combustion or any equivalent system.

~~This requirement does not apply to screen printing and digital printing. Moreover it does not apply to heat set and flexography installations with solvent consumption lower than 15 tonnes per year.~~

Assessment and verification: *the applicant shall provide a description of the system in place together with documentation and test results related to the control and the monitoring of emissions to air.*

For total or fugitive VOC emissions, as applicable solvent mass balance calculation based at least on the production during 12 months shall be compiled. The solvent input output mass balance shall meet the rules defined in Part 7(2) of Annex VII to Directive 2010/75/EU as specified in Commission Implementing Decision (EC) 2020/XX/XX. In case of a new or a rebuilt production plant, the calculations shall be based on at least three months of representative running of the plant.

A declaration of the VOC content in alcohols, washing agents, inks, dampening solutions or other corresponding chemical products shall be provided by the applicant or a chemical supplier.

For the monitoring of total VOC (TVOC) emissions to air in waste gases, any stack with a TVOC load less than 10 kg C/h should be performed at least once a year according to EN 12619, or equivalent. In the case of a TVOC load less than 0.1 kg C/h (as an annual average), or in the case of an unabated and stable TVOC load of less than 0.3 kg C/h, the monitoring frequency may be reduced to once every three years or the monitoring may be replaced by calculation provided that it ensures the provision of data of an equivalent scientific quality.

Criterion 5 – Waste

5a). Waste management system

The facility where the product is manufactured shall have in place a system for handling waste which addresses and documents the measures taken to reduce the amount of solid and liquid waste, including waste paper, ink waste, cleaning agent solution and dampening solution waste as defined by local or national regulatory authorities.

The system shall be documented or explained and shall include information on at least the following procedures:

- (i) handling, collection, separation and use of recyclable materials from the waste stream;
- (ii) recovery of materials for other uses, such as incineration for raising process steam or heating, or agricultural use;
- (iii) handling, collection, separation and disposal of hazardous waste, as defined by the relevant local and national regulatory authorities.

Assessment and verification: *the applicant shall provide a declaration of compliance with this criterion, together with a description of the procedures adopted for waste management. ~~Where appropriate, the applicant shall provide the corresponding declaration to the local authority every year.~~ Where the waste management is outsourced, the sub-contractor shall provide a declaration of compliance with this criterion as well.*

Applicants registered with EMAS and/or certified according to ISO 14001 shall be considered as having fulfilled this criterion if:

- the inclusion of waste management in the scope of EMAS is documented in the EMAS environmental statement, or

- the inclusion of waste management is sufficiently addressed by the ISO 14001 certification

Assessment and verification: The applicant shall provide a waste minimisation and management plan for each of the sites concerned and a declaration of compliance with the criterion. The applicant shall provide a declaration of compliance with this criterion, together with a description of the procedures adopted for waste management. Where the waste management is outsourced, the sub-contractor shall provide a declaration of compliance with this criterion as well.

Applicants registered with EU Eco-Management and Audit Scheme (EMAS) and/or certified according to ISO 14001 shall be considered as having fulfilled this criterion if:

- 1) the inclusion of waste management is documented in the EMAS environmental statement for the production site(s), or
- 2) the inclusion of waste management is sufficiently addressed by the ISO 14001 certification for the production site(s).

5(b) – Paper for recycling from printing facilities

The amount of waste paper ‘X’ produced shall not exceed the values reported in the following table

Printing method	Maximum waste paper (%)
Sheet offset	20
Cold-set, newspaper	10
Cold-set, form printing	18
Cold-set rotation (except newspapers)	18
Heat-set rotation	18
Rotogravure printing	12
Flexography printing	11
Digital printing	10
Flexography, corrugated fibreboard	
Screen printing	23

Where:

X = annual tonnes of waste paper produced during the printing (including finishing processes) of the eco-labelled printed paper product, divided by annual tonnes of paper purchased and used for the production of eco-labelled printed paper product.

Where the printing house carries out finishing processes on behalf of another printing house, the amount of waste paper produced in those processes shall not be included in the calculation of 'X'.

Where the finishing processes are outsourced to another company, the amount of waste paper resulting from the outsourced work shall be calculated and declared in the calculation of 'X'.

Assessment and verification: the applicant shall provide a description of the calculation of the amount of waste paper, together with a declaration from the contractor collecting the waste paper from the printing house. The outsourcing terms and calculations on the amount of paper waste involved in the finishing processes shall be provided.

The period for the calculations shall be based on the production during 12 months. In case of a new or a rebuilt production plant, the calculations shall be based on at least 45 subsequent days of stable running of the plant.

5(c) – Paper for recycling from stationary paper product and carrier bags production sites

The amount of waste paper 'X' shall not exceed:

- 17 % for envelopes
- 15 % for writing stationery products, excluding diaries;
- 18 % for diaries;
- 20 % for filing stationery products printed on one side;
- 30 % for filing stationery products printed on both sides
- 10 % for paper bags and wrapping paper

where, X = annual kilos of waste paper produced during the stationery paper products and carrier bags manufacturing (including finishing processes) of the eco-labelled paper product, divided by annual tonnes of paper purchased and used for the production of eco-labelled converted paper product.

Where the printing house carries out finishing processes on behalf of another printing house, the amount of waste paper produced in those processes shall not be included in the calculation of 'X'.

Where the finishing processes are outsourced to another company, the amount of waste paper resulting from the outsourced work shall be calculated and declared in the calculation of 'X'.

Assessment and verification: *the applicant shall provide a description of the calculation of the amount of waste paper, together with a declaration from the contractor collecting the waste paper from the printing house. The outsourcing terms and calculations on the amount of paper waste involved in the finishing processes shall be provided. The period for the calculations shall be based on the production during 12 months. In case of a new or a rebuilt production plant, the calculations shall be based on at least 45 subsequent days of stable running of the plant.*

Criterion 6 — Energy use

6 (a) The site where the EU Ecolabel product is produced shall have established an energy management system addressing all energy consuming devices (including machinery, lighting, air conditioning, cooling). The energy management plan shall include measures for the improvement of energy efficiency.

Assessment and verification: *the applicant shall provide a declaration of compliance for the production site, supported by a description of the energy management system.*

Applicants certified according to ISO 50001, EN 16247:2012 or an equivalent standard/scheme shall be considered as having fulfilled this requirement.

Applicants registered with EMAS shall be considered as having fulfilled this requirement if the inclusion of energy management in the scope of EMAS is documented in the EMAS environmental statement.

Criterion 7 — Training

All relevant members of staff participating in the day-to-day operation of the production site shall be given the knowledge necessary to ensure that the Ecolabel requirements are fulfilled and continuously improved.

Assessment and verification: *the applicant shall provide a declaration of compliance with this criterion, together with details of the training programme, its content, and an indication of which staff have received what training and when. The applicant shall provide to the Competent Body also a sample of training material.*

Criterion 8 — Fitness for use

The product should be suitable for its purpose.

Assessment and verification: *The applicant shall provide a declaration of compliance with this criterion supported by at least one letter/document/statements issued by clients for a specific product, assuring that the product met their specifications and works correctly in its intended application. Alternatively, the producers shall guarantee the fitness for use of their products providing appropriate documentation demonstrating the paper quality, in accordance with the standard EN ISO/IEC 17050-1:2004, which provides general criteria for suppliers' declaration of conformity with standards.*

Criterion 9 —Information on the product

The following information shall appear on the product:

‘Please collect used paper for recycling’.

The following statement shall optionally be added on the writing stationary products:

"Optimise the use of writing space in the product".

Assessment and verification: *The applicant shall provide a declaration of compliance with this criterion, supported by an image of the product packaging bearing the information required.*

Criterion 10 —Information appearing on the EU Ecolabel

The applicant shall follow the instructions on how to properly use the EU Ecolabel logo provided in the EU Ecolabel Logo Guidelines:

http://ec.europa.eu/environment/ecolabel/documents/logo_guidelines.pdf

If the optional label with text box is used, it shall contain the following three statements:

- Low process emissions to air and water
- The product is recyclable
- Paper with low environmental impact used

Assessment and verification: *The applicant shall provide a declaration of compliance with this criterion, supported by an image of the product packaging that clearly shows the label, the registration/licence number and, where relevant, the statements that can be displayed together with the label.*