Nordic Ecolabelling of

Imaging equipment

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Nordic Ecolabelling

Content

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This document is a translation of an original in Swedish. In case of dispute, the original document should be taken as authoritative.

Addresses

In 1989, the Nordic Council of Ministers decided to introduce a voluntary official ecolabel, the Nordic Ecolabel. These organisations/companies operate the Nordic ecolabelling system on behalf of their own country's government. For more information, see the websites:

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What is Nordic Ecolabelled imaging equipment?

Nordic Ecolabelled imaging equipment products (copiers, digital duplicators, facsimile machines, multifunction devices (MFD), printers, scanners) are amongst the least environmental harmful products in their category, since they meet a number of environmental requirements.

The environmental problems associated with imaging equipment derive mainly from power consumption during use and from disposal of the products as waste. Furthermore they represent a source of pollution in the working environment through the generation of heat, emissions to air and noise.

The requirements that the appliances must fulfil before a Nordic Ecolabel can be granted, focus on the following aspects:

- low energy consumption
- plastic materials and additives, e.g. flame retardants
- duplex printing and consumables during usage
- recycling of discharged products
- emissions of pollutants (also noise) in working areas
- packaging material

International cooperation
In version 6 of the criteria, the harmonization ambition between different recognized international ecolabelling schemes continued with the Blue Angel. This was because Eco Mark did not during the revision to version 6 have any new criteria since the revision to version 5, while the Blue Angel had a draft for new criteria. Also the EU Ecolabel criteria for imaging equipment had a draft which has partly been harmonized with.

Why choose the Nordic Ecolabel?

- The manufacturer may use the Nordic Ecolabel trademark, the Swan, for marketing. The Nordic Ecolabel is a very well-known and well-reputed trademark in the Nordic region.
- The Nordic Ecolabel is a cost-effective and simple way of communicating environmental work and commitment to customers and suppliers.
- Reducing environmental impact often creates scope for lowering costs, such as by cutting the consumption of energy and reducing amounts of packaging and waste.
- Environmentally suitable operations prepare imaging equipment for future environmental legislation.
- Environmental issues are complex. It can take a long time and extensive resources to gain an understanding of a specific area. Nordic Ecolabelling can be seen as aid in this work.
- The Nordic Ecolabel not only covers environmental issues but also quality requirements, since the environment and quality often go hand in hand. This means that a Nordic Ecolabel licence can also be seen as a mark of quality.

What can carry the Nordic Ecolabel?

Copiers, digital duplicators, facsimile machines, multifunction devices (MFD), printers and scanners are eligible for a Nordic Ecolabel. The machines may be equipped with external or internal scanners. In this document we collect all of these products under the name imaging equipment.

The criteria do not apply to computer equipment, for which separate criteria apply.

Copier
A commercially-available imaging product whose sole function is the production of hard copy duplicates from graphic hard copy originals. The unit must be capable of being powered from a wall outlet or from a data or network connection. This definition is intended to cover products that are marketed as copiers or upgradeable digital copiers (UDCs).

Digital duplicator
A commercially-available imaging product that is sold in the market as a fully-automated duplicator system through the method of stencil duplicating with digital reproduction functionality. The unit must be capable of being powered from a wall outlet or from a data or network connection. This definition is intended to cover products that are marketed as digital duplicators.

Facsimile machine (Fax machine)
A commercially-available imaging product whose primary functions are scanning hard copy originals for electronic transmission to remote units and receiving similar electronic transmissions to produce hard copy output. Electronic transmission is primarily over a public telephone system, but also may be via computer network or the Internet. The product also may be capable of producing hard copy duplicates. The unit must be capable of being powered from a wall outlet or from a data or network connection. This definition is intended to cover products that are marketed as fax machines.

Multifunction device (MFD)
A commercially-available imaging product, which is a physically-integrated device or a combination of functionally-integrated components, that performs two or more of the core functions of copying, printing, scanning, or faxing. The copy functionality as addressed in this definition is considered to be distinct from single sheet convenience copying offered by fax machines. The unit must be capable of being powered from a wall outlet or from a data or network connection. This definition is intended to cover products that are marketed as MFDs or multifunction products (MFPs).

Note: If the MFD is not a single integrated unit but a set of functionally integrated components, then the manufacturer must certify that when installed correctly in the field, the sum of all energy or power use for all MFD components comprising the base unit will achieve the energy or power levels to qualify as an Energy Star MFD.

Printer
A commercially-available imaging product that serves as a hard copy output device, and is capable of receiving information from single-user or networked computers, or other input devices (e.g., digital cameras). The unit must be capable of being powered from a wall outlet or from a data or network connection. This definition is intended to cover products that are marketed as printers, including printers that can be upgraded into MFDs in the field.

Scanner
A commercially-available imaging product that functions as an electro-optical device for converting information into electronic images that can be stored, edited, converted, or transmitted, primarily in a personal computing environment. The unit must be capable of being powered from a wall outlet or from a data or network connection. This definition is intended to cover products that are marketed as scanners.

Extra equipment
The above products also include various consumer durables, such as OPC (Optical Photosensitive Conductor) kits, drums, toner powder and residual toner cartridges.

If extra equipment shall use the Nordic Ecolabel they must be listed in a valid licence and the extra equipment must belong to the ecolabelled imaging equipment.

If extra equipment such as desks, sorters, feeder and units for double-sided printing are to be included, the individual parts must meet the requirements as to design, materials, chemical requirements during production, requirements as to packaging and requirements as to recycling

How to apply

Each requirement is marked with the letter O (obligatory requirement) and a number. All requirements must be fulfilled to be awarded a licence.

Icons in the text

The text describes how the applicant shall demonstrate fulfilment of each requirement. There are also icons in the text to make this clearer. These icons are:

✉ Enclose.

🔑 The requirement checked on site.

Application

Applications are made to the national ecolabelling organisation and the application is valid for 12 months. Applications may be processed by another ecolabelling organisation according to agreement between the organisations. The applicant is notified of this. Companies located outside the Nordic countries make applications to the national ecolabelling organisation of the primary market.

The application must consist of a completed application form together with all of the documentation required to demonstrate compliance with the requirements specified in the criteria document (this is specified for each requirement). The application form must specify in which Nordic countries the products in question are to be sold and the estimated turnover from the products in each country.

Further information and assistance may be available. Visit the relevant national website for information.

Sales in the Nordic region

Once granted, a licence is valid throughout the Nordic region. The licence document specifies in which Nordic countries the products are sold according to the information provided on the application. The products are published on Nordic Ecolabelling's

website(s). The licensee undertakes to inform Nordic Ecolabelling of any changes as to where the product is sold. If the product is to be sold in other Nordic countries than those initially specified in the application, the licensee must provide written notification of this and submit any extra documentation required to Nordic Ecolabelling in the country that issued the license.

On-site inspection

In connection with handling of the application, Nordic Ecolabelling performs an on-site inspection to ensure adherence to the requirements. For such an inspection, data used for calculations, original copies of submitted certificates, test records, purchase statistics, and similar documents that support the application must be available for examination.

Costs

An application fee is charged to companies applying for a licence. There is an additional annual fee based on the turnover of the Nordic Ecolabelled imaging equipment.

Enquiries

Please contact Nordic Ecolabelling if you have any queries or require further information. See page 3 for addresses.

What are the requirements of the Nordic Ecolabelling?

To be awarded a Nordic Ecolabel licence, all requirements must be fulfilled.

1 Harmonization with Blue Angel and Eco Mark

Most product requirements are fully harmonised with Blue Angel and Eco Mark. Some requirements are not harmonised and are found only in version 6 of the Nordic Ecolabel criteria document. These include both product and administrative requirement and specific for the Nordic organisation of the company that applies for a license.

If a product is approved under the Blue Angel or Eco Mark criteria (RAL-UZ 171/Product Category No. 155, or later versions) it is easier to apply for a Nordic Ecolabel licence. Such applicants may use appendix 2 that describe the additional documentation needed for a Nordic Ecolabel licence.

If the product does not have Blue Angel or Eco Mark license, the product must fulfil the requirements in sections 2, 3, 4 and 5.

In this document, Nordic Ecolabelling has changed the layout of the requirements from the original documents Blue Angel criteria (RAL-UZ 171/Product Category No. 155, or later versions). In case of any conflict the original always takes precedence.

Further information about Blue Angel or Eco Mark can be found at the following Internet addresses:
Blue Angel: http://www.blauer-engel.de/en/index.php
Eco Mark: http://www.ecomark.jp/english/

O1 Valid Blue Angel or Eco Mark license

If the product has a valid Blue Angel license (RAL-UZ 171, or later versions), the following requirements need to be fulfilled:

- Re-used plastic, O4
- Disassembly, O5
- Flame retardants in plastic and rubber, O11
- Phthalates in external power cable, O12
- Re-cycled material in packaging, O15
- Double-sided copying, O17
- Consumables, O18
- Working Conditions, O21
- Chapter 5, Quality and regulatory requirements
- Appendix 2

✉ Description as specified above.

If the product has a valid Eco Mark-license (Eco Mark Product Category No. 155, or later versions), the following requirements need to be fulfilled:

- Re-used plastic, O4
- Special requirements as to products with combined toner cartridges, O6
- Flame retardants in plastic and rubber, O11
- Phthalates in external power cable, O12
- Chemicals used during production, O13

- Plastic materials in packaging, O14
- Re-cycled material in packaging, O15
- Double-sided copying, O17
- Consumables, O18
- Sound power, O20
- Working Conditions, O21
- Chapter 5, Quality and regulatory requirements
- Appendix 2

✉ Description as specified above.

2 Environmental requirements

2.1 General descriptions

O2 Description of the product

Describe the product and how it fulfils the definition of a product eligible to carry the Nordic Ecolabel.

✉ Description as specified above.

2.2 Energy consumption

O3 Energy consumption

The energy consumption of the product must fulfil the energy requirement in Blue Angel criteria for a corresponding product. Energy consumption must be measured in accordance with the requirements described in the criteria for Blue Angel: (RAL-UZ 171, or later versions)[1].

Or

The energy consumption of the product must fulfil the energy requirement in Energy Star specification for imaging equipment. Energy consumption must be measured in accordance with the requirements described in the Energy Star specification or "Imaging Equipment version 2.0"[2] or later versions.

✉ A test report documenting that the product(s) is in compliance with either RAL-UZ 171, or later versions, or Energy Star specification or "Imaging Equipment version 2.0", or later versions.

2.3 Design and materials

O4 Re-used plastic

List the plastic materials used. At least one part > 25 g must contain re-used plastic part or post-consumer and pre-consumer re-cycled plastic.

✉ Declaration from the manufacturer of the imaging equipment, showing that the requirement is fulfilled by filling out Appendix 4.

[1] Blue Angel, RAL-UZ 171, Basic Criteria for Award of the Environmental Label, Office Equipment with Printing Function (2012)
http://www.blauer-engel.de/de/produkte_marken/vergabegrundlage.php?id=259

[2] Energy Star, Product Specification for Imaging Equipment, Final Draft Version 2.0 (2012)
http://www.energystar.gov/ia/partners/prod_development/revisions/downloads/img_equip/Program_Requirements_V2.0.pdf?235f-bab7

✉ A list from the manufacturer of the imaging equipment showing the plastic materials used, by filling out Appendix 5.

✉ Description from the manufacturer of the imaging equipment of all plastic part comprising of re-cycled (post-consumer/pre-consumer) or re-used plastic parts.

O5 Disassembly

Imaging Equipment must be designed in such a way that disassembly is possible. The requirement consists of the following individual requirements:

- A qualified person, working alone, must be able to disassemble the product.
- The manufacturer must ensure that disassembly of the unit is possible and compile disassembly instructions demonstrating that:
  - Connections are easy to locate and access and easily separable with generally available tools.
  - Connections are, where possible, standardized.
- It must be possible to separate the substances, preparations and components listed in ANNEX VII of the WEEE Directive (2012/19/EU).
- If labels are required they shall be easily removable or integrated. This does not apply to safety labels according to CENELEC safety standard EN 60850 §1.7.2.
- Plastic parts heavier than 25 g must be composed of one polymer or compatible polymers.
- Plastic parts heavier than 25 g may contain metallic inlays provided that these can easily be separated without the use of special tools.
- 90% by weight of plastics and metals in the enclosure and chassis must be technically suitable for material recovery.

✉ Disassembly instructions and a declaration from the manufacturer of the product showing that the requirements are met (Appendix 12, Design, can be used).

The ecolabelling organization may request a demonstration of disassembly, if this is considered necessary. The demonstration may take the form of a video film or an inspection visit by the ecolabelling organization. The licence applicant may also choose to arrange for a third party to verify that the product fulfils the requirements. The products that are checked must be selected randomly. The licence applicant will bear the cost of verification.

O6 Special requirements as to products with combined toner cartridges

Products with combined toner cartridge may be accepted if the cartridge is not designed to prevent re-use.

Products must accept re-manufactured toner cartridges.

In order to ensure that the toner cartridges are returned for re-use, a return system must be offered for re-cycling combined toner cartridges and information to user about the return system must be provided.

Combined toner cartridge = Drum, developer and toner in one unit.

✉ Declaration from the manufacturer of the imaging equipment showing that the requirement is fulfilled by filling out Appendix 4.

✉ The applicant/manufacturer must document the existence of a functional return system and describe the structure of this system.

2.4 Plastics in casings and their components

Casing and their components protect the fixtures from environmental impacts, and the user from contact with moving and/or radiating components as well as with components under voltage.

O7 Marking of plastics in casings and their components

Plastic parts in casings and their components > 25 g and with a plane surface of at least 200 square millimetres, must be permanently marked according to ISO 11469:2000 while taking ISO 1043, part 1-4, into consideration.

✉ Declaration from the manufacturer of the imaging equipment showing that the requirement is fulfilled by filling out Appendix 4.

O8 Single plastic casing parts in casings and their components

Single plastic parts in casings and their components > 25 g must be made of a homopolymer or copolymer. Polymer blends (polymer alloy) are permitted.

✉ Declaration from the manufacturer of the imaging equipment showing that the requirement is fulfilled by filling out Appendix 4.

O9 Combined plastic casing parts in casings and their components

Combined plastic parts in casings and their components > 25 g must be made of four or fewer types of mutually separable polymers or polymer blends.

✉ Declaration from the manufacturer of the imaging equipment showing that the requirement is fulfilled by filling out Appendix 4.

O10 Chlorine-based plastics in casings and their components

Plastic parts in casings and their components > 25 g must not contain chlorinated polymers.

✉ Declaration from the manufacturer of the imaging equipment, showing that the requirement is fulfilled.

O11 Flame retardants in plastic and rubber parts in casings and their components

1. The flame retardants Hexabromocyklododekan (HBCDD), tris(2-chloroethyl)phosphate (TCEP) and high chlorinated short chain and high chlorinated medium chain chloro parraphines must not be added.
2. The flame retardant Tetrabrombisphenol-A (TBBP-A) must not be added.
3. Other organic halogenated flame retardants and other flame retardants assigned one or more of the following risk phrases, or combinations, must not be added:
   - H350 (may cause cancer)
   - H350i (may cause cancer by inhalation)
   - H340 (may cause heritable genetic damage)
   - H360F (may impair fertility)
   - H360D (may cause harm to the unborn child)
   - H360Fd (may impair fertility, suspected of damaging the unborn child)
   - H360Df (may cause harm to the unborn child, suspected of damaging fertility)

Exceptions from 2) are made for printed circuit board.

Exceptions from 3) are made for flame retardants:

- In cases where there is demand for safety reason with reference to low voltage directive 73/23/EG or standard EN 60335-1
- Printed circuit board, PCB
- Plastic and rubber parts that weight less than 25 gram and are parts of electric components

Exceptions are not made for flame retardants in 1) or that are regulated according to RoHS-directive (2011/65/ EG).

✉ The manufacturer of the imaging equipment must provide a list of plastics used in plastic parts in casings and their components in the product signed by filling out Appendix 5 – Plastics in imaging equipment, Manufacturer´s Declaration.

✉ The plastic manufacturer must provide a list with flame retardants used in plastic parts in casings and their components, by filling out Appendix 6 – Flame retardants in plastics, Plastic manufacturer´s declaration.

✉ The manufacturer of flame retardants, used in plastic parts in casings and their components, must certify that the requirements are fulfilled by filling out Appendix 7 – Flame retardant manufacturer´s declaration and submit an MSDS for each flame retardant.

Confidential information can be sent directly to the Nordic Ecolabel.

2.5 External power cable

O12 Phthalates in external power cable

The external power cable delivered with the product must not contain following substances:

- Diethyl hexyl phthalat (DEHP)
- Dibuthyl phthalat (DBP/DnBP)
- Butyl bensyl phthalat (BBP)
- Dicyclo hexyl phthalat (DCHP)
- Diiso buthyl phthalat (DIBP)
- Diiso nonyl phthalat (DINP)
- Diiso decyl phthalat (DIDP)
- Di-n-octhyl phthalat (DNOP)
- Dihexyl phthalat (DHP)
- Diethyl phthalat (DEP)
- Diiso hepthyl phthalat (DIHP)
- Bis (2-methoxyethyl) phthalate
- Diiso penthyl phthalate
- N-penthyl-isopenthyl phthalate

Ingoing substances are defined, if not otherwise mentioned, as all substances in the chemical product – including additives (e.g. preservatives or stabilisers) in the raw materials/ingredients, but not residuals from the production, incl. the production of raw materials. Residuals from production and from production of raw materials are defined as residuals, pollutants and contaminants derived from the production of the raw materials, which are present in the final product in amounts less than 100 ppm (0.0100 %w/w, 100 mg/kg), but not substances added to the raw materials or product intentionally and with a

purpose – regardless of amount. Residuals in the raw materials above 1.0 % are regarded as ingoing substances. Known substances released from ingoing substances are also regarded as ingoing substances.

✉ The manufacturer of the imaging equipment must provide a list including the name and supplier/suppliers for the power cable/power cables that is delivered with the imaging equipment.

✉ Declaration from the cable manufacturer, Appendix 11, can be used.

2.6 Chemicals and materials during production

O13 Chemicals used during production

Chemicals containing the following substances regulated in the Montreal Protocol must not be used in the end production of the machines or in the production of circuit boards: CFCs, HCFCs, 1.1.1 trichloro-ethane or carbon-tetrachloride.

✉ Declaration from the manufacturer of the imaging equipment and the direct suppliers (suppliers during the final stages of the supplier chain) showing that the requirement is fulfilled by filling out Appendix 9.

O14 Plastic materials in packaging

Plastic material used as packaging material must not consist of, or contain, halogenated organic substances.

✉ Declaration from the manufacturer of the imaging equipment showing that the requirement is fulfilled, by filling out Appendix 8.

✉ Description of the packaging materials used.

O15 Re-cycled material in packaging

When cardboard boxes are used, they shall be made of at least 50% post-consumer re-cycled material. Only primary packaging, as defined in Directive 2005/20/EC, is subject to the requirement.

✉ Declaration from the manufacturer of the imaging equipment showing that the requirement is fulfilled.

2.7 Other environmental requirements

O16 Supply of spare parts

The availability of spare parts must be guaranteed for at least five years after production of the specified ecolabelled machine comes to an end.

✉ Declaration from the manufacturer of the imaging equipment showing that the requirement is fulfilled by filling out Appendix 10.

O17 Double-sided copying

Appliances with a maximum operating speed of >19 sheets per minute for A4 size paper must be equipped with automatic double-side copying (a duplex-unit).

✉ Declaration from the manufacturer of the imaging equipment showing that the requirement is fulfilled by filling out Appendix 10.

O18 Consumables

All consumables* that the end user can exchange by themselves for the Nordic Ecolabelled imaging equipment must meet set maximum limits below.

For each consumable, if several variants can be used in the Nordic Ecolabelled imaging equipment, the one with the highest index for weight/1000 pages must meet set limits below.

** For instance toner cartridges, waste toner box and residual toner container.*

Images Per Minute (IPM)	Monochrome application (Kg/1000 pages according to ISO/IEC 19752)	Colour application (Kg/1000 pages according to ISO/IEC19798)
IPM > 19	≤ 0,65	≤ 2
IPM ≤ 19	≤ 1	≤ 3

✉ Declaration from the manufacturer of the imaging equipment showing that the requirement is fulfilled.

✉ All consumables that the end user can change by themselves shall be listed with gross weight (Kg) including packaging and number of pages according to ISO/IEC 19752 and ISO/IEC19798.

3 Performance properties

O19 Emissions

The product must fulfil the maximum limit values expressed in the table below and the emission rates must be measured in accordance with the requirements described in Blue Angel: RAL-UZ 171.

Substance	Emission rate Print phase (mg/h)		Emission rate Ready phase (mg/h)	
	Colour Printing Total in ready + print phase	Monochrome printing Total in ready + print phase	Desktop products	Floormounted equipment (volume > 250 litres)
TVOC	18	10	1	2
Not identified single substances VOC	0.9	0.9		
Benzene	< 0.05	< 0.05		
Styrene	1.8	1.0		
Ozone	3.0	1.5		
Dust	4.0	4.0		

Table with limited values of emission according to Blue Angel RAL-UZ 171.

✉ Test report containing the results of the emission test according to the methods specified in RAL-UZ 171.

O20 Sound power

The product shall comply with the requirements for Noise in The Blue Angel RAL-UZ 171 (section 3.5.1) or the noise requirement in EU Ecolabel for imaging equipment[3].

See Appendix 3 for the noise requirement formulas from the respective ecolabelling schemes.

✉ Test report containing the results of the sound power according to the methods specified in RAL-UZ 171 (section 3.5.1) or EU Ecolabel for imaging equipment, or their respective later versions.

[3] EU Ecolabel and Green Public Procurement for Imaging Equipment, Revised EU Ecolabel criteria_October_2012 (2012) http://susproc.jrc.ec.europa.eu/imaging-equipment/stakeholders.html

4 Working conditions

O21 Working conditions

The license holder must have a code of conduct in place in accordance with the ten principles provided for in the United Nations Global Compact.

The license holder must ensure that the code of conduct is communicated to all suppliers/subcontractors together with a request that these should also comply with a code of conduct that follows the ten principles provided for in the United Nations Global Compact.

NB: The principles embodied in the United Nations Global Compact include the following: human rights, employee rights, environmental protection and anti-corruption safeguards. Further information can be found at http://www.unglobalcompact.org .

If the licensee violates this code of conduct, Nordic Ecolabelling may revoke their licence.

✉ Copy of the license holder's "Code of Conduct".

✉ Description of the way in which subcontractors and producers are notified of the licence holder's code of conduct and of the licence holder's request that they have a code of conduct in place that follows the ten principles in the United Nations Global Compact.

5 Quality and regulatory requirements

To ensure that Nordic Ecolabel requirements are fulfilled, the following procedures must be implemented. These requirements are mainly administrative and are specific to the Nordic organisation of the company that applies for a license.

If the applicant or the manufacturer of the ecolabelled product has an environmental management system certified to ISO 14 001 or EMAS, and the following procedures implemented, it is sufficient for the accredited auditor to certify that the requirements are observed.

O22 Information to consumers

The following information must be specified in user information:

- Maximum power consumption during operation, stand by-, low energy- and off-modes.
- Information on the function of the energy management system.
- Recommendation that the machine be turned off when not in use for a long time.
- Information on the use of double-sided copying, the presence of a duplex unit or its availability as an upgrade and information that double-sided copying will save the environment and money.
- Instructions on the positioning of the machine.
- Information about where used products and packaging can be deposited in accordance with local legislation.
- Information about the return system for re-cycling combined toner cartridges.
- Information on disposal of used OPC kit/photosensitive drums, toner containers and containers for used toner.
- Information that used batteries should be disposed of in accordance with local legislation.
- Print capacity (copies per minute and copying volume per year or month).

- Recommendation that ecolabelled paper be used.
- Maximum sound effect level during operation and stand by-modes. In the case of machines with a sound effect level of more than 63 dB Lwad during operation and 40 dB Lwad in stand-by, the manufacturer should recommend that the machine be located in a room in which no employee has his/her regular work station.
- Maximum value of emission rate of TVOC in printing phase, benzene, styrene, ozone and dust. For colour printer the values must be shown for colour and monochrome printing.
- Warranty period. For products sold to private consumers. For products only sold to companies conditions of guarantee should be stated in the contract.
- Information that offers supply of spare parts for 5 years.

The following technical information must be specified in the service manual:

- A specification of how frequently ozone filters (if such exists in current product) require replacement.

✉ The applicant must submit copies of all relevant pages of the user manual/service manual with information as specified in the requirement. Information on webpage is valid.

O23 Re-cycling and re-use of consumer durables and parts that wear out

The license applicant and/or the local representative of the license applicant must have a system in place for ensuring that consumer durables and parts that wear out as far as possible are sorted and re-covered/re-used.

Consumer durables and parts that wear out are those parts that service personnel replace when the machine is serviced or that can be replaced by the consumer after reading the instructions for use.

Collected toner cartridges, drum kits, light-sensitive drums and residual toner containers collected by the license applicant or the representative of the license applicant must be re-used or re-cycled.

✉ The applicant must prepare information material to the service personal and the users informing about how parts wear out and how these parts shall be re-cycled or re-used.

O24 Service and support

The license holder must offer service and support in the Nordic language in the country in which the Nordic Ecolabelled product is on sale.

✉ Description of service and support organization.

O25 The quality of the product

The license holder must guarantee that the quality (at the time of application) of the Nordic Ecolabelled products leaving the production is maintained throughout the validity period of the license.

✉ Procedures for collating and, where necessary, dealing with claims and complaints regarding the quality of the Nordic Ecolabelled product.

✉ Documentation to guarantee the above.

O26 Nordic Ecolabel licence contact

The company must appoint a person responsible for ensuring that the Nordic Ecolabel requirements are fulfilled, and a contact person for communications with Nordic Ecolabelling.

✉ A chart of the company's organizational structure detailing who is responsible for the above.

O27 Documentation

The license holder must be able to present a copy of the application, as well as the facts and calculation data on which the documents submitted in the application are based (including test reports, documents from suppliers and suchlike).

🔑 Checked on site.

O28 Planned changes

Written notice must be given to Nordic Ecolabelling of planned changes in products and markets that have a bearing on the Nordic Ecolabel requirements.

✉ Procedures detailing how planned changes in products and markets are handled.

O29 Unplanned nonconformities

Unplanned nonconformities that have a bearing on the Nordic Ecolabel requirements must be reported to Nordic Ecolabelling in writing and also journal led.

✉ Procedures detailing how unplanned nonconformities are handled.

O30 Traceability

The license holder must be able to trace the Nordic Ecolabelled product in the production.

✉ Description of the fulfilment of the requirement.

O31 Take-back system

Relevant national regulations, legislation and/or agreements within the sector regarding the recycling systems for products and packaging shall be met in the Nordic countries in which the Nordic Ecolabelled imaging equipment are marketed.

✉ Declaration from the applicant regarding adherence to existing recycling/take-back agreements.

O32 Legislation and regulations

The license holder must guarantee adherence to safety regulations in force, working environment legislation, environmental legislation and conditions/concessions specific to the operations at all sites where the Nordic Ecolabelled product is manufactured. In addition the license holder must guarantee adherence to product specific regulations in all the Nordic countries where the product is on sale.

No documentation is required, but Nordic Ecolabelling may revoke the license if the requirement is not fulfilled.

O33 Marketing

The requirement is removed as decided by the Board of Directors 17 November 2014.

Marketing

The Nordic Ecolabel is a very well-known and well-reputed trademark in the Nordic region. Nordic Ecolabelled products and services may be marketed using the Nordic Ecolabel so long as the associated licence is valid.

The label must be positioned so that there is no doubt as to what the label refers and so that it is clear that the imaging equipment is ecolabelled.

More information on marketing can be found in "Regulations for the Nordic Ecolabelling of products" 22 June 2011 or later versions.

Design of the Nordic Ecolabel

Design of the Nordic Ecolabel:

Each licence has a unique eight-figured licence number that must be displayed along with the label.

More information on the design of the label can be found in "Regulations for the Nordic Ecolabelling of products" 22 June 2011 or later versions.

Follow-up inspections

Nordic Ecolabelling may decide to check whether imaging equipment fulfils Nordic Ecolabel requirements during the licence period. This may involve a site visit, random sampling or similar test.

The licence may be revoked if it is evident that imaging equipment does not meet the requirements.

Random samples may also be taken in-store and analysed by an independent laboratory. If the requirements are not met, Nordic Ecolabelling may charge the analysis costs to the licensee.

How long is a licence valid?

Nordic Ecolabelling adopted the criteria version 6.0 for imaging equipment on 20 June 2013. The criteria are valid until 30 June 2016.

On 19 February 2014 the Secretariat Manager's meeting decided to adopt a change in O12 Phthalates in external power cable. A definition of residuals in plastics has been added to the requirement. The new version is called 6.1.

On 3 September 2014 the Board of Directors decided to adopt a change in O7-O11 Plastics in casings and their components. The requirements have been clarified that it is for plastics in casings and their components. On 17 February 2015 some editorial changes were introduced to clarify that some of the requirements in these criteria are harmonized with Eco Mark. The new version is called 6.2.

The Nordic Ecolabelling board on 9 March 2016 decided to prolong the criteria with 42 months until 31 December 2019. An editorial change is done in the requirements O12. The marketing requirement 033 is removed as decided by the Board of Directors 17 November 2014. The new version is called 6.3.

The ecolabel licence is valid providing the criteria are fulfilled and until the criteria expire. The validity period of the criteria may be extended or adjusted, in which case the licence is automatically extended and the licensee informed.

Revised criteria shall be published at least one year prior to the expiry of the present criteria. The licensee is then offered the opportunity to renew their licence.

New criteria

In the next revision process for Imaging Equipment, Nordic Ecolabelling will be focus on the following areas:

- Energy requirement
- Additives to plastics (flame retardants and phthalates)

In next coming revision Nordic Ecolabelling will be looking at:

- Ultra-fine particles
- Substances in toner powder and ink
- Software to lower the use of paper
- Regulations to minimize the risk of use of "conflict metals" in electronics
- Additives to plastics such as phthalates, flame retardants and other additives

Appendix 1 Marketing of Nordic Ecolabelled Imaging equipment (O33)

The appendix is removed as decided by the Board of Directors 17 November 2014.

Appendix 2 Guidelines for applicants already holding the Blue Angel or Eco Mark

Blue Angel (RAL-UZ171)
If a product is approved under the Angel criteria (RAL-UZ 171, or later versions) it is easier to apply for a Nordic Ecolabel licence.

If the product does not have a valid Blue Angel license, the product must fulfil the requirements in sections 2, 3, 4 and 5.

In this document, Nordic Ecolabelling have translated and changed the layout of the requirements from the original documents, Blue Angel criteria (RAL-UZ 171, or later versions). In case of any conflict the original always takes precedence. Each requirement contains a reference to the original requirement.

Further information about Blue Angel can be found at the following Internet address:

Blue Angel: www.blauer-engel.de

Product already holding Blue Angel licence.

Type of product:

☐ Copying Machine ☐ Printer ☐ Fax Machine ☐ Multifunctional Device

Model/Type: _____

Copy of a valid Blue Angel licence submitted in the application.

Location and date	Company
Name in block capitals	Phone
Contact person, signature	

Supplementary documentation:

Some requirements are not harmonised and are found only in version 6.0 or later modifications of the Nordic Ecolabel criteria document. These requirements are specific for the Nordic organisation of the company that applies for a license, including both product as well as regulatory requirements. See requirement R1, in section 1 of the criteria.

Eco Mark (Product Category No. 155)

If a product is approved under the Eco Mark (Product Category No. 155, or later versions) it is easier to apply for a Nordic Ecolabel licence.

If the product does not have a valid Eco Mark license, the product must fulfil the requirements in sections 2, 3, 4 and 5.

In this document, Nordic Ecolabelling have translated and changed the layout of the requirements from the original documents, Eco Mark criteria (Product Category No. 155, or later versions). In case of any conflict the original always takes precedence. Each requirement contains a reference to the original requirement.

Further information about Eco Mark can be found at the following Internet address: http://www.ecomark.jp/

Product already holding Eco Mark licence.

Type of product:

☐ Copying Machine ☐ Printer ☐ Fax Machine ☐ Multifunctional Device

Model/Type: _____

Copy of a valid Eco Mark licence submitted in the application.

Location and date	Company
Name in block capitals	Phone
Contact person, signature	

Supplementary documentation:

Some requirements are not harmonised and are found only in version 6.0 or later modifications of the Nordic Ecolabel criteria document. These requirements are specific for the Nordic organisation of the company that applies for a license, including both product as well as regulatory requirements. See requirement R1, in section 1 of the criteria.

Appendix 3 Noise requirements formulas from RAL-UZ 171 and EU Ecolabel criteria for imaging equipment

Requirements suggested in the RAL-UZ 171 for Noise.

Guide Values:
The declared A-weighted sound-power level LWAd must not exceed 75 dB for Blue Angel labeled devices. In addition, the declared A-weighted sound-power level L_{WAd} must not exceed the following guide values $L_{WAd,lim,mo}$ or $L_{WAd,lim,co}$ in the respective print mode:

The guide value $L_{WAd,lim,mo}$ for **monochrome** printing is to be determined in dependence of the operating speed S_{mo} stated with one decimal place according to the following formula:

$L_{WAd,lim,mo} = (59 + 0.35 * S_{mo})$ dB

The guide value $L_{WAd,lim,co}$ for colour printing on parallel systems is to be determined in dependence of the operating speed S_{co} in dB and stated with one decimal place according to the following formula:

$L_{WAd,lim,co} = (61 + 0.30 * S_{co})$ dB

For serial electrophotographic colour devices with $S_{co} \leq 0.5\ S_{mo}$ compliance with $L_{WAd,lim,mo}$ in monochrome print mode is required. In this case, compliance with $L_{WAd,lim,co}$ in colour mode is not mandatory.

Requirements suggested in the EU Ecolabel for Noise

The declared A-weighted sound power level L_{WAd} of the product shall not exceed the following limits while operating:

a) For monochrome printing– the A-weighted sound power level limit value $L_{WAd,lim,bw}$ shall be determined depending on the operating speed S_{bw} given with one decimal place accuracy according to the following formula:

$L_{WAd,lim,bw} = 37 + 20*\log(S_{bw}+ 8)$ dB

$L_{WAd,lim,bw}$ = A-weighted sound power level limit for monochrome printouts given in dB

b) For colour printing – the A-weighted sound power level limit value $L_{WAd,lim,co}$ shall be determined depending on the operating speed S_{co} given with one decimal place accuracy according to the following formula:

$L_{WAd,lim,co} = 38 + 20*\log(S_{co}+ 8)$ dB

$L_{WAd,lim,co}$ = A-weighted sound power level limit in dB for colour printouts

c) In addition, for both monochrome and colour printing – the A-weighted sound power level limit value $L_{WAd,lim,co}$ and $L_{WAd,lim,co}$ shall not exceed an upper limit of 75.0 dB:

$L_{WAd,lim,bw} < 75.0$ dB

$L_{WAd,lim,co} < 75.0$ dB

For serial electro photographic colour devices with $S_{co} \leq 0{,}5\ S_{bw}$ the sound power level shall be determined and indicated. For assessment purposes compliance with $L_{WAd,lim,bw}$ for monochrome printouts with printing speed S_{bw} shall be considered exclusively.

Appendix 4 Design and materials, Declaration (O4-O9)

Type of product to be ecolabelled:

☐ Copier ☐ Digital duplicator ☐ Fax Machine ☐ Multi-functional device ☐ Printers ☐ Scanners

Model/Type: _____

		Is the requirement met?	
O4	At least one part heavier than 25 gram must be made of re-used plastic parts or post-consumer and pre-consumer* re-cycled plastic.	☐ Yes	☐ No
O6	If used – are combined toner cartridges designed for re-use?	☐ Yes	☐ No
O6	If used – do products accept remanufactured toner cartridges?	☐ Yes	☐ No
O7	Plastic parts > 25 g and with a plane surface of at least 200 square millimetres, must be permanently marked according to ISO 11469:2000 while taking ISO 1043, part 1-4, into consideration.	☐ Yes	☐ No
O8	Single plastic casing parts heavier than 25 g must be made of a homopolymer or copolymer. Polymer blends (polymer alloy) are permitted.	☐ Yes	☐ No
O9	Combined plastic casing parts heavier than 25 g must be made of four or fewer types of mutually separable polymers or polymer blends.	☐ Yes	☐ No

** Post-Consumer Material: Material generated by households or by commercial, industrial, and institutional facilities in their role as end-users of the product that can no longer be used for its intended purpose. This includes returns of materials from the distribution chain. Pre-Consumer Material: Material diverted from the waste stream during the manufacturing process. Excluded is the reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.*

(Source: ISO 14021:1999)

Imaging equipment manufacturer:

Location and date	Company
Name in block capitals	Phone
Contact person, signature	

Appendix 5 Plastics and rubber in casings and their components and external power cable in imaging equipment, Manufacturer´s Declaration (O4, O11 and O12)

To be completed by the applicant and the manufacturer of the imaging equipment and sent to Nordic Ecolabelling.

Casing and their components protect the fixtures from environmental impacts, and the user from contact with moving and/or radiating components as well as with components under voltage.

Type of product to be ecolabelled:

☐ Copier ☐ Digital duplicator ☐ Fax Machine ☐ Multi-functional device ☐ Printers ☐ Scanners

Model/Type: _____

List of all plastic parts in casings and their components and external power cable in the final product

Component designation	Plastic and rubber manufacturer	Product name of plastic and rubber	Shared of recycled material/weight %)

Imaging equipment manufacturer:

Location and date	Company
Name in block capitals	Phone
Contact person, signature	

Other information:

This information can be submitted directly from the manufacturer of the plastic and rubber. A declaration of confidentiality can be drawn up between the manufacturer of the plastic and rubber and Nordic Ecolabelling.

Appendix 6 Flame retardants in plastics and rubber in casings and their components, Plastic and rubber manufacturer's Declaration (O11)

To be completed by the applicant and the manufacturer of the plastic and rubber product(s) in casings and their components and sent to Nordic Ecolabelling.

Casing and their components protect the fixtures from environmental impacts, and the user from contact with moving and/or radiating components as well as with components under voltage.

We the manufacturer of the plastic and rubber(s) declares that the plastic and rubber(s) listed below in the table do not contain other flame retardants than those declared in the same table.

Nordic Ecolabelling must be informed in forehand if any changes to the plastic and rubber are made regarding the flame retardants.

List of flame retardants

Plastics and rubber trade name	**Trade name of flame retardant in plastics and rubber**	**Flame retardants CAS no.**	**Manufacturer of flame retardant**

Plastic and rubber manufacturer

Location and date	Company
Name in block capitals	Phone
Contact person, signature	

Other information:
This information can be submitted directly from the manufacturer of the flame retardant/plastic/ rubber. A declaration of confidentiality can be drawn up between the manufacturer of the flame retardant/plastic/rubber and Nordic Ecolabelling.

Appendix 7 Flame retardants, Flame retardant manufacturer´s Declaration (O11)

To be completed by the manufacturer of the flame retardant and sent to Nordic Ecolabelling.

We hereby declare that (name and CAS number of the flame retardant)

_____

flame retardant may not be assigned any of the risk phrases as defined according to Regulation (EC) No 1272/2008 or as defined according to the Directives 67/548/EEC and 1999/45/EEC:

- H350 (may cause cancer)
- H350i (may cause cancer by inhalation)
- H340 (may cause heritable genetic damage)
- H360F (may impair fertility)
- H360D (may cause harm to the unborn child)
- H360Fd (may impair fertility, suspected of damaging the unborn child)
- H360Df (may cause harm to the unborn child, suspected of damaging fertility)

Flame retardant´s manufacturer

Location and date	Company
Name in block capitals	Phone
Contact person, signature	

Appendix 8 Plastic materials in packaging, Declaration (O14)

Type of product to be ecolabelled:

☐ Copier ☐ Digital duplicator ☐ Fax Machine ☐ Multi-functional device ☐ Printers ☐ Scanners

Model/Type: _____

O14 Does the plastic material used as packaging material consist of, or contain, halogenated organic substances? ☐ Yes ☐ No

Imaging equipment manufacturer:

Location and date	Company
Name in block capitals	Phone
Contact person, signature	

Appendix 9 Other dangerous substances, Declaration (O13)

This certificate shall be filled in by the manufacturer and direct suppliers (suppliers during the final stages of the supplier chain).

☐ Manufacturer of imaging equipment

☐ Direct supplier (suppliers during the final stages of the supplier chain)

Type of product to be ecolabelled:

☐ Copier ☐ Digital duplicator ☐ Fax Machine ☐ Multi-functional device ☐ Printers ☐ Scanners

Model/Type: _____

O13 Are any of the following solvents used in the end production of the devices and the machine: CFC, HCFC, 1,1,1,-trichloro-ethane or carbon tetrachloride? ☐ Yes ☐ No

O13 Are any of the following solvents used in the production of circuit boards: CFC, HCFC, 1,1,1,- trichloro-ethane or carbon-tetrachloride? ☐ Yes ☐ No

Location and date	Company
Name in block capitals	Phone
Contact person, signature	

Appendix 10 Other environmental requirements, Declaration (O16 and O17)

Type of product to be ecolabelled:

☐ Copier ☐ Digital duplicator ☐ Fax Machine ☐ Multi-functional device ☐ Printers ☐ Scanners

Model/Type: _____

O16 Is the supply of spare parts available for at least five years after the production of the copying machine ends? ☐ Yes ☐ No

Requirements as to double-sided printing do not apply for fax machines. This form shall thus not be filled in for fax machines.

Type of product to be ecolabelled:

☐ Copier ☐ Digital duplicator ☐ Fax Machine ☐ Multi-functional device ☐ Printers ☐ Scanners

Model/Type: _____

Printing-/Photocopying Speed: _____ Pages per minute.

O17 >19 copies/minute Can the device make double-sided printing/copying? ☐ Yes ☐ No

Imaging equipment manufacturer:

Location and date	Company
Name in block capitals	Phone
Contact person, signature	

Appendix 11 Softeners/Phthalates, Manufacturers Declaration

Cable
Model/Type: _____

To be completed by the manufacturer of the cable and sent to Nordic Ecolabelling.

We hereby declare, to the best of our knowledge, that the cable does not contain following substances:

- Diethylhexyl phthalate (DEHP)
- Dibutyl phthalate (DBP/DnBP)
- Benzyl butyl phthalate (BBP)
- Dicyclohexyl phthalate (DCHP)
- Diisobutyl phthalate (DIBP)
- Diisononyl phthalate (DINP)
- Diisodecyl phthalate (DIDP)
- Di-n-octylphthalate (DNOP)
- Dihexyl phthalate (DHP)
- Diethyl phthalate (DEP)
- Diisoheptyl phthalate (DIHP)
- Bis(2-methoxyethyl) phthalate
- Diisopentyl phthalate
- N-pentyl-isopentyl phthalate

Ingoing substances are defined, if not otherwise mentioned, as all substances in the chemical product – including additives (e.g. preservatives or stabilisers) in the raw materials/ingredients, but not residuals from the production, incl. the production of raw materials. Residuals from production and from production of raw materials are defined as residuals, pollutants and contaminants derived from the production of the raw materials, which are present in the final product in amounts less than 100 ppm (0.0100 %w/w, 100 mg/kg), but not substances added to the raw materials or product intentionally and with a purpose – regardless of amount. Residuals in the raw materials above 1.0 % are regarded as ingoing substances. Known substances released from ingoing substances are also regarded as ingoing substances.

Cable manufacturer:

Location and date	Phone
Company	
Contact person, signature	
Name in block capitals	

Appendix 12 Design for disassembly (O5)

If this appendix is used, disassembly instructions must also be submitted.

Name of product: _____

The following requirements must be fulfilled:

	Requirement fulfilled?	
A qualified person, working alone, must be able to disassemble the product.	☐ Yes	☐ No
The imaging equipment manufacturer must ensure that disassembly of the unit is possible and compile disassembly instructions demonstrating that: ▪ connections are easy to locate and access and easily separable with generally available tools. ▪ connections are, where possible, standardized.	☐ Yes	☐ No
It must be possible to separate the substances, preparations and components listed in ANNEX VII of the WEEE Directive (2012/19/EU).	☐ Yes	☐ No
If labels are required they shall be easily removable or integrated. This does not apply to safety labels according to CENELEC safety standard EN 60850 §1.7.2.	☐ Yes	☐ No
Plastic parts heavier than 25 g must be composed of one polymer or compatible polymers, except for the enclosure, which shall consist of no more than two types of polymers that are separable.	☐ Yes	☐ No
Plastic parts (> 25 g) may contain metallic inlays provided that these can easily be separated without the use of special tools.	☐ Yes	☐ No
90% by weight of plastics and metals in the enclosure and chassis must be technically suitable for material recovery.	☐ Yes	☐ No

Imaging equipment manufacturer:

Location and date	Phone
Company	
Contact person, signature	
Name in block capitals	