Nordic Ecolabelling of White Goods

Draft of version 5 for consultation, 4 October 2012

Nordic Ecolabelling

In 1989, the Nordic Council of Ministers decided to introduce a voluntary official ecolabel, the Swan. These organisations/companies operate the Nordic Ecolabelling system on behalf of their own country's government.

For more information, see the websites:

Denmark:
Ecolabelling Denmark
Danish Standards Foundation
Kollegievej 6
DK-2920 CHARLOTTENLUND
Tel: +45 72 300 450
Fax: +45 72 300 451
www.ecolabel.dk
info@ecolabel.dk

Finland:
Ecolabelling Finland
Box 489
FI-00101 HELSINKI
Tel: +358 424 2811
Fax: +358 424 281 299
www.ecolabel.fi
joutsen@motiva.fi

Iceland:
Ecolabelling Iceland
Umhverfisstofnun
Suðurlandsbraut 24
IS-108 REYKJAVIK
Tel: +354 591 20 00
Fax: +354 591 20 20
www.svanurinn.is
svanurinn@ust.is

Norway:
Ecolabelling Norway
Tordenskiolds gate 6 B
NO-0160 OSLO
Tel: +47 24 14 46 00
Fax: +47 24 14 16 01
www.svanemerket.no
info@svanemerket.no

Sweden:
Ecolabelling Sweden
SE-118 80 STOCKHOLM
Tel: +46 8 55 55 24 00
Fax: +46 8 55 55 24 01
www.ecolabel.se
svanen@ecolabel.se

This document may only be copied in its entirety and without any kind of alteration.

It may be quoted from provided that Nordic Ecolabelling is stated as the source.

Nordic Ecolabelling of White Goods

003/Draft of version 5 for consultation, 4 October 2012

What is a Nordic Ecolabelled white good? 5

Why choose the Nordic Ecolabel? 5

What can carry the Nordic Ecolabel? 6

How to apply? 6

1 Manufacture 8

1.1 Product requirements 8

2 Operation of the Nordic Ecolabelled white good 12

3 Specific product requirements 14

3.1 Refrigerators and freezers 14

3.2 Washing machines 14

3.3 Dishwashers 15

3.4 Tumble dryers 16

4 Customer information 16

5 Quality and regulatory requirements 21

Marketing 23

Design of the Nordic Ecolabel 23

Follow-up inspections 23

How long is a licence valid? 23

Appendices

1 Analyses and controls

2 Declaration of chemical products

3 Declaration of parts metal plating

4 Declaration of flame retardants and phthalates in plastic and rubber parts

5 Declaration of antibacterial properties

6 Declaration of nanomaterials

7 Declaration of refrigerants for the refrigeration process and foaming agents for insulating foam

8 Declaration of compliance with applicable laws and provisions in production

9 Marketing of Nordic Ecolabelled white goods

What is a Nordic Ecolabelled white good?

The greatest environmental impact caused by a white good comes from its use. These Nordic Ecolabel criteria focus therefore on requirements regarding the use of the machine. To be awarded a Nordic Ecolabel licence, a machine must meet environmental requirements without compromising on performance. Energy requirements are based on the EU's energy labelling regulations.

A Nordic Ecolabelled white good fulfils requirements in a number of areas, such as:

- Electricity and water consumption
- The product's functional washing, rinsing, spinning and drying performance and condensing efficiency.
- The reduced impact on the ozone layer through a ban on the use of ozone depleting refrigerants and foaming agents
- A reduced contribution to global warming through requirements to minimise use of substances that emit CO_2 (eq) to the atmosphere
- Reduced use of substances that are hazardous to health and the environment by applying requirements to certain materials and chemicals
- Material recycling
- Correct use of white goods, with full information and instructions for the customer

Why choose the Nordic Ecolabel?

- The producer of the white goods may use the Nordic Ecolabel trademark 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.
- More eco-aware production often creates scope for lowering costs, such as by cutting the consumption of energy and reducing amounts of packaging and waste.
- More eco-aware white goods prepare producers and consumers for future environmental requirements.
- Environmental issues are complex. It can take a long time to gain an understanding of a specific area. Nordic Ecolabelling can be seen as an 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?

The following household white goods may carry the Nordic Ecolabel:

- Refrigerators and freezers
- Washing machines
- Dishwashers
- Tumble dryers

Gas-powered appliances, washer/dryers, drying cupboards, coffee machines, extractor fans, ovens for household and commercial use, hobs/grills for household and commercial use, microwave ovens, food processors, kitchen appliances and battery-powered and absorption-type refrigerators and freezers cannot be given the Nordic Ecolabel under these criteria.

The delimitation of the product group is the same as in the related Ecodesign Regulations and Energy Labelling Regulations as stated in Table 1. It will also be possible for hot water converter (HWC) machines to be given the Nordic Ecolabel.

Tabel 1. Overview of current Ecodesign and Energy Labelling Regulations

	Ecodesign Regulation	Energy Labelling Regulation
Refrigerators and freezers	643/2009/EC	1060/2010/EU
Household washing machines	1015/2010/EU	1061/2010/EU
Household dishwashers	1016/2010/EU	1059/2010/EU
Household tumble dryers	Publication expected autumn 2012	392/2012/EU

How to apply?

A manufacturer or reseller can apply for a licence using the relevant application form. If a reseller applies for a licence, the manufacturer must also sign the application form.

All the requirements must be met. These requirements are marked with the letter R (requirement) and a running number.

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 documentation

☺ On-site inspection

🕮 Enclose procedures from environmental management and quality control systems

Application

For Nordic applicants, the application for a Nordic licence shall be sent to Nordic Ecolabelling in their own country, and remains valid for processing for 12 months. The application may be processed by a different country within the Nordic Ecolabelling system on agreement. The applicant will be notified of this. Companies outside the Nordic countries must apply to the ecolabelling organisation in the Nordic country where the products are primarily to be marketed.

The application documents comprise an application form and documentation demonstrating fulfilment of the requirements (the documentation required is specified in the criteria). The application form must specify in which Nordic countries the products in question are to be sold and the estimated revenue from the products in each country.

Further information and assistance may be available from the website of each country's national ecolabelling body.

Sales in the Nordic region

Once authorised, a licence is valid throughout the Nordic region. On presentation of the licence, the products are imported into each country where they are made available for sale in accordance with the information provided on the application. The products are published on Nordic Ecolabelling's website(s). The licensee is required to inform Nordic Ecolabelling if there are any changes with regard to where the products are sold. If the product is to be sold in Nordic countries other 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 licence.

On-site inspection

During the application process, Nordic Ecolabelling performs an on-site inspection to ensure adherence to the requirements. For this inspection, data used for calculations, original copies of submitted certificates, test records, purchase statistics, and similar documents that confirm compliance with the requirements 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 sales of the Nordic Ecolabelled white goods.

Questions

Please contact Nordic Ecolabelling if you have any queries or require further information. See page 2 for addresses.

1 Manufacture

1.1 Product requirements

R1 Description of manufacturing process and materials

The manufacturing process for the white good is to be described.

The description must, as a minimum, contain the following details:

- A summary of all the parts in the white good, stating the type and materials.
- A description of the manufacturing process for the white good, stating the different stages of the process. The production technology and cleaning technology for surface treatment and metal plating of parts is to be stated.
- Name and location of:
  - factory/factories for final assembly of the white good.
  - subcontractors for the production of core components (such as compressor unit, drum, pipework, etc.).
  - subcontractors for surface treatment and metal plating.
- Copy of environmental licence/permit or control reports/documents from environmental authorities for final assembly.

Final assembly of white goods relates to assembly of core components (such as compressor unit, drum, pipework, etc.) into a finished white good. Final assembly does not refer to production of inputs such as metals, insulation materials or plastic parts.

✉ A material description of the white good's parts, a description of the white good's manufacturing process and subcontractors, plus a copy of the environmental licence/permit in line with the requirement.

R2 Chemical products, classification

The manufacturer must compile a list of the chemicals used in final assembly of white goods and in surface treatment. The safety data sheet for the chemical products is to be submitted.

Chemical products, such as cleaning products, paints, lacquers, adhesives and sealants, that are used in the final manufacture of white goods and for surface treatment of parts must not be classified in line with the risk phrases in Table 2 below.

An exemption to the requirement applies to metal plating of parts. When metal plating parts, the terms of requirement R4 must be met.

Table 2 Classification of chemical products

Classification	EU classification until 1 December 2010*	EU classification after 1 December 2010*
Toxic to the environment	N with R50, R50/53, R51/53 and/or R59	Toxic to aquatic organisms Category acute 1 H400, category chronic 1 H410, category chronic 2 H411. Ozone EUH 059
Very toxic	T x (T+ in Norway) with R26, R27, R28, R39	Acute Tox. 1/2 with H330, H310, H300, STOT SE 1 with H370
Toxic	T with R23, R24, R25, R39, R48	Acute Tox. 2/3 with H331, H330, H301 STOT SE 1 with H370 STOT RE 1 with H372
Allergenic	Xn with R42, Xi with R43	Resp sens 1 with H334 or Skin sens 1 with H317
Carcinogenic	Xn with R40 or T with R45, R49	Carc 1A/1B/2 with H350, H350i and/or H351
Mutagenic	T with R46 or Xn R68	Mut 1B/2 with H340 and/or H341
Toxic for reproduction	T with R60 and/or R61. Or Xn with R62 and/or R63	Repr 1A/1B/2 with H360F, H360D, H361f, H361d, H360FD, H361fd, H360Fd, H360Df Lact with H362

** The classification applies under Directive 67/548/EEC and Directive 1999/45/EC (until 1 December 2010 and during transition period 2010-2015) or Regulation (EC) No 1272/2008 (from 1 December 2010). The requirement also covers combinations of the above risk phrases, e.g. T+ R26/27/28.*

Final assembly of white goods relates to assembly of core components (such as compressor unit, drum, pipework) into a finished white good. Final assembly does not refer to production of inputs such as metals, insulation materials or plastic parts.

✉ List of chemical products used in final assembly of white goods and surface treatment.

Safety data sheet/product data sheet in line with prevailing legislation in the country of application, e.g. Annex II to REACH (Regulation 1907/2006/EEC) for each product.

R3 Chemical substances

The following substances must not be actively added* to the chemical products named in R2 (for example, cleaning products, paints, lacquers, adhesives, sealants used in final assembly of white goods and surface treatment):

- lead (Pb), mercury (Hg), hexavalent chromium (Cr^{VI}), cadmium (Cd) and their compounds
- halogenated organic substances
- alkylphenols, alkylphenol ethoxylates or other substances that may form alkyphenols or alkylphenol ethoxylates
- phthalates
- volatile organic compounds at more than 1% by weight
- volatile organic compounds (VOCs**) at more than 5% by weight in surface treatment agents
- nanoparticles (from nanomaterials***)

**Substances that are not actively added by the chemical manufacturer or its suppliers and that appear in quantities of less than 100 ppm are excluded from the requirement.*

***VOCs are defined as organic compounds that at 293.15 K have a steam pressure of 0.01 kPa or more.*

**** The definition of a nanomaterial follows the European Commission's definition of nanomaterials from 18 October 2011, with the exception of the limit for particle size distribution, which is reduced to 1%: A nanomaterial is a natural, incidental or manufactured material containing particles, in an unbound state or as an aggregate or as an agglomerate and where, for at least 1% of the particles in the number size distribution, one or more external dimensions is in the size range 1-100 nm. This definition applies to the whole material, including particles exceeding the interval of 1-100 nm, as long as 1% of the material is particles of 1-100 nm. The definition applies to nanoparticles both in an unbound and in a bound state.*

Final assembly of white goods relates to assembly of core components (such as compressor unit, drum, pipework, etc.) into a finished white good. Final assembly does not refer to production of inputs such as metals, insulation materials or plastic parts.

An exemption to the requirement applies to metal plating of parts. When plating metal parts, the terms of requirement R4 must be met.

✉ Declaration or other equivalent certification (documentation) from the chemical manufacturer/chemical supplier. Appendix 2 can be used.

R4 Metal plating of parts

Metals may not be plated with cadmium, chromium, nickel, zinc or alloys of these.

In exceptional cases, parts may be coated with trivalent chromium, nickel or alloys of these where this is necessary on the grounds of chemical or mechanical wear or on the grounds of another specific, documented, technical need.

Any chrome plating and nickel plating processes must be carried out with the help of cleaning technology, membrane technology or similar technology in order to ensure the greatest possible recovery of the chemical products. Emissions from the plating are to be sent for recovery or waste processing. The system must be closed and have no discharges.

✉ Declaration from the manufacturer/supplier saying that the metal plating requirement is fulfilled and a specification of which cleaning technology that may has been used. Appendix 3 can be used.

R5 Marking of plastic parts

Plastic parts that weight 25 grams or more must be marking in accordance with ISO 11469. (Cables and plastic parts with a smooth surface of less than 200 mm^2 are excluded from the requirement).

✉ Declaration from the white good manufacturer that the requirement is fulfilled.

R6 Flame retardants in plastic and rubber parts

a) Hexabromocyclododecane (HBCDD), tetrabromobisphenol A (TBBPA) and high chlorine short chain and high chlorine medium chain chloroparaffins must not be added.

b) Other halogenated organic flame retardants and other flame retardants that have been given the following risk phrases must not be added:
   - R45 (may cause cancer)
   - R46 (may cause inherited genetic harm)
   - R60 (may impair fertility)
   - R61 (may cause harm to the unborn child)

   An exemption from requirement b) may be given for halogenated flame retardants:
   - In cases where these are required for electrical or fire safety reasons under the Low Voltage Directive 73/23/EEC or standard EN 60335-1
   - Printed circuit boards, PCBs
   - Plastic and rubber parts weighing < 25 grams that are integral to electronic parts

The exemption does not apply to the flame retardants governed by a) that are prohibited under the RoHS Directive.

✉ Duly completed declaration from the manufacturer/supplier of the plastic and rubber parts, see Appendix 4.

R7 Phthalates

The following phthalates must not be added to plastic or rubber materials:

- Di-2-ethylhexyl phthalate (DEHP)
- Dibutyl phthalate (DBP)
- Benzyl butyl phthalate (BBP)
- Dicyclohexyl phthalate (DCO)
- Diisobutyl phthalate (DIBP)
- Diisooctyl phthalate (DIOP)
- Diisononyl phthalate (DINP)
- Diisodecyl phthalate (DIDP)
- Diethyl butyl phthalate (DEBP)
- Dihexyl phthalate (DHP)
- Di-n-decyl phthalate (DNDP)

The following are exempted from the requirement:

- Printed circuit boards, PCBs
- Plastic and rubber parts weighing < 25 g that are integral to electronic parts

✉ Duly completed declaration from the manufacturer/supplier of the plastic and rubber parts, see Appendix 4.

R8 Antibacterial properties

Chemicals or additives that are added to create an antibacterial or disinfectant surface, in or on the product or to be released during the use of the product, must not be used.

Silver ions are not counted as antibacterial substances.

An antibacterial chemical inhibits or stops growth of microorganisms such as bacteria, fungi or protozoa (single-celled organisms).

✉ Declaration from the producer/supplier that the requirement is fulfilled, see Appendix 5.

R9 Nanoparticles on surfaces

Nanoparticles (of nanomaterials) must not actively be added to the product's inner or outer surfaces.

** The definition of a nanomaterial follows the European Commission's definition of nanomaterials from 18 October 2011, with the exception of the limit for particle size distribution, which is reduced to 1%: A nanomaterial is a natural, incidental or manufactured material containing particles, in an unbound state or as an aggregate or as an agglomerate and where, for at least 1% of the particles in the number size distribution, one or more external dimensions is in the size range 1-100 nm. This definition applies to the whole material, including particles exceeding the interval of 1-100 nm, as long as 1% of the material is particles of 1-100 nm. The definition applies to nanoparticles both in an unbound and in a bound state.*

✉ Declaration from the producer/supplier that the requirement is fulfilled, see Appendix 6.

R10 Packaging

It must be possible to recycle or reuse the materials in the packaging and transport protection. The producer must submit a description of the packaging and transport protection and how it will be handled in the Nordic countries where the Nordic Ecolabelled white good will be sold.

Chlorine based plastics and biocide treated/impregnated timber must not be used in the packaging.

✉ Description of packaging and how it will be handled, and description in the user instructions.

R11 Waste

The manufacturer must sort different types of waste that arise from the production of the white good, for example wood waste, glass waste, plastics and metals. A waste plan is to be included, listing waste fractions and a description of how the waste will be handled (e.g. recycling, landfill and incineration) and who will deal with the waste.

✉ Waste plan with waste fractions and waste management for the activity from the manufacturer of the white good.

2 Operation of the Nordic Ecolabelled white good

R12 Energy consumption on standby and switched off

Energy consumption may be max:

- 0.40 W switched off
- 0.40 W on standby with reactivation function
- 0.80 W on standby with information or status display (either individually or in combination with a reactivation function)

✉ Test report on energy consumption switched off and on standby in W (watts), rounded off to 2 decimals, cf. Regulation (EC) No 1272/2008. Requirement for test method and laboratories, see Appendix 1.

R13 Energy efficiency

Refrigerators, freezers, washing machines and dishwashers must achieve energy efficiency class A+++ or better in accordance with the applicable Energy Labelling Regulation.

Tumble dryers must achieve energy efficiency class A+ or better in accordance with the applicable Energy Labelling Regulation.

Table 3 Nordic Ecolabelling requirement for energy efficiency class

Energy Labelling Regulation	Date From	Minimum Eco design requirement	Minimum requirement in Nordic Ecolabelling criteria
Fridge/freezer 1060/2009/EC	1/7/2012	A	A+++
	1/7/2014	A+	
Washing machines 1015/2010/EU	1/12/2011	A	A+++
	1/12/2013	A+	
Dishwashers 1059/2010/EU	1/12/2011	A	A+++
	1/12/2013	A+	
Tumble dryers 392/2012/EU	The Ecodesign Regulation is expected to be published in autumn 2012	B	Min A+

✉ Test report and calculation in line with EU Regulation that verifies energy efficiency index (EEI) and label for energy labelling. Requirement for test method and laboratories, see Appendix 1.

R14 Noise

Refrigerators, freezers, dishwashers, washing machines and tumble dryers must meet the specific requirements for noise listed in Table 4, tested to standard EN 60704:

Table 4 Max limit dB(A) for airborne noise

White good type	Max limit dB(A) Airborne noise
Fridge/freezer	35
Washing machine, wash programme, cotton 60˚C, to EN 60456	56 during wash programme 76 during spin
Dishwasher	44
Tumble dryer	65

✉ Test report showing that the requirement is fulfilled. Requirement for test method and laboratories, see Appendix 1.

3 Specific product requirements

3.1 Refrigerators and freezers

R15 Ozone depletion- and global warming potential in foaming agents

Foaming agents for insulating foam must have an ozone depletion potential (ODP) and a global warming potential (GWP) equal to 0 (calculated in CO_2 equivalents over a period of 100 years).

The foaming agents must not contain halogenated organic compounds.

✉ List of foaming agents plus declaration from producer/supplier of foaming agents showing that the requirement is fulfilled. Use Appendix 7.

R16 Ozone depleting- and global warming potential in refrigerants for the refrigeration process

Refrigerants for the refrigeration process must have an ozone depletion potential (ODP) equal to 0 and a global warming potential (GWP) that is 5 or lower (calculated in CO_2 equivalents over a period of 100 years).

The refrigerants must not contain halogenated organic compounds.

✉ List of refrigerants for the refrigeration process including their global warming potential, plus declaration from producer/supplier of refrigerants showing that the requirement is fulfilled. Use Appendix 7.

R17 Statement of refrigerants/foaming agents

The type of refrigerants and foaming agents used must be stated next to or on the nameplate to make any future recycling easier.

✉ Description of how the requirement is fulfilled.

R18 Polycarbonate in direct contact with food

Polycarbonate must not be used in drawers intended for food storage (e.g. vegetable drawers).

✉ List of plastics used in storage drawers in refrigerators and freezers plus declaration that the requirement is fulfilled.

3.2 Washing machines

R19 Water consumption

The washing machine must meet the requirement for maximum permitted water consumption on the standard programme as outlined in Ecodesign Regulation (EU) No 1015/2010.

✉ Test report in line with Regulation (EU) No 1061/2010. Requirement for test method and laboratories, see Appendix 1.

R20 Spinning performance

Machines with a capacity of over 3.5 kg must achieve a remaining moisture content of less than 54% in a test measured according to Regulation (EU) No 1061/2010 and with the same standard 60ºC programme for cotton as when measuring energy efficiency.

Machines with a capacity of 3.5 kg or less must achieve remaining moisture content of less than 60% in a test measured according to the stated test method and with the same standard 60ºC programme for cotton as when measuring energy efficiency.

✉ Test report in line with Regulation (EU) No 1061/2010. Requirement for test method and laboratories, see Appendix 1.

R21 Washing performance

The machine must, on the standard programme, have a wash efficiency index ≥ 1.03 in line with Ecodesign Regulation (EU) No 1061/2010.

✉ Test report in line with Regulation (EU) No 1061/2010. Requirement for test method and laboratories, see Appendix 1.

R22 Rinsing performance, alkali method

The machine must pass a rinsing performance test using the alkali method with a score ≥ 5. The requirement can be fulfilled based on the standard programme, a separate programme or with the help of an option function for the standard programme. If the rinsing performance is fulfilled based on the standard programme, separate programme or with the help of an option function for the standard programme, the washing machine energy consumption should not exceed 0.19 kWh/kg. Energy efficiency is measured according to the specified test method.

✉ Test report in line with the instructions in standard EN 60456. If an extra rinse programme is used (rinse option in main programme), this is to be described. Requirement for test method and laboratories, see Appendix 1.

3.3 Dishwashers

R23 Water consumption

The dishwasher must use a maximum of 1.0 litres of water per place setting in accordance with standard EN 50242.

✉ Test report in line with the instructions in standard EN 50242. Requirement for test method and laboratories, see Appendix 1.

R24 Cleaning performance

The dishwasher must meet the requirements for cleaning performance stated in Regulation (EU) No 1059/2010.

✉ Test report in line with Regulation (EU) No 1059/2010. Requirement for test method and laboratories, see Appendix 1.

R25 Drying performance

The dishwasher must meet the requirements for drying performance stated in Regulation (EU) No 1059/2010.

✉ Test report in line with Regulation (EU) No 1059/2010. Requirement for test method and laboratories, see Appendix 1.

3.4 Tumble dryers

R26 Condensing efficiency

The tumble dryer must meet the requirements for drying performance class B stated in Regulation (EU) No 392/2012. The tumble dryer must be equipped with a moisture sensor for automatic termination of the drying programme.

✉ Test report in line with Regulation (EU) No 392/2012. Requirement for test method and laboratories, see Appendix 1.

R27 Refrigerants in heat pump

If the tumble dryer contains a heat pump, the refrigerant must comply with requirements R15, R16 and R17.

✉ See R15, R16 and R17.

4 Customer information

R28 Installation and user instructions for refrigerators and freezers

The appliance is to be sold with installation and user instructions that shall include directions on installation and correct use with regard to the environment and recommendations for optimal energy consumption. The cover or first page of the user instructions is to carry the following text or similar wording: “The user instructions contain more information on how to avoid consequences for the environment.”

The installation instructions and user instructions must contain the following information:

a) How the packaging is to be dealt with in the Nordic countries where the white good is sold.
b) Instructions on how to install the appliance.
c) Instructions on the placement or installation of the appliance stating, for example, the minimum space around the appliance to guarantee sufficient air circulation.
d) Instructions that the consumer should avoid placing the appliance near a heat source (e.g. oven or radiator) or in direct sunlight. Recommendations that the consumer should, where relevant, consider

insulating the appliance from heat sources in the walls or under the floor.

e) Information that the temperature in the room affects or limits the function or energy efficiency of the appliance.
f) Instructions that when the appliance has been moved, it is necessary to wait for around an hour before the appliance is reconnected to the mains power.
g) Instructions that the thermostat setting depends on the room temperature and that it should therefore be checked with the help of a suitable thermometer (with explanation of how to do this).
h) Instructions that hot food should be cooled down before being placed in the appliance, but that the cooling period should be as short as possible for health reasons.
i) Instructions that the evaporator should be kept free from thick layers of ice, and how and how often to defrost the appliance.
j) Instructions that the seal around the door should be replaced if it stops working properly.
k) Instructions that the condenser on the back of the appliance and the space below the appliance should be kept clear of dust and kitchen dirt.
l) Information that not following the above advice can lead to higher energy consumption.
m) Information that damage to the condenser (heat exchanger) on the back of the appliance, or anything else that might lead to refrigerants leaking out, should be avoided due to the risks to health and the environment. The user instructions must specifically state that sharp objects (such as knives, screwdrivers, etc.) should not be used to remove ice, since this could damage the evaporator.
n) Information that the appliance contains fluids and is made from parts and materials that can be reused and recycled.
o) Service and warranty information.
p) Information on the type of refrigerants and foaming agents.

✉ Installation and user instructions.

R29 Installation and user instructions for washing machines

The appliance is to be sold with installation and user instructions that shall include directions on installation, correct use with regard to the environment and recommendations for optimal consumption of energy, water and laundry detergent when the machine is used. The cover or first page of the user instructions is to carry the following text or similar wording: “The user instructions contain more information on how to avoid consequences for the environment.”

The user instructions must contain the following:

a) How the packaging is to be dealt with in the Nordic countries where the white good is sold.
b) Instructions on how to install the appliance.
c) Information that Nordic Ecolabelled laundry detergents are available.

d) Information that the detergent dosing should be adapted to the hardness of the water, the type of laundry to be washed, the amount of laundry and how dirty it is (a half load, for example, requires less detergent).
e) Instructions on the appropriate sorting of laundry according to material and fabric, and on setting the washing temperature according to the material. The instructions must also state that in most cases it is no longer necessary to wash at higher temperatures when using modern washing machines and Nordic Ecolabelled laundry detergent.
f) Information on the washing machine's consumption of energy and water at different temperatures and with different load sizes, so that the consumer can select the appropriate programme for minimum energy and water consumption.
g) Instructions that the washing machine should be turned off once the programme has finished to avoid any energy losses. The user instructions are to state how long the different programmes take.
h) The energy used on the following settings: switched off, timer set (programmed) and programme finished.
i) Instructions that the user should, if possible, avoid the pre-wash option on the machine.
j) Instructions that the extra rinse option must be activated/selected in the normal programme/standard programme to achieve the rinse performance required by Nordic Ecolabelling.
k) Instructions on maintaining the washing machine, including regular cleaning of the filters and pumps and removal of deposits.
l) Information that not following the above advice can lead to higher consumption of energy, water and/or laundry detergent, which can lead to increased running costs and poorer washing performance.
m) Information that the consumer can make use of the manufacturer's take-back offer.

✉ Installation and user instructions.

R30 Installation and user instructions for dishwashers

The appliance is to be sold with installation and user instructions that shall include directions on installation, correct use with regard to the environment and recommendations for optimal consumption of energy, water and dishwasher detergent when the machine is used. The cover or first page of the user instructions is to carry the following text or similar wording: "The user instructions contain more information on how to avoid consequences for the environment."

The user instructions must contain the following:

a) How the packaging is to be dealt with in the Nordic countries where the white good is sold.
b) Instructions on how to install the appliance.
c) Information on the addition/dosing of rinse aid and salt.
d) Information that Nordic Ecolabelled dishwasher detergents are available.

e) Information that the detergent dosing should be adapted to the hardness of the water, the type of items to be washed, the size of the load and how dirty it is (a half load, for example, requires less detergent).
f) Information on the dishwasher's consumption of energy and water at different temperatures and with different load sizes, so that the consumer can select the appropriate programme for minimum energy and water consumption. It is to be made clear that the Nordic Ecolabelling requirements are fulfilled by the recommended normal programme.
g) Information on how long the different programmes take.
h) Instructions on maintaining the dishwasher, including regular cleaning of the filters.
i) Information that not following the above advice can lead to higher consumption of energy, water and/or dishwasher detergent, which can lead to increased running costs and poorer cleaning performance.
j) Information that the consumer can make use of the manufacturer's take-back offer.

✉ Installation and user instructions.

R31 Installation and user instructions for tumble dryers

The appliance is to be sold with installation and user instructions that shall include directions on installation and correct use with regard to the environment and recommendations for optimal energy consumption. The cover or first page of the user instructions is to carry the following text or similar wording: "The user instructions contain more information on how to avoid consequences for the environment."

The user instructions must contain the following:

a) How the packaging is to be dealt with in the Nordic countries where the white good is sold.
b) Instructions on how to install the appliance.
c) Information that sun and wind are energy-efficient for drying clothes. Therefore, use an outdoor clothesline when the weather permits.
d) Information about the tumble dryer's energy consumption for different programmes.
e) Information about the fire risk when drying different types of fabric and product.
f) Instructions that the machine must not be overfilled. Overfilling the tumble dryer adds to the drying time.
g) Instructions about sorting clothing according to material since mixed materials can damage the moisture sensor.
h) Instructions on maintaining the tumble dryer, including regular cleaning of the lint filters and heat exchanger, and emptying collected water in a condenser dryer.
i) Information that collected condenser water must not be used as drinking water.
j) Information that the consumer can make use of the manufacturer's take-back offer.

✉ Installation and user instructions.

R32 Warranties

The manufacturer is to provide a warranty that the white good will work for at least two years. The warranty is to apply from the day that the machine is delivered to the customer.

✉ Declaration that the requirement is fulfilled.

R33 Replacement parts

The availability of replacement parts shall be guaranteed for 10 years from the time that production ceases.

✉ Declaration that the requirement is fulfilled.

5 Quality and regulatory requirements

R34 Laws and regulations (regulatory requirements)

The licensee shall ensure compliance with all applicable local laws and provisions at all production facilities for the Nordic Ecolabelled white good. For example, local rules and provisions on health, safety and the working environment, environmental legislation (including REACH) and factory-specific permit terms/conditions are to be followed in the country in which the white good is manufactured.

✉ Declaration from the licensee, that the requirement is fulfilled, plus a report to the regulatory authority, see Appendix 8.

R35 Licence administrators

The company shall appoint an individual responsible for ensuring the fulfilment of Nordic Ecolabel requirements, and a contact person for communications with Nordic Ecolabelling.

✉ Organisational chart showing who is responsible for the above.

R36 Documentation

The licensee must be able to present a copy of the application and factual and calculation data supporting the documents submitted with the application (including test reports, documents from suppliers and suchlike).

☺ On-site inspection at licensee/manufacturer's site.

R37 Quality of the white good

The licensee must guarantee that the quality of the Nordic Ecolabelled white good is maintained throughout the validity period of the licence.

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

R38 Planned changes

Written notice of planned product and marketing changes that affect the Nordic Ecolabelling requirements must be given to Nordic Ecolabelling.

✉ Procedures detailing how planned product and marketing changes are dealt with.

R39 Unforeseen non-conformities

Unforeseen non-conformities that affect Ecolabelling requirements must be reported to Nordic Ecolabelling in writing and logged.

✉ Procedures detailing how unforeseen non-conformities are handled.

R40 Traceability

The licensee/manufacturer must have a traceability system for the production of the Nordic Ecolabelled white good.

✉ Description of/procedures for fulfilment of the requirement.

R41 Take-back system

Relevant national regulations, legislation and/or agreements within the sector regarding take-back systems for products and packaging shall be complied with in all the Nordic countries where the Nordic Ecolabelled white goods are marketed.

✉ Declaration from the applicant regarding affiliation to existing recycling/processing agreements.

R42 Marketing

Marketing of Nordic Ecolabelled white goods must comply with the "Regulations for the Nordic Ecolabelling of Products" dated 22 June 2011 or later versions.

✉ Duly completed Appendix 9.

Marketing

The Nordic Ecolabel is a very well-known and well-reputed trademark in the Nordic region. Nordic Ecolabelled white goods 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 white good is ecolabelled.

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

Design of the Nordic Ecolabel

The design of the Nordic Ecolabel is as follows:



licence number

Each licence has a unique six-digit 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" dated 22 June 2011 or later versions.

Follow-up inspections

Nordic Ecolabelling may check that the white good continues to meet the Nordic Ecolabel requirements after a licence has been granted. This may involve a site visit, random sampling or a similar test.

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

How long is a licence valid?

The Nordic Ecolabel licence will continue to apply as long as 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 will automatically be extended and the licensee informed.

At least one year prior to the expiry of the present criteria, it will be announced which criteria will continue to apply after the expiry date. The licensee will then be offered the opportunity to renew the licence.

Appendix 1 Analyses and controls

1.1 Analysis and measurement methods

The EU has been thorough and far-reaching in drawing up and compiling analysis and measurement methods for determining the performance of the product group "white goods" as part of the development of its directives/regulations for ErP (ecodesign and labelling). Requirements state that the methods should be based on reliable, accurate and reproducible measurements that take account of recognised measurement methods at the latest technical level, including, where applicable, the harmonised standards that have been adopted by European standardisation bodies. These methods are established and used by the manufacturers in the industry. Nordic Ecolabelling has therefore also decided to use these methods for testing and analysis.

1.2 Requirement for testing institute/analysis laboratory

Requirement for analysis laboratory

The analysis laboratory shall fulfil the general requirements of standard EN ISO 17025 or have official GLP status.

The applicant's own analysis laboratory/test procedure may be approved for analysis and testing if:

- the authorities monitor the sampling and analysis process, or if
- the manufacturer has a quality management system encompassing sampling and analysis and has been certified to ISO 9001 or ISO 9002, or if
- the manufacturer can demonstrate agreement between a first-time test conducted at the manufacturer's own laboratory and testing carried out in parallel at an independent test institute, and that the manufacturer takes samples according to a set sampling plan.

1.3 Analysis methods/Test methods for refrigerators and freezers

Energy efficiency on the recommended normal programme, in line with Regulation (EU) No 1060/2010.

Energy efficiency on the recommended normal programme is to be tested according to EN 153.

Noise is to be tested according to EN 60704-2-14.

1.4 Analysis methods/Test methods for washing machines

Energy efficiency, water consumption and spin performance on the recommended normal programme, in line with Regulation (EU) No 1061/2010.

Energy efficiency, water consumption, spin performance and washing performance with a full load on the standard programme, cotton 60°C and 40°C, are to be tested according to EN 60456:2010.

A full load is defined as the machine's declared capacity.

The rinse performance is to be tested using the alkali method according to EN 60456. Energy efficiency with full load on the standard programme, cotton 60°C and 40°C, are to be tested according to EN 60456:2010.

A full load is defined as the machine's declared capacity.

Noise is to be tested according to EN 60704-2-3 and EN 60704-3.

1.5 Analysis methods/Test methods for dishwashers

Energy efficiency, water consumption, drying performance and cleaning performance on the recommended normal programme, in line with Regulation (EU) No 1059/2010.

Energy efficiency, water consumption, drying performance and cleaning performance on the recommended normal programme are to be tested according to EN 50242.

Noise is to be tested according to EN 60704-2-3 and EN 60704-3.

1.6 Analysis methods/Test methods for tumble dryers

Energy efficiency and condensing efficiency on the recommended normal programme, in line with draft Regulation (EU) No 392/2012.

Energy efficiency and condensing efficiency on the recommended normal programme are to be tested according to EN 61121.

Noise is to be tested according to EN 60704-2-6.

Appendix 2 Declaration of chemical products

2 Manufacture of chemicals (to be completed by chemical manufacturer/-suppler)

Name of chemical product: Name of the chemical supplier:

Chemical substances (R3)

The following requirement is fulfilled: ☐Yes ☐No

The following substances must not be actively added* to the chemical products named in R2 (for example, cleaning products, paints, lacquers, adhesives, sealants used in final assembly of white goods and surface treatment):

- lead (Pb), mercury (Hg), hexavalent chromium (Cr^{VI}), cadmium (Cd) and their compounds
- halogenated organic substances
- alkylphenols, alkylphenol ethoxylates or other substances that may form alkyphenols or alkylphenol ethoxylates
- phthalates, listed in R8
- volatile organic compounds at more than 1% by weight
- volatile organic compounds (VOC***) at more than 5% by weight in surface treatment agents
- nanoparticles (from nanomaterials***)

** Substances that are not actively added by the chemical manufacturer or its suppliers and that appear in quantities of less than 100 ppm are excluded from the requirement.*

***VOCs are defined as organic compounds that at 293.15 K have a steam pressure of 0.01 kPa or more.*

**** The definition of a nanomaterial follows the European Commission's definition of nanomaterials from 18 October 2011, with the exception of the limit for particle size distribution, which is reduced to 1%: A nanomaterial is a natural, incidental or manufactured material containing particles, in an unbound state or as an aggregate or as an agglomerate and where, for at least 1% of the particles in the number size distribution, one or more external dimensions is in the size range 1-100 nm. This definition applies to the whole material, including particles exceeding the interval of 1-100 nm, as long as 1% of the material is particles of 1-100 nm. The definition applies to nanoparticles both in an unbound and in a bound state.*

An exemption to the requirement applies to metal plating of parts, see R4. .

Chemical manufacturer/supplier, signature:

Date	Chemical manufacturer/supplier
Responsible	Phone
Responsible (name in BLOCK CAPITALS)	E-mail

Appendix 3 Declaration of parts metal plating (R4)

3 Manufacture of white goods (to be completed by manufacturer/supplier of white good)

Input raw material/component:
Manufacturer/Supplier:

The specified component has not been plated with lead, mercury, cadmium, hexavalent chromium or nickel.

☐Yes ☐No

The specified component has been plated with trivalent chromium, nickel or alloys of these where this is necessary on the grounds of chemical or mechanical wear or on the grounds of another specific technical need

☐Yes ☐No

In cases where parts are plated with trivalent chromium or nickel, please document the reason for this.

Description of the cleaning technology used, as required.

Manufacturer/supplier of the white good, signature:

Date	Company name
Responsible	Phone
Responsible (name in BLOCK CAPITALS)	E-mail

Appendix 4 Declaration of flame retardants (R6) and phthalates (R7) in plastic and rubber parts

4 Manufacture of white goods (to be completed by manufacturer/supplier of plastic and rubber parts)

Name of white good:
Input raw material/component:
Manufacturer/supplier:

Flame retardants (R6)

The following requirement is fulfilled: ☐Yes ☐No

a) Hexabromocyclododecane (HBCDD), tetrabromobisphenol A (TBBPA) and high chlorine short chain and high chlorine medium chain chloroparaffins must not be added.

b) Other halogenated organic flame retardants and other flame retardants that have been given the following risk phrases must not be added:
   - R45 (may cause cancer)
   - R46 (may cause inherited genetic harm)
   - R60 (may impair fertility)
   - R61 (may cause harm to the unborn child)

An exemption from requirement b) may be given for halogenated flame retardants:
- In cases where these are required for electrical or fire safety reasons under the Low Voltage Directive 73/23/EEC or standard EN 60335-1
- Printed circuit boards, PCBs
- Plastic and rubber parts weighing < 25 grams that are integral to electronic parts

The exemption does not apply to the flame retardants governed by a) that are prohibited under the RoHS Directive.

Phthalates (R7)

The following requirement is fulfilled: ☐Yes ☐No

The following phthalates must not be added to plastic or rubber materials:

- Di-2-ethylhexyl phthalate (DEHP)
- Dibutyl phthalate (DBP)
- Benzyl butyl phthalate (BBP)
- Dicyclohexyl phthalate (DCO)
- Diisobutyl phthalate (DIBP)
- Diisooctyl phthalate (DIOP)
- Diisononyl phthalate (DINP)
- Diisodecyl phthalate (DIDP)
- Diethyl butyl phthalate (DEBP)
- Dihexyl phthalate (DHP)
- Di-n-decyl phthalate (DNDP)

The following are exempted from the requirement:

- Printed circuit boards, PCBs
- Plastic and rubber parts weighing < 25 g that are integral to electronic parts

Manufacturer/supplier of plastic and rubber parts, signature:

Date	Company name
Responsible	Phone
Responsible (name in BLOCK CAPITALS)	E-mail

Appendix 5 Declaration of antibacterial properties (R8)

5 Manufacture of white goods (to be completed by manufacturer/supplier of white good)

Name of white good:
Manufacturer:

Antibacterial properties (R8)

The following requirement is fulfilled: ☐Yes ☐No

- Chemicals or additives that are added to create an antibacterial or disinfectant surface, in or on the product or to be released during the use of the product use, must not be used.

  Silver ions are not counted as antibacterial substances.

An antibacterial chemical inhibits or stops growth of microorganisms such as bacteria, fungi or protozoa (single-celled organisms).

Manufacturer/supplier, signature:

Date	Company name
Responsible	Phone
Responsible (name in BLOCK CAPITALS)	E-mail

Appendix 6 Declaration of nanomaterials (R9)

6 Manufacture of white goods (to be completed by manufacturer/supplier of white good)

Name of white good:
Manufacturer:

Nanomaterials (R9)

The following requirement is fulfilled: ☐Yes ☐No

- Nanoparticles (of nanomaterials) must not actively be added to the product's inner or outer surfaces.

** The definition of a nanomaterial follows the European Commission's definition of nanomaterials from 18 October 2011, with the exception of the limit for particle size distribution, which is reduced to 1%: A nanomaterial is a natural, incidental or manufactured material containing particles, in an unbound state or as an aggregate or as an agglomerate and where, for at least 1% of the particles in the number size distribution, one or more external dimensions is in the size range 1-100 nm. This definition applies to the whole material, including particles exceeding the interval of 1-100 nm, as long as 1% of the material is particles of 1-100 nm. The definition applies to nanoparticles both in an unbound and in a bound state.*

Manufacturer/supplier, signature:

Date	Company name
Responsible	Phone
Responsible (name in BLOCK CAPITALS)	E-mail

Appendix 7 Declaration of refrigerants for the refrigeration process and foaming agents for insulating foam (R15 and R16), and refrigerants in heat pump (R27)

7 Manufacture of white goods (to be completed by manufacturer/supplier of refrigerants and foaming agents)

Refrigerants/foaming agents:
Manufacturer:

The following requirement is fulfilled: ☐Yes ☐No

The manufacturer/supplier of refrigerants and foaming agents is responsible for the assessment and classification of the product. Nordic Ecolabelling has the right to inspect the underlying data relating to the assessment/classification of the substances.

Declaration of the refrigerants and foaming agents used in the product:

Full chemical name:	**CAS no.:**	**Ozone depletion potential (ODP):**	**Global warming potential (GWP)** (calculated in CO_2 units over a period of 100 years)**:**

The ozone depletion potential (ODP) equals zero. ☐Yes ☐No

The global warming potential (GWP) is 5 or lower (calculated in CO_2 units over a period of 100 years). ☐Yes ☐No

Manufacturer/supplier, signature:

Date	Company name
Responsible	Phone
Responsible (name in BLOCK CAPITALS)	E-mail

Appendix 8 Declaration of compliance with applicable laws and provisions in production (R34)

8 Manufacture of white goods (to be completed by licensee)

Name of white good:
Manufacturer:

The following requirement is fulfilled: ☐Yes ☐No

The licensee shall ensure compliance with all applicable local laws and provisions at all production facilities for the Nordic Ecolabelled white good. For example, local rules and provisions on health, safety and the working environment, environmental legislation (including REACH) and factory-specific permit terms/conditions are to be followed in the country in which the white good is manufactured.

Details of the local regulatory authority that is responsible for supervision:

…….

Licensee, signature:

Date	Company name
Responsible	Phone
Responsible (name in BLOCK CAPITALS)	E-mail

Appendix 9 Marketing of Nordic Ecolabelled white goods

We hereby certify that we are well acquainted with the regulations governing the use of the Nordic ecolabel, as detailed in "Regulations for the Nordic Ecolabelling of Products" dated 22 June 2011 or later versions. We agree to follow these regulations when marketing the Nordic Ecolabelled white good.

Further, we confirm that we are familiar with the content of the criteria document regarding the Nordic Ecolabelling of white goods.

We undertake to advise those individuals within the company involved in marketing the Nordic Ecolabelled white goods of the criteria for the Nordic Ecolabelling of white goods and the "Regulations for the Nordic Ecolabelling of Products" dated 22 June 2011 or later versions.

Place and date	Company
Signature, contact person	
Name (BLOCK CAPITALS)	Phone
Signature, marketing manager	
Name (BLOCK CAPITALS)	Phone

In the event of a change in personnel, a new declaration must be submitted to Nordic Ecolabelling.