Nordic Ecolabelling of

Windows and Exterior doors



Version 4 • 17 June 2013 - datum
Proposal for new criteria

Nordic Ecolabelling

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

What is a Nordic Ecolabelled Window and exterior door?

The goal of the Nordic Ecolabelling criteria is to promote the use of energy-efficient windows and exterior doors that are also manufactured with a minimum of environmental impact.

Windows and doors have a long technical service life. Their greatest environmental impact therefore comes from the energy losses they cause from the heated building in which they are installed. In autumn and spring in particular, passive solar energy can provide a significant contribution to heating in the Nordic countries. It is important that the use of solar energy doesn´t impose a risk of need for cooling. The extent of the energy losses is determined by the total heat transfer coefficient (U value). Solar energy transmittance (g value) is a measurement of how much solar energy, in form of heat, enters through the window. The Nordic Ecolabel sets high requirements on both these parameters in order to obtain an energy efficient window with a low climate impact in a life cycle perspective.

The principal materials used in windows and exterior doors are glass, wood, plastic and metals such as aluminium and steel. Plastics and metals may be used for profiles, beads, fittings and film and/or coatings. In manufacturing a range of wood preservatives and finishes, putty, glue, insulating material, sealants and filler gases is also be used. The Nordic Ecolabelling criteria promote recycling of materials. Frames, casements and door leaves that are not made of renewable materials must comprise a minimum of 50% recycled material. Environmental requirements are also set for insulating materials, filler gas, chemicals, air emission from wood impregnation and surface treatment and additives in plastics. For a renewable material as wood, 70% of the solid wood in exterior doors and windows must come from certified forests.

Requirements are also stipulated for installation and care instructions. The manufacturer must with each delivery provide recommendations regarding maintenance. In order to ensure the quality of ecolabelled windows or exterior doors, these must satisfy relevant product certification requirements and the manufacturer of the window/exterior door must provide a 10 year warranty.

Nordic Ecolabelled windows and exterior doors:

- Have a low climate impact through low energy losses.
- Can contribute to the use of solar energy without an increased need for cooling.
- Have low environmental impact of production through tough environmental requirements on primary materials and the production process.
- Offer superior function and a long service life since they are sold with good fitting and care instructions.

Why choose the Nordic Ecolabel?

- Licensees 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 the manufacturer of windows and exterior doors 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?

Nordic Ecolabelling's criteria for Windows and exterior doors, version 4.0, covers both fixed and opening facade and roof windows (manual and electrically operated), window doors (e.g. balcony and patio doors) and exterior doors pursuant to standard EN 14351-1: 2006. Windows and exterior doors not covered by standard EN 14351-1:2006 cannot be labelled. This applies to, for example, rooflight domes[1] regulated by standard EN 1873.

Exterior doors forming the boundary between free and heated areas can be labelled. That is, doors that acts as a barrier between indoor and outdoor environments.

There are various other types of exterior doors that can be subject to various function requirements. Examples of such doors include hallway doors, loft space doors, warm store doors, cold store doors and various gates. These doors are not covered by the product group definition as they are not subject to the same requirements with regard to insulation capacity.

The frame, casement and door leaf may be made from either of these materials, or a combination of the same:

- wood
- metal; often aluminium or steel
- composite material (e.g. glass fibre-reinforced polyester or glass fibre-reinforced polyurethane)
- composite material (often PVC)

[1] Rooflight domes are installed on flat or almost flat roofs but fulfil many of the functions of a 'normal' window.

- a combination of these materials, e.g. wood windows with aluminium cladding
- insulation materials

Windows and exterior doors manufactured using materials other than those listed above must be assessed by Nordic Ecolabelling before they can be considered for labelling.

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 Windows and exterior doors.

Enquiries

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

What are the requirements of the Nordic Ecolabelling?

In order to be granted a Nordic license, the following documentation must be attached to the application:

- Documentation demonstrating compliance with any national regulations/special requirements.
- User instructions in all relevant languages.

1 Product description

O1 Description

Describe the design of the window or exterior door and how it is manufactured.

✉ Description of product and production.

O2 Materials overview

Specify the materials/components and chemical products of which the window/ exterior door comprises. Specify the percentage weight of each material and component of the entire window/exterior door. It is not necessary to specify the percentage weight for chemical products.

✉ Written details, or a drawing, of all materials and components used in manufacturing the window or exterior door and their percentage weights.

2 Energy requirements

O3 U value, heat transfer coefficient

The U value, or heat transfer coefficient, of a facade window must not exceed 0.90 W/m²K for the entire window, including the frame.

The U value, or heat transfer coefficient, of a roof window (skylight) must not exceed 1.0W/m²K for the entire window, including the frame.

The U value, or heat transfer coefficient, of a window door must not exceed 1.0 W/m²K for the entire window, including the frame.

The U value, or heat transfer coefficient, of an exterior door must not exceed 1.0 W/m²K measured across the entire window, including the frame.

The U value shall be measured through tests or calculations based on the methods stated in product standard EN 14351-1 and performed by an accredited national institutes or equivalent. See also Appendix 1.

The U value shall be stated with two decimal points if less than 1.0 and with one decimal point if it exceeds 1.0. Figures are adjusted downward or upward as follows: 1.049 W/m²K becomes 1.0 while 1.050 W/m²K becomes 1.1.

✉ Test results and calculations, as well as details of how the U value is determined.

O4 The solar energy transmittance and daylight transmittance of windows

The solar energy transmittance of window glass (g_g value) shall be 0.48 (48%) or higher. The solar energy transmittance of the window (g_w value) shall be 0.34 (34%) or higher. These values are applicable to both facade windows and roof windows.

The daylight transmittance shall be 0.63 (63%) or higher.

The window's gw value is calculated based on the following formula:

gw = gg x (Ag/Aw). Ag represents the glass area and Aw the window area.

The U value shall be measured through tests or calculations based on the methods stated in product standard EN 14351-1 and performed by an accredited national institute or equivalent. See also Appendix 1.

✉ Test results and calculations, as well as details of how the values were determined.

O5 Window or exterior door air permeability

The window or exterior door must fulfil Class 4 according to EN 12207 for air permeability under negative and positive pressure.

The exterior door shall first undergo differential climate testing pursuant to standard EN 1121 (climates A and D as a minimum).

Air permeability and differential climate testing shall be measured through tests or calculations based on the methods stated in product standard EN 14351-1 and performed by an accredited national institute or equivalent. See also Appendix 1.

✉ Results of air permeability tests. Details of how air permeability is tested.

✉ For exterior doors, results from differential climate testing and details of how the test was performed. The time of climate testing and of air permeability testing shall be stated.

3 Material requirements

O6 Recycled material in 'non-renewable' materials

Components used in windows, window doors and exterior doors such as frames, casements or door leaves consisting of non-renewable raw material should per component, consist of at least 50 % by weight recycled material.

The requirement does not apply to:

1. materials that account for less than 3 per cent by weight of the window's, window door's or exterior door's total weight;
2. hinges, handles, fittings, stabiliser plates and kick plates;
3. window and exterior door insulation;
4. non-renewable components in glass/insulation panes;
5. materials used for weather protection that do not form part of the load bearing structure (plastic composite may form part of the load bearing structure) provided that these do not exceed:

- Aluminium - max. 8% by weight of the total weight of the exterior door or 11% by weight of the window door's total weight.
- PVC - max. 4% by weight of the total weight of the window or window door.
- Plastic composite - max. 12% by weight of the total weight of the window or window door.*

Recycled material is defined as post-consumer recycled material, recycled waste materials from window and door manufacturing and waste from other production such as plastics and metals. Production waste from the manufacture of window and door profiles is not considered recycled material. This is in line with the definitions contained in ISO 14021 on ecolabelling and environmental statements.

**Plastic composite may form part of the load bearing structure if it also serves to protect against the weather.*

For all types of materials, the percentage weight should be calculated based on a standard size, double-glazed window, window door or exterior door (for windows 1,230 x 1,480 mm).

Windows and exterior doors manufactured from materials other than those listed above must be assessed by Nordic Ecolabelling before they can be considered for labelling.

✉ Non-renewable materials: specify the proportion of recycled materials used. Declaration from the supplier that the raw material is recycled.

O7 Non-recycled plastic material

Lead, cadmium, halogenated paraffin, organic tin compounds, bisphenol A, phthalates and halogenated flame retardants may not be actively added to plastic materials.

The requirement does not apply to plastic details such as capping plates, clips or glass blocks.

✉ Declaration from the plastics manufacturer that plastic parts fulfil this requirement. Appendix 2 can be used for documentation purposes.

O8 Recycled plastic

Recycled plastic must not contain more than 100 ppm lead or 1,000 ppm cadmium.

The recycled plastic shall be tested to for lead, cadmium, halogenated paraffin, organic tin compounds, bisphenol A, phthalates and halogenated flame retardants.

The requirement does not apply to plastic details such as capping plates, clips or glass blocks.

Appendix 1 describes the method for testing the contents of plastics.

✉ Test results demonstrating the fulfilment of the requirement.

O9 Chlorine production for plastic manufacturing

Mercury and asbestos must not be used to produce chlorine for making plastics. This requirement does not include small plastic parts such as capping plates, clips and glass blocks.

✉ Declaration from the plastic manufacturer regarding the method used to produce chlorine. Appendix 2 may be used.

O10 Marking of plastic parts

Plastic parts heavier than 50 g must be visibly labelled for recycling in accordance with ISO 11469. This requirement does not apply to glazing gaskets or glazing blocks that constitute less than 3% by weight of the total weight of the window.

✉ Description of materials labelling for plastic parts.

O11 Filler gas

Filler gas used for insulation must not contribute to global warming; i.e. the GWP (Global Warming Potential) must be nil over a period of 100 years.

Krypton and xenon must not be used as filler gases due to the high energy consumption at production.

The noble gas argon has GWP=0.

✉ Details of filler gases used for insulation, and confirmation that the gases do not contribute to the greenhouse gas effect.

O12 Traceability and control of wood raw material

The requirement applies to both certified and uncertified wood and fibre raw material. The licensee shall:

- State the name (in Latin and in a Nordic language), quantity and geographic origin (country/state and region/province) of the type(s) of wood and fibre raw material used.
- Demonstrate traceability for all wood and fibre raw materials.
- Have a written routine for sustainable wood and fibre raw materials supply.
- Ensure that all wood and fibre raw material is sourced from legally acceptable sources.

Wood and fibre raw material may not be sourced from:

- protected areas or areas in the process of being awarded protected status;
- areas where ownership or usage rights are unclear;
- illegally felled trees;
- genetically modified trees or plants.

Furthermore, forestry operations must not damage:

- standing natural timber, bio diversity, special ecosystems or important ecological functions;
- social and/or cultural preservation values.

✉ Name of wood (in Latin and one Nordic language) and geographic origin (country/state and region/province) of the kinds of wood used. Appendix 3 may be used.

✉ System for traceability for all wood and fibre raw materials. Chain of Custody may be used but this is not required.

✉ A written routine for sustainable wood and fibre raw material supply. The routine shall include up-to-date lists of all suppliers of wood and fibre raw material.

O13 Certification of wood and fibre raw material

On an annual basis, at least 70% of the wood and wood fibre raw material content shall be derived from areas where forestry operations are certified pursuant to a forestry standard and certification systems stated in Appendix 4, or certified as organically cultivated or undergoing transition to organic production.

The requirement applies to solid wood, fibreboard, veneer and plywood.

The requirement does not apply to wood chip, wood shavings, waste wood, untreated demolition wood and recycled fibre from other industrial activities used in fibreboard.

Nordic Ecolabelling may request the submission of further documentation to enable it to assess whether the requirements of the standard and certification system and certified proportion have been fulfilled. Such documentation may comprise copies of the certification body's final report, a copy of the forestry standard, including the name, address and phone number of the organisation that established the standard, as well as references to individuals representing parties and interest groups who have been involved in the development of the standard.

✉ The amount of timber derived from certified forests must be stated and the basis for calculations must be shown. Appendix 3 may be used by the timber supplier.

✉ Copy of relevant forestry certificates that meet the guidelines for forestry certification and organic cultivation described in Appendix 4.

O14 Insulation materials

Thermal insulation materials must not contain halogenated flame retardants or flame retardants containing borax or boric acid.

Expanding insulation materials must not be produced using halogenated organic compounds as blowing agents.

✉ Declaration from the supplier of the insulation material and product specifications for the product.

O15 Separability

It must be possible to separate glazing and metal and plastic profiles in the window/exterior door for recycling at the end of the unit's service life.

✉ Description of how the materials wood, metal, plastic and the glass component can be separated.

4 Chemical requirements

The chemicals requirements apply to unhardened paints, lacquers, glues, plaster and sealants used by the manufacturer of the Nordic Ecolabelled products and their subcontractors for parts for Nordic Ecolabelled products.

The requirement does not apply to improvement/repair products used by the manufacturer or its subcontractors.

Filler gas and insulation materials are covered by requirements in previous sections; 'Material requirements'.

O16 Classification of chemical products

Chemical products used to manufacture Nordic Ecolabelled windows or exterior doors must not be classified pursuant to the table below. The classification applies pursuant to the EU's Dangerous Substances Directive 67/548/EEC with later amendments and adaptations and/or the CLP regulation 1272/2008 with later changes.

The EU Dangerous Substances Directive or the CLP regulation can be used in the transition period, i.e. up until 1 June 2015. Once the transition period is over, only the CLP regulation may be used for classification (see table below):

Classification	**Hazard classification, hazard category and hazard designation** **CLP regulation 1272/2008/EC**	**Hazard symbols and R phrases** **EU Dangerous Substances Directive 67/548/EEC**
Toxic to the environment	Toxic to aquatic organisms Category acute 1 H400 Category: chronic 1 H410, category: chronic 2 H411*	N with R50, R50/53 or R51/53*
Very toxic	Acute toxicity, category 1 or 2 with H330, H310 and/or H300 and/or Specific organ toxicity, single exposure, category 1 with H370	T+ with R26, R27, R28 and/or R39
Toxic	Acute toxicity, category 2 or 3 with H330, H331, H311 and/or H301 and/or Specific organ toxicity, single exposure, category 1 with H370 and/or Specific organ toxicity, repeated exposure, category 1 with H372	T with R23, R24, R25, R39 and/or R48
Harmful to health	Acute toxicity, category 4 with H302 Specific organ toxicity, single exposure, category 2 with H371 and/or Specific organ toxicity, repeated exposure, category 2 with H373	Xn with R20, R21, R22, R48, R65 and/or R68
Carcinogenic	Carc. 1A or 1B; H350 Carc. 1A or 1B; H350i Carc. 2; H351	Carc. cat. 1 or 2; R45 Carc. cat. 1 or 2: R49 Carc. cat. 3; R40
Mutagenic	Muta. 1B; H340 Muta. 2; H341	Muta. cat. 2; R46 Muta. cat. 3; R68
Toxic to reproduction	Repr. 1A or 1B; H360F Repr. 1A or 1B; H360D Repr. 2; H361f Repr. 2; H361d	Repr. cat. 1 or 2; R60 Repr. cat. 1 or 2; R61 Repr. cat. 3; R62 Repr. cat. 3; R63

**Exception for vacuum impregnation where the classification 'Toxic to aquatic organisms category chronic 2 H411 and/or N with R51/53' is accepted.*

✉ Material safety data sheet pursuant to the applicable legislation in the country of application, e.g. Annex II to REACH (Council Regulation 1907/2006/EEG) for all chemical products.

O17 Handling of chemical products

For chemical products used to manufacture Nordic Ecolabelled windows or exterior - doors classified according to the table below, there should be a description outlining the recommended handling procedures in order to avoid environmental and/or personal damage. The classification applies pursuant to the EU Dangerous Substances Directive 67/548/EEC with later amendments and adaptations, and/or the CLP regulation 1272/2008 and later amendments.

The EU Dangerous Substances Directive or the CLP regulation can be used in the transition period, i.e. up until 1 June 2015. Once the transition period is over, only the CLP regulation may be used for classification (see table below):

Classification	**Hazard classification, hazard category and hazard designation** **CLP regulation 1272/2008/EC**	**Hazard symbols and R phrases** **EU Dangerous Substances Directive 67/548/EEC**
Toxic to the environment	Ecotoxicity Chronic Cat. 3, H412 Ecotoxicity Chronic Cat. 4, H413	R52, R53 or R52/53 without N
Allergenic	Respiratory Sensitisation Cat.1, H334 Skin Sensitisation Cat. 1, H317	Xn with R42 or Xi with R43
Corrosive	Skin Corrosion/Irritant Cat. 1A, H314 Skin Corrosion/Irritant Cat. 1A, H314	C with R34 and R35
Harmful to health	Acute Toxicity Cat. 4, H332 Acute Toxicity Cat. 4, H312 Aspiration Hazard Cat. 1, H304	Xn with R20, R21, R65
Explosive	Explosives – Unstable Explosive, H200 Explosives – Division 1.1, H201 Explosives – Division 1.2, H202 Explosives – Division 1.3, H203 Explosives – Division 1.4, H204 Organic Peroxides Type A, H240 Organic Peroxides Type B, H241 Self-reactive substances and Mixtures Type A, H240 Self-reactive substances and Mixtures Type B, H241	E with R2 and R3
Extremely flammable	Flammable Gases Cat.1, H220 Flammable Aerosols Cat.1, H222 Flammable Liquids Cat. 1, H224	F+ with R12
Very flammable	Flammable Gases Cat. 2, H221 Flammable Aerosols Cat. 2, H223 Flammable Liquids Cat. 3, H225 Flammable Solids Cat. 1, H228 (Flammable Solids Cat.2, H228)	F with R11, R15 and R17

✉ Description of how chemicals are handled in a safe manner to avoid personal injury.

O18 CMR substances

Substances classified as following must not be included in chemical products used to manufacture Nordic Ecolabelled windows or exterior doors:

- carcinogenic (Carc. with R45/H350 and/or Carc. with R49/H350i)
- mutagenic (Mut. with R46/H340) and/or
- toxic to reproduction (Rep. with R60/H360F and/or Rep. with R61/H360D)

The total content of substances classified as following must not exceed 0.5% by weight in products used to manufacture Nordic Ecolabelled windows or exterior doors:

- carcinogenic (Carc. with R40/H351)
- mutagenic (Mut. with R68/H341) and/or
- toxic to reproduction (Rep. with R62/H361f and/or Rep with R63/H361d)

Exceptions are made for levels of Dibutyltin (DBT) compounds and dioctyltin compounds (DOT) in the following three products types where the below limit values* are accepted:

- 0.5% in SMP polymers such as MS polymers
- 0.2% in silicon products and PUR polymers containing silanes instead of isocynates
- 0.03% in PUR polymers with isocyanates

Constituent substances are all product contents, including additives (e.g. preservatives or stabilisers) in the ingredients but not impurities deriving from raw materials production. Impurities include residue from raw materials production included in the finished product at concentrations lower than 100 ppm (0.0100 weight per cent, 100 mg/kg) but not substances added to a raw material or product deliberately and purposely, regardless of the volume.

Impurities accounting for more than 1% of the product are nevertheless been considered constituent substances. Known release products from constituent substances are also considered constituent substances.

For two component products it is the ingredients in the separate components that shall comply with the requirements Alternatively; the requirement can be applied to the finished product if it can be documented that; safety equipment is used when the hardener is mixed with the paint/lacquer and if the application of the finished two-component product takes place in a closed system.

**TBT and TPT are prohibited.*

✉ Safety data sheet pursuant to applicable legislation in the country of application, e.g. Annex II to REACH (regulation 1907/2006/EEC) for all chemical products and Appendix 5, duly completed and signed by the chemicals manufacturer.

O19 Prohibited substances

The following substances are prohibited from chemical products used in the manufacture of Nordic Ecolabelled windows and exterior doors:

- Halogenated organic compounds
- Alkylphenolethoxylates (APEO) and alkylphenol derivatives (APD)
- Perfluoroalkyl and polyfluorinated alkylated substances (PFAS)
- Halogenated flame retardants
- Boron compounds
- bisphenol A
- Antibacterial compounds (including silver ions, nano silver and nano copper)
- Nano particles (from nano materials*) may not be actively added to the chemical product.
- Phthalates, with the exception of sealants

Sealants may not contain the following phthalates:

- Di-2-ethylhexyl phthalate (DEHP)
- Dibutyl phthalate (DBP/DnBP)
- n-butyl benzyl phthalate (BBP)
- Palatinol (711P)
- Diisobutyl phthalate (DIBP)
- Bis(2-methoxyethyl) phthalate
- Diisodecyl phthalate (DIDP)
- Diisononyl phthalate (DINP)

Constituent substances are all product contents, including additives (e.g. preservatives or stabilisers) in the ingredients but not impurities deriving from raw materials production. Impurities include residue from raw materials production included in the finished product at concentrations lower than 100 ppm (0.0100 weight per cent, 100 mg/kg) but not substances added to a raw material or product deliberately and purposely, regardless of the volume.

Impurities accounting for more than 1% of the product are nevertheless been considered constituent substances. Known release products from constituent substances are also considered constituent substances.

**Nano materials: "a natural, incidental or purposely 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 of nano particles corresponds to the EU Commission's definition of nano materials of 18 October 2001, with the exception of the stated particle size spread which is reduced to 1%.

✉ Appendix 5, duly completed and signed by the chemicals manufacturer.

O20 Nano materials

Nano particles (from nano materials*) may not be actively added to the glass/the window's/door's glass surface.

**Nano materials: "a natural, incidental or purposely 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 of nano particles corresponds to the EU Commission's definition of nano materials of 18 October 2001, with the exception of the stated particle size spread which is reduced to 1%.

✉ Declaration from the manufacturer of the window or exterior door that nano materials are not used.

O21 Solvents for impregnation and surface treatment

Pressure impregnation is not permitted.

The emission of volatile organic compounds (VOCs) from vacuum impregnation shall not exceed 6 kg/m^3.

The emissions from surface treatment must not exceed 60 mg TOC/Nm^3.

Volatile organic compounds (VOC) are defined as organic compounds that at 293.15 K have a vapour pressure of 0.01 kPa or greater. Appendix 1 describes the requirements of the test body used for VOC classification.

The requirement must be met regardless of whether the wood protection treatment is performed by the manufacturer or by a subcontractor.

Nordic Ecolabelled sustainable wood already meets this requirement as no solvents are used.

✉ Calculation of the solvent balance or measurement of the emissions using the method described in EU directive 99/13/EC.

5 Waste management requirements

O22 Production waste

Window and exterior door manufacturers, as well as manufacturers of insulation glass, shall separate the waste generated in connection with production. Furthermore, a plan for separating waste must be drawn up, stating waste fractions and describing how the waste is dealt with (e.g. recycling, landfill and incineration).

Hazardous waste must be treated and dealt with in accordance with the regulations applicable in the country of manufacture.

✉ Waste plan featuring waste fractions and waste recipients. Declaration on hazardous waste, if applicable, and a statement on how hazardous waste is handled in accordance with the regulations applicable in the country of manufacture.

6 Functional requirements

O23 Durability/longevity of exposed wood parts

To guarantee the durability of the window, the wood needs to be suitably treated. Wood that is exposed to the elements that lacks natural resistance against wear and deterioration must meet one of the below:

- Impregnated using impregnation that meets penetration class NP3 pursuant to EN 351-1 and 351-2
- Impregnated with least 4 mm lateral penetration into the sapwood. All end wood shall be sealed using primer and/or covering paint. Joins at the underside of frames and casement, and mounting bars, shall be sealed by applying sealant to the end wood of the profiles prior to assembly.
- Coated with wood preservative through dipping or flowcoating (e.g. 2ØKO in Denmark) and be made of heartwood or wood of similar quality.
- Nordic Ecolabelled pursuant to the criteria for Durable wood.

The systems for surface treatment shall be tested according to EN 927 "Coating materials and coating systems for exterior wood". The system shall fulfil the limit values "stable end use category" in Table 1 of EN 927-2. The "Exposure condition" defined in Table 2 of EN 927-1 shall be "Medium".

Profiles covered by aluminium, other metal, composite or polymer materials are not considered weather exposed.

✉ Test reports complying with EN 351-1 and 351-2 for wood preservatives and EN 927 for surface treatment systems.

O24 Technical requirement

Ecolabelled windows and exterior doors must fulfil the relevant standards in the country in which they are sold, e.g. SFD, NCDK, DVC or P-labelling.

The measurement and calculation methods shall be in line with the stipulations of product standard EN 14351–1.

✉ Details of and declaration stating which standards are fulfilled in the country in which the window or exterior door is sold.

O25 Guarantee

The window manufacturer must provide a 10-year guarantee covering function, insulation glass and wood rot. The guarantee must encompass all functional requirements in the applicable/relevant standards.

The exterior door manufacturer must provide a 10-year guarantee for form stability and a 2-year guarantee for function.

✉ Guarantee certificate supplied with the window/exterior door or information on the manufacturer's website

O26 Customer information

Manufacturers of Nordic Ecolabelled products shall submit:

- information on the window's g-value and U-value or the exterior door's U-value. Specify for which format the U-value applies. Information stating that the window is not recommended for installation in buildings that need to be cooled, due to properties of the glass that is constructed to contain as much heat as possible inside the building. If these windows are installed in a building with a calculated need of cooling, the customer needs to be informed of solutions for energy efficiency, for example sun blinds or sun-screening;
- information on how to select U and g values based on the window's positioning in order to achieve good heating economy and a good indoor climate;
- information on various sun screening solutions and the importance of such, either as part of the own product portfolio or through an agreement with partners.

✉ Information about the above on website or in brochure.

O27 Installation information

The following shall be attached to each window or exterior door delivery, or alternatively a reference to information available on a website:

- instructions on the handling of the window/exterior door during transportation, reception and storage at the building site.;
- instructions on how the window/exterior door shall be installed into a wall, adjusted and protected during the construction period. General physical parameters for fitting must be specified. Instructions on how the window/exterior door should best be installed from an energy point of view, in order to prevent heating loss as a result of poor installation. In addition, the fitting instructions must assist installation without the risk of the window/door, or the wall into which it is placed, suffering damage resulting from the effects of moisture from convection, diffusion or external factors such as rain or snow;
- instructions describing the recommended maintenance for the window/exterior door. Care instructions must contain details on how often the finish should be checked and maintained/re-applied, and which surface treatment is recommended;
- information about how the window or exterior door should be handled at end-of-life.

✉ Written recommendations included with the delivery of the window/exterior door to the customer, or reference to the website where such information is available.

7 Quality and regulatory requirements

To ensure that Nordic Ecolabel requirements are fulfilled, the following procedures must be implemented.

If the environmental management system of the Eco labelled window or exterior door producer, is 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.

O28 Legislation and regulations

The licensee must guarantee adherence to safety regulations, working environment legislation, environmental legislation and conditions/concessions specific to the operations at all sites where the Nordic Ecolabelled product is manufactured.

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

O29 Nordic Ecolabel licence person

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

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

O30 Documentation

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

🔑 Checked on site.

O31 Quality of windows and exterior doors

The licensee must guarantee that the quality of the production of the Nordic Ecolabelled window and exterior door 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 window and exterior door.

O32 Planned changes

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

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

O33 Unplanned nonconformities

Unplanned nonconformities that have a bearing on Nordic Ecolabel requirements must be reported to Nordic Ecolabelling in writing and journalled.

✉ Procedures detailing how unplanned nonconformities are handled.

O34 Traceability

The licensee must have a traceability system for the production of the Nordic Ecolabelled window and exterior door.

✉ Description of/procedures for the fulfilment of the requirement.

O35 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 window and exterior door are marketed.

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

O36 Marketing

Marketing of the Nordic Ecolabelled window and exterior door must comply with "Regulations for the Nordic Ecolabelling of products" 22 June 2011 or later versions.

✉ Appendix 1 duly completed.

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 window and exterior door 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 six-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 the licensee 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 licensee 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 for Windows and exterior doors on DAY MONTH YEAR. The criteria are valid until DAY MONTH YEAR.

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

- New
- Even more

Appendix 1 Analysis and test laboratories

Requirements on the analysis laboratory

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

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

- sampling and analysis is monitored by the authorities, or
- the manufacturer's quality assurance system covers analyses and sampling and is certified to ISO 9001 or
- 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 the manufacturer takes samples in accordance with a fixed sampling schedule.

Sampling methods for measuring the energy-related requirements

The heat transfer coefficient (U value), solar energy transmittance (g value), air permeability and differential climate testing must be measured and/or calculated according to the standards and methods in accordance with EN 14351 -1 Product standard functional parameters-Part 1. Windows and external pedestrian doorsets without resistance to fire and/or smoke leakage characteristics.

Test methods for measuring the content of plastics

The following test methods may be used to analyse a plastic's content of lead, cadmium, halogenated paraffins, halogenated flame retardants, organic tin compound and phthalates: inductively coupled plasma - mass spectrometry (ICP-MS), scanning electron microscope (SEM) with energy-dispersive X-ray spectroscopy (EDS), Fourier Transform Infrared Spectroscopy (FTIR), or equivalent method

Appendix 2 Declaration of contents of plastic materials

Manufacturer/supplier
Name of the product

- We hereby declare that the plastic material stated above does not contain any of the following additives: lead, cadmium, halogenated paraffins, organic tin compounds, phthalates or halogenated flame retardants.
- Mercury and asbestos have not been used to produce chlorine for making plastics.

Manufacturer's/supplier's signature

Date	Company
Administered by	Phone

This document may be copied only in its entirety and without any type of change.
Quotations may be made provide that Nordic Ecolabelling is stated as the source.

Appendix 3 Specification of wood raw materials (supplier)

Product name:
Product description:
Manufacturer/supplier:

For the documentation of wood raw material:

- Type of wood and geographical origin (country/state and region/province/district).
- Copy of certificate of forest certification.
- Amount (%) of timber from certified forest used in the product.

The following table can be used if a supplier supplies more than one product:

Type of wood	**Geographical origin**	**Forest standard**	**Quantity (%) of timber from certified forests used in the product**

Signature of supplier:

(Date)	(Company name)
(Administrated by)	(Phone)

This document may be copied only in its entirety and without any type of change.
Quotations may be made provide that Nordic Ecolabelling is stated as the source.

Appendix 4 Directions for forestry certification

Requirements on forestry standards

Nordic Ecolabelling sets requirements on the standards to which forestry is certified. These requirements are described below. Each individual national forestry standard and each certification system is reviewed by Nordic Ecolabelling as to fulfilment of the requirements. When a forestry standard is revised, it is re-reviewed.

Requirements on forestry standards

- The standard must balance economic, ecological and social interests and comply with the Rio Declaration's forestry principles, Agenda 21 and the Forest Principles, and respect relevant international conventions and agreements.
- The standard must contain absolute requirements and promote and contribute towards sustainable forestry. Nordic Ecolabelling places special emphasis on the standard including effective requirements to protect the forest from illegal felling and that the requirements protect the biodiversity of the forest.
- The standard must be available to the general public. The standard must have been developed in an open process in which stakeholders with ecological, economic and social interests have been invited to participate.

The requirements related to forestry standards are formulated as process requirements. The basis is that if stakeholders agree on the economic, social and environmental aspects of the forestry standard, this safeguards an acceptable requirement level.

If a forestry standard is developed or approved by stakeholders with ecological, economic and social interests, the standard may maintain an acceptable standard. Accordingly, Nordic Ecolabelling requires that the standard balances these three interests and that representatives from all three areas are invited to participate in development of the forestry standard.

The standard must set absolute requirements that must be fulfilled for the certification of the forestry. This ensures that the forest management fulfils an acceptable level regards the environment. When Nordic Ecolabelling requires that the standard shall "promote and contribute towards sustainable forestry", the standard must be assessed and revised regularly to initiate process improvement and successively reduce environmental impact.

Requirements on certification system

- The certification system must be open, have significant national or international credibility and be able to verify that the requirements in the forestry standard are fulfilled.

Requirements on certification body

- The certification body must be independent, credible and capable of verifying that the requirements of the standard have been fulfilled. The certification body must also be able to communicate the results and to facilitate the effective implementation of the standard.

The purpose of certification is to ensure that the requirements regarding forestry standards are fulfilled. The certification system must be designed to verify that the requirements of the forest standard are fulfilled. The method used for certification must be repeatable and applicable to

forestry. Certification must be in respect to a specific forestry standard. The forest must be inspected prior to certification.

Requirements on Chain of Custody (CoC) certification

- Chain of Custody certification must be issued by an accredited, competent third party (as for forest certification).
- The system shall stipulate requirements regarding the chain of custody that assure traceability, documentation and controls throughout the production chain.
- If recycled fibre, wood shavings or sawdust are used, the pulp manufacturer must verify that this originates from recycled materials.

Requirements on organic production

With regard to certified organic fibre raw material or production that is in the transition to organic production, the vegetable raw materials must be produced and checked in accordance with Council Regulation (EEC) No 2092/91 or 834/2007, or produced and checked in an equivalent way according to an equivalent regulatory system such as KRAV, SKAL, IMO or OCIA.

NB! Bamboo may either be certified according to a sustainable forestry standard or organic production.

Documentation

Copy of forestry/ fiber raw material standard, name, address and telephone number to the organization who has worked out the standard and audit rapports.

References to persons who represents stakeholders with ecological, economic and social interests who have been invited to participate.

Nordic Ecolabelling may request further documents to examine whether the requirements of the forestry standard and certification system in question can be approved..

Appendix 5 Declaration on the contents of chemical products

(Apply to unhardened paints, laquers, glues, plaster, sealants, wood preservatives, adhesive, putty, etc.)

Name of the product
Manufacturer/supplier

Product description:

Wood preservative	☐	Sealant	☐
Undercoat	☐	Adhesive	☐
Topcoat	☐	Filler	☐
Other:	☐		

Please specify: _____

Does the chemical product contain CMR substances? ☐ Yes ☐ No

- Carcinogenic (Carc with R45/H350 and/or R49/H350i)
- Mutagenic (Mut with R46/H340)
- Toxic for reproduction (Rep with R60/H360F and/or R61/H360D)

Does the chemical product contain CMR substances? ☐ Yes ☐ No

- Carcinogenic (Carc with R40/H351)
- Mutagenic (Mut with R68/H341)
- Toxic for reproduction (Rep with R62/H361f and/or R63/H361d)

If Yes specify the quantity as a percentage by weight of each substance:

% by weight: _____

Is the declaration about CMR substances done for a hardened two component product? ☐ Yes ☐ No

If yes, the chemical product is part of a two component product, is safety equipment used when the hardener is mixed with the paint/laquer and is the application of the finished two-component product done in a closed system? ☐ Yes ☐ No

Constituent substances are all product contents, including additives (e.g. preservatives or stabilisers) in the ingredients but not impurities deriving from raw materials production. Impurities include residue from raw materials production included in the finished product at concentrations lower than 100 ppm (0.0100 weight per cent, 100 mg/kg) but not substances added to a raw material or product deliberately and purposely, regardless of the volume.

Impurities accounting for more than 1% of the product are nevertheless been considered constituent substances. Known release products from constituent substances are also considered constituent substances.

For two component products it is the ingredients in the separate components that shall comply with the requirements Alternatively; the requirement can be applied to the finished product if it can be documented that; safety equipment is used when the hardener is mixed with the paint/lacquer and if the application of the finished two-component product takes place in a closed system.

Does the chemical product contain halogenated organic solvent?	☐ Yes	☐ No
Does the chemical product contain alkyl phenol ethoxylates (APEO) or alkylphenol derivatives (APD)?	☐ Yes	☐ No
Does the chemical product contain perfluorinated and polyfluorinated alkylated substances (PFAS)?	☐ Yes	☐ No
Does the chemical product* contain phthalates? **With the exception of sealants*	☐ Yes	☐ No

Sealants

If the chemical product is a sealant, does it contain any of the following phtalates: DEHP, DBP, BBP, 711P, DIBP, DMEP, DIDP or DINP?	☐ Yes	☐ No
Does the chemical product contain halogenated flame retardants?	☐ Yes	☐ No
Does the chemical product contain boron compounds?	☐ Yes	☐ No
Does the chemical product contain bisphenol A?	☐ Yes	☐ No
Does the chemical product contain antibacterial compounds (including silver ions, nano silver and nano copper)?	☐ Yes	☐ No
Does the compound contain nano particles (from nano materials*)?	☐ Yes	☐ No

**Nano materials: "a natural, incidental or purposely 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 of nano particles corresponds to the EU Commission's definition of nano materials of 18 October 2001, with the exception of the stated particle size spread which is reduced to 1%.

Signature of chemical manufacturer

(Date)	(Company name)
(Handled by)	(Telephone)

Appendix 6 Marketing of Nordic Ecolabelled Windows and exterior doors

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" 22 June 2011 or later versions. We agree to follow these regulations when marketing the Nordic Ecolabelled windows and exterior doors.

Further, we confirm that we are familiar with the criteria document regarding the Nordic Ecolabelling of windows and exterior doors.

We undertake to advise those individuals within the company involved in marketing the Nordic Ecolabelled windows and exterior doors of the criteria for the Nordic Ecolabelling of windows and exterior doors and "Regulations for the Nordic Ecolabelling of products" 22 June 2011 or later versions.

Date and place	Company
Signature, contact person	
Clarification of name	Phone
Signature, marketing director	
Clarification of name	Phone

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