Nordic Ecolabelling for

Windows and Exterior doors

Version 4.14 • 19 March 2014 - 31 March 2023

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 Nordic Swan Ecolabel. These organisations/companies operate the Nordic Ecolabelling system on behalf of their own country's government. For more information, see the websites:

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What is a Nordic Swan 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. The extent of the energy losses is determined by the total heat transfer coefficient (U value). 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. Solar energy transmittance (g value) is a measurement of how much solar energy, in form of heat, enters through the window. The Nordic Swan 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 to a certain part of 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, the manufacturer of the window/exterior door must provide a 10-year warranty and the products must satisfy any of the relevant product certification requirements on the Nordic market.

Nordic Swan Ecolabelled windows and exterior doors:

- Have a low climate impact through low energy losses.
- Have low environmental impact through tough environmental requirements on primary materials and the production process.
- Offer superior function and a long service life
- Are sold with good fitting and care instructions.

Why choose the Nordic Swan Ecolabel?

- Licensees may use the Nordic Swan Ecolabel trademark for marketing. The Nordic Swan Ecolabel is a very well-known and well-reputed trademark in the Nordic region.
- The Nordic Swan 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 Swan 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 Swan Ecolabel licence can also be seen as a mark of quality

What can carry the Nordic Swan Ecolabel?

Nordic Ecolabelling's Criteria for Windows and Exterior Doors, version 4.0, covers products pursuant to standard EN 14351-1: 2006. This means that the following products may carry the Nordic Swan Ecolabel:

- fixed and opening facade and roof windows (manual or electrically operated)
- window doors (e.g. balcony and patio doors)
- external doors

Windows and exterior doors not covered by standard EN 14351-1:2006 cannot be labelled. This applies, for example, to lantern lights[1] regulated by product standard EN 1873, and windows and exterior doors that are resistant to fire under standard EN 16034.

Nordic Swan Ecolabelled products are windows and exterior doors between open and enclosed, constantly heated spaces, i.e. between an outdoor climate and an indoor climate. 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 about insulation capacity.

[1] Lantern lights are installed on flat or almost flat roofs but fulfil many of the functions of a "normal" window.

Interior doors cannot be Nordic Swan Ecolabelled under these criteria but can be labelled under the Nordic Ecolabelling criteria for the product group Furniture and Fitments.

The frame, casement and leaf in Nordic Swan Ecolabelled windows and exterior doors may be made from:

- wood
- metal, often aluminium or steel
- composite material (e.g. glass fibre-reinforced polyester or glass fibre-reinforced polyurethane)
- plastic (often PVC)
- a combination of these materials, e.g. wooden windows with aluminium cladding
- insulation materials

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.

How to apply

Application and costs

For information about the application process and fees for this product group, please refer to the respective national web site. For addresses see page 3.

What is required?

The application must consist of an application form/web form and documentation showing that the requirements are fulfilled.

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

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.

All information submitted to Nordic Ecolabelling is treated confidentially. Suppliers can send documentation directly to Nordic Ecolabelling, and this will also be treated confidentially.

License validity

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 prolonged, 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.

On-site inspection

In connection with handling of the application, Nordic Ecolabelling normally 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.

Queries

Please contact Nordic Ecolabelling if you have any queries or require further information. See page 3 for addresses. Further information and assistance (such as calculation sheets or electronic application help) may be available. Visit the relevant national website for further information.

1 Terms and definitions

In this chapter key terms and definitions are described. To understand how the requirements are interpreted, it is important to read this chapter first.

Product series and product family

A Nordic Swan Ecolabel licence can be given that covers several types/models of window within the same family or series. This is possible because the U-value and g-value are given for the reference size of the window, and thus apply to all sizes of the same window in the series/family. The percentage by weight for each material under requirement O1 is also given for the reference size of the window.

Materials in the profiles, glazing bars, glass combinations and other components that affect the U-value must be the same in the same series/family, to ensure that the impact from these factors is taken into account.

There are often different types of window within the same series/family, such as side-hinged windows, top-hinged windows, opening windows, side swing and so on. The U-values are only applicable to windows with the same construction as the example used in the calculation. For each type of window with a different construction in the same family/series of windows, the U-value is to be determined according to current methods.

External cladding

External cladding refers to wooden windows, where the external components of the window, i.e. the wooden frame and/or casement, are clad usually in aluminium. The purpose is to provide weatherproofing, increase durability and reduce the need for regular maintenance of exposed wooden components.

If the whole of the external window profile is made **entirely** in a material other than wood, this is not considered external cladding. Instead, the window is considered to be manufactured in non-renewable material, see below.

Other materials, such as plastic composite and PVC, may also be used in window profiles. However, external cladding using other metals such as zinc and copper is not permitted.

Requirement O5 contains an exception for external cladding of wooden windows. This means that the external cladding can be made from virgin material without the requirement for recycled raw material. The material used for external cladding must, however, meet all other relevant material requirements.

Non-renewable materials

Common non-renewable materials in windows and external doors are PVC, aluminium, steel and (plastic) composite. Nordic Ecolabelling accepts these window profiles and door leaves, but sets requirements concerning recycled material, for example (see O5).

2 Product description

O1 Overview of product and manufacture

Describe the design of the window/exterior door and the manufacturing process for the model(s) intended for Nordic Swan Ecolabelling.

Specify the materials/components and chemical products from which the window/exterior door is made. State the percentage by weight of each material and component in relation to the standard/reference size. It is not necessary to specify the percentage by weight for chemical products.

☒ An overall product and manufacturing description per model.

☒ Written details, or a drawing, of all materials and components used in manufacturing the window or exterior door, with details of the percentage weights per product series/family.

3 Energy requirements

O2 U-value, heat transfer coefficient

To take account of:

- the different energy consumption between wooden windows and windows in non-renewable materials, plus
- the environmental impact of emissions of volatile organic compounds from solvent-based impregnation, the requirement concerning highest permissible U-value for windows, window doors and external doors is as follows:

Product	**Maximum U-value (W/m²K)**
Wooden windows where wood preservation/impregnation and surface treatment are water-based*. The window may come with or without external cladding**:	
facade window window door roof window	0.91 1.0 1.1
Wooden windows where wood preservation/impregnation and surface treatment are solvent-based (vacuum impregnation). The window may come with or without external cladding*:	
facade window window door roof window	0.82 0.91 1.0
Window where the frame and/or casement are fully or partially made from non-renewable material:	
facade window window door roof window	0.74 0.82 0.91
External door, irrespective of material and any wood preservation:	1.0

**Other wood preservation/impregnation free from solvents is also accepted. One example is impregnation with supercritical carbon dioxide.*

*** see section "Terms and definitions"*

The U-value shall be set for a model/family of windows or external doors according to the product standard EN 14351-1. Presented U-values shall be determined by or reviewed by a notified or an accredited party or by a corresponding independent body. See also Appendix 1.

The U-value is to be measured for the whole window/door, including frame, according to the sizes in the product standard EN 14351-1.

The U-value is to be given to two significant figures in line with ISO 10077.

✉ The calculation or testing result of the U_W-value and a report on how the calculation/ testing were performed.

O3 The solar energy transmittance and daylight transmittance of windows

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

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

The window's gw-value is calculated using the formula:

$g_W = g_g \times (Ag/Aw)$. Where Ag represents the glass area and Aw is the window area.

The g-value and daylight transmittance are to be determined and presented based on the methods stated in product standard EN 14351-1. Presented values shall be determined by or reviewed by a notified or an accredited party or by a corresponding independent body. See also Appendix 1.

The g-value for the window (g_W) is to be stated for the same window size used in O2 in accordance with EN 14351-1.

✉ The result from calculation or testing of the g_g-value and daylight transmittance. Report on how the calculation/testing were performed.

O4 Window or exterior door air permeability

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

The exterior door must also undergo differential climate testing pursuant to standard EN 1121 (climates A and D or climates C and D).

Air permeability and differential climate testing are to be measured through tests or calculations based on the methods stated in product standard EN 14351-1. Presented values shall be determined by or reviewed by a notified or an accredited party or by a corresponding independent body. See also Appendix 1.

Unless otherwise stated, a door of normal size is to be tested.

✉ Result of air permeability test and details of how air permeability was tested.

✉ In addition, for exterior doors, results from differential climate testing and details of how the test was performed. The time of the climate testing and air permeability testing is to be stated.

4 Material requirements

O5 Recycled proportion in "non-renewable" materials

Windows and doors made from non-renewable materials* must use a certain proportion of recycled** material as follows:

- At least 40% of the aluminium in profiles or door leaves must be recycled metal.
- At least 30% of the PVC in profiles or door leaves must be recycled PVC.
- At least 20 % of the steel in profiles or door leaves must be recycled steel***.

The requirement for recycled material does not apply to:

- external cladding* of outer wood components for the purpose of weatherproofing
- (plastic) composite
- materials that account for less than 3% by weight of the window, window door or exterior door's total weight in line with the calculation in O1

- hinges, handles, fittings, stabiliser plates and kick plates
- window and exterior door insulation
- non-renewable components in glass/insulation panes

[*] *See section "Terms and definitions".*

[**] *Recycled material is defined as recycled material both from the pre-consumer phase and the post-consumer phase, in accordance with ISO 14021:*

Material in the pre-consumer phase: Material diverted from the waste stream during a manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it. Nordic Ecolabelling defines rework, regrind or scrap, that cannot be recycled directly in the same process, but requires a reprocessing (eg sorting, reclamation and granulation) before it can be recycled, to be pre-consumer material. This is whether it is produced in-house or externally.

Material in post-consumer phase: Material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product, which can no longer be used for its intended purpose. This includes returns of material from the distribution chain.

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.

[***] *Stainless steel is not permitted in window profiles or door leaves.*

✉ Specification of the material used according to Appendix 2a.

✉ Declaration from the supplier of raw material of the proportion of recycled material on an annual basis according to Appendix 12a.

✉ For recycled PVC, in addition test results or similar that proves that the requirement on lead and cadmium is fulfilled.

O6 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.

This requirement does not apply to plastic details with a weight of ≤ 50 grams per unit.

The requirement applies to additives to the actual plastic material and does not include chemical products such as sealants and so on. Plastic based on one of the above-mentioned substances as a monomer is not covered by the requirement.

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

O7 Recycled plastic

Recycled plastic must not contain lead or cadmium in levels exceeding 100 ppm for each substance.

This requirement does not apply to plastic details with a weight of ≤ 50 grams per unit.

Test method described in Appendix 1.

✉ Test results or equivalent demonstrating fulfilment of the requirement.

O8 Chlorine production for plastic manufacturing

Mercury and asbestos must not be used to produce chlorine for making virgin plastics.

This requirement does not apply to plastic details with a weight of ≤ 50 grams per unit.

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

O9 Filler gas

Filler gas used for insulation must not contribute to the greenhouse effect; 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 ban on krypton is subject to a transition period of 24 months, starting from the date when these criteria come into force, see the date on the front of the criteria document.

Noble gases have GWP=0.

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

O10 Origin

A) Origin and traceability of wood raw material

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

- Demonstrate traceability for all wood and fibre raw materials. State the name (in Latin and in a Nordic language), volume and geographic origin (country/state and region/province) of the types of wood used.
- A written procedure for sustainable wood and fibre raw material supply.

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
- genetically modified trees or plants.

Furthermore, forestry operations must not damage:

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

Wood chips, wood shavings, wood waste, untreated demolition timber and recovered fibre from other industrial operations that are used in fibreboard or insulation material are included, but only need to fulfil the requirement for a written procedure.

Nordic Ecolabelling may require further documentation if there is any uncertainty surrounding the origin of the raw material.

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

✉ The manufacturer of windows/exterior doors must have a written procedure for their sustainable wood and wood fibre raw material supply. The procedure shall include up-to-date lists of all suppliers of wood and fibre raw material.

B) Prohibited or restricted tree species

Nordic Ecolabelling's list of prohibited and restricted tree species* consist of virgin tree species listed on:

a) CITES (Appendices I, II and III)

b) IUCN red list, categorized as CR, EN and VU

c) Rainforest Foundation Norway´s tree list

d) Siberian larch (originated in forests outside the EU)

Tree species listed on a) CITES (Appendices I, II and III) **are not permitted** to be used.

Tree species listed on either b), c) or d) may be used if it meets all of the following requirements:

- the tree species does not originate from an area/region where it is IUCN red listed, categorized as CR, EN or VU.
- the tree species does not originate from Intact Forest Landscape (IFL), defined in 2002, http://www.intactforests.org/world.map.html.
- the tree species shall originate from FSC or PEFC certified forest/plantation and shall be covered by a valid FSC/PEFC chain of custody certificates documented/controlled as FSC or PEFC 100% through the FSC transfer method or PEFC physical separation method. Tree species grown in plantation shall in addition originate from FSC or PEFC certified forest/plantation, established before 1994.

* The list of prohibited and restricted tree species is located on the website: http://www.nordic-ecolabel.org/certification/paper-pulp-printing/pulp--paper-producers/forestry-requirements-2020/

☒ Declaration from the applicant/manufacturer/supplier that tree species listed on a-d) are not used. Appendix 3c may be used.

<u>If species from the lists b), c) or d) is used:</u>

☒ Declaration from the applicant/manufacturer/supplier that tree species listed on a) CITES I, II and III are not used.

☒ The applicant/manufacturer/supplier is required to present a valid FSC/PEFC Chain of Custody certificate that covers the specific tree species and demonstrate that the tree is controlled as FSC or PEFC 100% through the FSC transfer method or PEFC physical separation method.

☒ The applicant/manufacturer/supplier are required to document full traceability back to the forest/certified forest unit thereby demonstrating that;

- the tree does not originate from an area/region where it is IUCN red listed, categorized as CR, EN or VU;
- the tree species does not originate from Intact Forest Landscape (IFL), defined in 2002 http://www.intactforests.org/world.webmap.html;
- For plantations the applicant/manufacturer/supplier is required to document that the tree species does not originate from FSC or PEFC certified plantations established after 1994.

O11 Certified forestry

A) Wood raw material from certified forestry

On an annual basis, at least 70% of the wood raw material content shall be derived from areas where forestry operations are certified pursuant to a forestry standard and certification system that meet the criteria stated in Appendix 4.

The requirement applies to solid wood, veneer and plywood. The requirement does not apply to fibreboard and wood fibre insulation.

The requirement does not apply to components/parts making up less than 10% by weight of the finished product.

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 3b can be used.

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

B) Wood raw material

The applicant/manufacturer must state the name (species name) of the wood raw material used in the Nordic Ecolabelled window and exterior door.

Chain of Custody certification

The applicant or the supplier of wood raw material must be Chain of Custody certified by the FSC/PEFC schemes.

Manufacturer/supplier of Nordic Ecolabelled window/exterior door using only recycled material are exempted from the requirement to Chain of Custody certification. Definition of recycled material, see glossary/below.

Certified wood raw material

A minimum of 70% by weight of all raw material (virgin/recycled material) used in the Nordic Ecolabelled window/exterior door , must origin from forestry certified under the FSC or PEFC schemes or be recycled material.

The remaining proportion of wood raw material must be covered by the FSC/PEFC control schemes regarding FSC controlled wood/PEFC controlled sources or be recycled material*.

** Recycled material defined according to ISO 14021 in the following two categories:*

Pre-consumer material: Material diverted from the waste stream during a manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.

Post-consumer material: Material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product, which can no longer be used for its intended purpose. This includes returns of material from the distribution chain.

Nordic Ecolabelling consider products from primary wood processing industries (sawdust, wood chips, bark, etc.) or residues from forestry (bark, branches, roots, etc.) as recycled material.

✉ Name (species name) on the wood raw material used in the Nordic Ecolabelled window/exterior door.

✉ Applicant/manufacture must present a valid FSC/PEFC Chain of Custody certificate covering all wood raw material used in the Nordic Ecolabelled window/exterior door. (Exempted from this requirement is applicant/manufacturer using only recycled material.

✉ Documentation showing that the quantity of certified wood raw material or recycled material is met by the applicant's/manufacturer's Chain of Custody account.

O12 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 specification for the insulation material. Appendix 5 can be used.

O13 Separability

It must be possible to separate the main material types and insulating glass units from each other at the end of the window or exterior door's service life.

✉ Description of how the materials and the glass units can be separated from each other for ease of recycling and/or replacement/repair/refurbishment.

5 Chemical requirements

The chemical requirements apply to chemical products, for example unhardened paints, lacquers, glues, putty, fillers and sealants used by the manufacturer of the Nordic Swan Ecolabelled products and their suppliers of parts for Nordic Swan Ecolabelled products.

Please note that the requirement on nanoparticles applies to both chemical products and the glass in windows and doors.

The requirements do not apply to touch-up paint or other patching products used by the manufacturer or their supplier if a small amount of damage occurs to the surface layer during manufacture, storage, transport or installation.

Filler gas and insulation material are not covered by the requirements in this section. They are instead covered by the requirements in the earlier section "Material requirements".

O14 Classification of chemical products

Chemical products used to manufacture Nordic Swan Ecolabelled windows or exterior doors must not be classified pursuant to the table below. The product must be classified in line with current legislation (CLP Regulation (EC) No 1272/2008 or the EU's Dangerous Preparations Directive 1999/45/EC as amended in 2008 or later).

Note that classification under the Dangerous Preparations Directive may only be used until 31 May 2015.

Classification under CLP Regulation 1272/2008		**Classification under Dangerous Preparations Directive 1999/45/EC 2008**
Hazard class and category	**Hazard phrases**	**Hazard class and risk phrases**
Toxic to aquatic organisms Category acute 1 Chronic 1-2	H400, H410, H411*	N with R50, R50/53, R51/53

Hazardous to the ozone layer	H420	R59
Acute toxicity Category 1-3	H300, H310, H330, H301, H311, H331,	T+ with R26, R27, R28, R39 T with R23, R24, R25, R39, R48
Specific target organ toxicity (STOT) with single and repeated exposure STOT SE category 1-2 STOT RE category 1-2	H370, H371, H372, H373	T+ with R39 T with R39, R48 Xn with R68
Carcinogenic Carc 1A/1B/2	H350, H350i or H351**	T with R45 and/or R49 (Carc 1 or Carc 2) or Xn with R40 (Carc 3)
Mutagenic Mut 1A/B/2	H340, H341	T with R46 (Mut 1 or Mut 2), Xn with R68 (Mut 3)
Toxic for reproduction Repr 1A/1B***/2	H360, H361, H362	T with R60, R61, R64, R33 (Repr 1 or Repr 2), Xn with R62, R63, R64, R33 (Repr 3)

** Exception for all impregnation and water-based wood preservation treatment and surface treatment where the classification "Toxic to aquatic organisms category Chronic 2 H411 and/or N with R51/53" is accepted.*

*** Exception for polyurethane adhesives classified H351and H373 due to methylene diphenyl diisocyanate (MDI).*

**** Exception for the classification H360D for propiconazole in wood preservatives. If propiconazole is no longer approved for use in wood preservatives in accordance with the Biocides Regulation EU 528/2012, the exemption will no longer apply.*

✉ 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.

O15 CMR substances

Substances with the following classifications are prohibited from chemical products used in the manufacture of Nordic Swan Ecolabelled windows and exterior doors:

- carcinogenic category 1A/1B (Carc with R45/H350 and/or Carc with R49/H350i)
- mutagenic category 1A/1B (Mut with R46/H340) and/or
- toxic for reproduction category 1A/1B (Rep with R60/H360 and/or Rep with R61/H360)

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

- carcinogenic category 2 (Carc with R40/H351)
- mutagenic category 2 (Mut with R68/H341) and/or
- toxic for reproduction category 2 (Rep with R62/H361 and/or Rep with R63/H361)

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

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

Exceptions are also made for polyurethane adhesives containing methylene diphenyl diisocyanate (MDI) classified Carc 2 H351 and H373 classified STOT - repeated exposure Cat. 2.

Exceptions are also made for glue products containing formaldehyde, but the amount of free formaldehyde may not exceed 0.2% by weight (2000 ppm)

Exception for the classification H360D for propiconazole in wood preservatives. If propiconazole is no longer approved for use in wood preservatives in accordance with the Biocides Regulation EU 528/2012, the exemption will no longer apply.

Exceptions are made for titanium dioxide (TiO_2) classified Carc 2 H351 and 1,1,1-Trimethylolpropane (TMP, CAS nr: 77-99-6) classified Rep 2 H361.

Ingoing substances are defined as, unless stated otherwise, all substances in the product – including additives (e.g. preservatives or stabilisers) in the raw materials, but not residuals from the production, incl. the production of raw materials.

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

Impurities of over 1.0% concentration in the primary product are, however, regarded as constituent substances. Substances known to be degradation products of the constituent substances are also themselves considered to be constituent substances.

For two component products it is the ingredients in the separate components that shall comply with the requirement. Alternatively; the requirement can be applied to the finished product if it can be documented that; mixing of two component products and application of the mixed solution take place in specific areas and with methods and systems protecting from exposure.

**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 6, duly completed and signed by the chemicals manufacturer.

O16 Other substances excluded from use

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

- Substances on the Candidate List*.
- Persistent, bioaccumulative and toxic (PBT) organic substances**.
- Very persistent and very bioaccumulative (vPvB) organic substances**.
- Substances considered to be potential endocrine disruptors in category 1 or 2 on the EU's priority list of substances that are to be investigated further for endocrine disruptive effects. See following link:
  http://ec.europa.eu/environment/chemicals/endocrine/pdf/final_report_2007.pdf (Annex L, page 238 onwards)
- APEO – alkylphenol ethoxylates and alkylphenol derivatives (substances that release alkylphenols on degradation).
- Halogenated organic substances***
- Phthalates, with the exception of sealants

Sealants may not contain the following phthalates:

- Di-2-ethylhexyl phthalate (DEHP, DOP)
- Dibutyl phthalate (DBP/DnBP)
- Butyl benzyl phthalate (BBP)
- Palatinol (711P)
- Diisobutyl phthalate (DIBP)
- Bis(2-methoxyethyl) phthalate (DMEP)

- Diisodecyl phthalate (DIDP)
- Diisononyl phthalate (DINP)[****]

Ingoing substances are defined as, unless stated otherwise, all substances in the product – including additives (e.g. preservatives or stabilisers) in the raw materials, but not residuals from the production, incl. the production of raw materials.

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

Impurities of over 1.0% concentration in the primary product are, however, regarded as constituent substances. Substances known to be degradation products of the constituent substances are also themselves considered to be constituent substances.

[*] *The Candidate List can be found on the ECHA website at: http://echa.europa.eu/candidate-list-table*

Excluded are D4 (octamethylcyclotetrasiloxane, CAS No. 556-67-2), D5 (Dekamethylcyclopentasiloxane, CAS No. 541-02-6) and D6 (Dodecamethylcyclohexasiloxane, CAS No. 540-97-6) as residual amount from silicone polymer production ≤ 1,000 ppm each.

[**] *PBT and vPvB substances are defined in Annex XIII of REACH (Regulation (EC) No 1907/2006). Substances that meet, or substances that form substances that meet, the PBT or vPvB criteria are listed at http://esis.jrc.ec.europa.eu/index.php?PGM=pbt. Substances that are "deferred" or substances "under evaluation" are not considered to have PBT or vPvB properties.*

[***] *Halogenated organic paint pigments that meet the EU's requirements concerning colourants in food packaging under point 2.5 of Resolution AP (89) are exempted. Non- bioaccumulative biocides and preservatives according to CLP are excluded from the prohibition. For definition of bioaccumulation, see appendix 6.*

[****] *DINP is, however, permitted in polyurethane filler/sealant.*

✉ Appendix 6 duly completed and signed by the chemicals manufacturer.

O17 Nanoparticles

Nanoparticles (from nanomaterial[*]) must not occur in the chemical products used in the manufacture of Nordic Swan Ecolabelled windows and exterior doors. An exception is made for:

- Pigments[**]
- Naturally occurring inorganic fillers[***]
- Synthetic amorphous silica and calcium carbonate [****]
- Polymer dispersions
- Aluminium oxide

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

[*] *The definition of nanomaterials follows the European Commission's definition from 18 October 2011 (2011/696/EU):*
"A nanomaterial is 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 50% of the particles in the number size distribution, one or more external dimensions is in the size range 1-100 nm."

[**] *Nano-titanium dioxide is not considered a pigment, and is thus not covered by the requirement.*

[***] *This applies to fillers covered by Annex V point 7 in REACH.*

[****] *This applies to traditional synthetic amorphous silica and calcium carbonate (CaCO3) with or without chemical modification. Chemically modified colloidal silica may occur as long as the silica particles form an aggregate in the end product. For surface treated nanoparticles, the surface treatment must meet the chemical requirements in O14 (Classification of constituent chemical substances) and O16 (Other substances excluded from use).*

***** *It is possible to make exceptions during the life-span of the criteria, for details please see text in Background document under the corresponding requirement.*

✉ The manufacturer must declare any nanomaterials that occur in the product, see Appendix 7a and 7b.

✉ Declaration in Appendix 7a and 7b, duly completed and signed by the chemical manufacturer and manufacturer of glass respectively.

O18 Solvents for impregnation and surface treatment

Pressure impregnation is not permitted.

Emissions of volatile organic compounds (VOCs) from vacuum impregnation may be a maximum of 9 kg/m^3 treated wood.

Emissions from surface treatment may be max 60 mg TOC/Nm^3.

Volatile organic compounds (VOCs) are compounds that at 293.15°K have a vapour pressure of at least 0.01kPa or that have an equivalent volatility under specific conditions of use. Appendix 1 describes the requirements of the test body used for VOC classification.

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

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

✉ Calculation of the solvent balance or measurement of the emissions using the methods described in EU Directive 2010/75/EU.

6 Waste management requirements

O19 Production waste

Window and exterior door manufacturers, as well as manufacturers of insulating glass units, 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. material recovery, incineration or landfill).

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

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

7 Functional requirements

O20 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 and lacks natural resistance against wear and deterioration must meet one of the options 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 casements, and glazing bars, shall be sealed by applying sealant to the end wood of the profiles prior to assembly.
- Coated with wood preservative in combination with construction using at least 90% heartwood.

- Nordic Swan Ecolabelled the wood passes the fungal test under EN 113* and field test under CEN/TS 12037 (ENV 12037) or EN 330**, with subsequent two-stage surface treatment.
- The systems for surface treatment are to be tested according to EN 927 "Coating materials and coating systems for exterior wood". The system must 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".

** The wood is to be aged using the relevant method, e.g. EN 73 and EN 84.*

*** Testing is to be conducted in line with standard EN 599.*

Profiles covered with aluminium, other metal, composite or polymer materials are not considered to be exposed to the elements.

☒ Test reports under EN 351-1 and 351-2 for any impregnation.

☒ Test report EN 113 and field test under CEN/TS 12037 or EN 330 for durable wood.

☒ Test report and test certificate under EN 927 for surface treatment systems.

☒ Test report EN 350.

☒ For Nordic Ecolabelled wood, enter license number.

O21 Technical requirement

Nordic Swan Ecolabelled windows and exterior doors must meet one of the established, relevant standards in the Nordic region, such as: SFD (Sweden), NCDK (Norway), DVV (Denmark), the FI quality mark (Finland) or P-labelling.

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

☒ Specification of which standard(s) the window or exterior door meets, plus valid certificate.

O22 Guarantee

The window manufacturer must provide a 10-year guarantee covering function, insulating glass unit 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 dimensional stability and a 2-year guarantee for function.

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

O23 Customer information

Manufacturers of Nordic Swan Ecolabelled products shall submit:

- Information on the window's g-value and U-value or the exterior door's U-value in line with O2.
- 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 licence applicant's own product portfolio or through an agreement with partners.

☒ Information about the above on website or in brochure.

O24 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 handling 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 heat 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 on 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.

8 Quality and regulatory requirements

To ensure that Nordic Ecolabelling 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.

O25 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 Swan Ecolabelled product is manufactured.

Nordic Ecolabelling may revoke the licence if the requirement is not fulfilled.

✉ Declaration from the licensee that the requirement is met and the contact details of the regulatory authorities for safety/fire protection, working environment legislation, environmental legislation and site-specific terms/concessions. Appendix 8 can be used.

O26 Nordic Swan Ecolabel licence person

The company shall appoint a person responsible for ensuring the fulfilment of Nordic Ecolabelling 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.

O27 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.

O28 Quality of windows and exterior doors

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

O29 Planned changes

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

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

O30 Unplanned nonconformities

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

✉ Procedures detailing how unplanned nonconformities are handled.

O31 Traceability

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

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

O32 Take-back system

The Nordic Ecolabelling's Criteria Group decided on the 9 October 2017 to remove this requirement.

Regulations for the Nordic Ecolabelling of products

When the Nordic Swan Ecolabel is used on products the licence number shall be included.

More information on graphical guidelines, regulations and fees can be found at www.svanen.se/regulations/ or at www.nordic-ecolabel.org/regulations/

Follow-up inspections

Nordic Ecolabelling may decide to check whether the licensee fulfils Nordic Ecolabelling 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.

Criteria version history

Nordic Ecolabelling adopted version 4 of the criteria for Windows and exterior doors on 19 March 2014. The criteria are valid until 31 March 2018.

On 10 December 2014 the Management group of product development for the Nordic Ecolabelling decided on an adjustment in the criteria. An exemption for non-bioaccumulative biocides and preservatives were added to requirement O16. On 17 November 2014 the Board of Directors decided to remove O33 Marketing. New version is 4.1.

On 19 August 2015 Nordic Ecolabelling's Criteria Group decided per capsulam on adjustments in the requirements O2-O4 regarding verifying methods. On 3 September 2015 Nordic Ecolabelling's Criteria Group decided upon on adjustment in the requirement O2. The figures for highest acceptable U-values were clarified. At the same time, minor text adjustments were made in requirements O6-O8 and in the chemical requirements. New version is 4.2.

On 14 January 2016 Nordic Ecolabelling's Criteria Group decided on adjustments in requirement O14 and O15. Exceptions were made for polyurethane adhesives containing methylene diphenyl diisocyanate (MDI) classified Carc 2 H351. New version is 4.3.

On 15 December 2016 Nordic Ecolabelling's Criteria Group decided to prolong the criteria with 24 months until 31 March 2020. The new version is 4.4.

On 15 March 2017 Nordic Ecolabelling's Criteria Group decided to introduce the new requirements on forestry. Applicants can choose to either fulfil the requirements on wood introduced in version 4.0 (part A) or the new wood requirements listed in part B. The new version is 4.5.

On the 9 October 2017 Nordic Ecolabelling's Criteria Group decided to remove O32 Take-back system. On the 14 December 2017 Nordic Ecolabelling's Criteria Group decided to prolong the criteria with 12 months until the 31 March 2021. The new version is 4.6.

On 15 March 2018 Nordic Ecolabelling's Criteria Group decided to adjust requirement O5 "Windows and outer doors of non-renewable materials" relating to aluminium. The definition of what is considered to be pre-consumer recycled material has been adjusted and the percentage has been changed from 30% to 40%.

At the same time the limitation stating that the interior/internal frames could not be in aluminium or composite material was withdrawn. The new version is 4.7

On 19 December 2018 Nordic Ecolabelling decided to prolong the criteria with 12 months until 31 March 2022. The new version is 4.8.

On 19 February 2019 Nordic Ecolabelling decided to introduce exemptions in requirements O15 CMR substances and requirements O17 Nanoparticles. The new version is 4.9

On 8 October 2019 Nordic Ecolabelling decided on an adjustment in requirements O14 and O15. Polyurethane adhesives containing methylene diphenyl diisocyanate (MDI) may also have the classification H373, exceptions are also introduced for this classification for polyurethane adhesives. Futhermore, it was decided on an adjustment in requirement O20, the requirement is now harmonized with the corresponding requirements in the criteria for Durable wood.

On 22October 2019 Nordic Ecolabelling decided on a time-limited exemption in requirements O14 and O15 for the classification of toxic substances 1B (H360D) for propiconazole in wood preservatives, valid until 2021-10-31.

On 14 November 2019 Nordic Ecolabelling decided on an adjustment in requirement O17, an exception for aluminium oxide has been included in the requirement.

On 16 December 2019 Nordic Ecolabelling decided to prolong the criteria with 12 months until 31 March 2023. The new version is 4.10.

On 25 February 2020 Nordic Ecolabelling decided on an adjustment in requirement O16, an exception for D4, D5 and D6 as residual quantity from the production of silicone polymers ≤ 1,000 ppm each. The new version is 4.11.

On 2 June 2020 the Nordic Ecolabelling Board decided to make a change in the requirement for prohibited tree species. On 15 September 2020, Nordic Ecolabelling decided to make an exception for titanium dioxide classified Carc 2 H351 and 1,1,1-trimethylolpropane in requirement O15. The new version is 4.12.

On 5 October 2021 Nordic Ecolabelling decided to remove the time limitation in the exception for propiconazole in wood preservatives. The new version is 4.13.

On 15 February 2022, Nordic Ecolabelling decided to adjust O2 and O3 so that both sizes of windows/doors specified in standard EN 14351-1 can be used for the product's U-value, solar energy transmittance and daylight transmittance. The new version is 4.14.

New criteria

- Impregnation and wood preservation methods, taking account of any new BAT/BREF report
- A review of exterior door U-values with a view to further tightening the requirement.
- Relevant environmental and energy requirements relating to the production phase for windows and doors made of metal and composite.
- Relevant environmental requirements concerning insulation material in windows and doors.
- Smart windows, i.e. windows that have been modified for various positive characteristics, such as adjustable transparency.
- A tightening of the requirement concerning separability to ensure the steerability of functioning material recovery.
- Review of exceptions for calcium carbonate, requirement O17.

Appendix 1 Test methods, test laboratories and definition of recycled material

1. Requirements on the analysis laboratory

I accreditation is not explicitly stipulated the test and/or 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.

2. 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.

Submitted/Presented values shall be determined by or reviewed by a notified or an accredited party or by a corresponding independent body.

U-values shall be determined and verified according to:

- EN ISO 1077-1 (simplified calculation) or
- EN ISO 1077-1 and EN ISO 10077-2 (detailed calculation)
- EN ISO 12567-1 or EN ISO 12567-2 (Hotbox-testing)

G-values and LT-values shall be determined and verified according to EN 410 or if relevant according to EN 13363-1 or EN 13363-2. Validated software from established glass manufacturers (for example Pilkington and Saint-Gobain) can be used for calculations.

Air permeability shall be tested according to EN 1026 and air permeability class shall be determined and presented according to EN 12207.

3. 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.

4. Definition of the content of recycled material in line with ISO 14021

Proportion (expressed as mass) of recycled material in a product or packaging. Only material in the pre- and post-consumer phases is to be considered.

Material in the pre-consumer phase: Material that has been taken from the waste flow during the manufacturing process. The exception is the re-use of material from reworking, regrinding or scrap that is generated in a process and that can be recycled in the same process that generated it.

Material in the post-consumer phase: Material generated by households or trade, industry or institutions in their role as end users of a product that can no longer be used for its intended purpose. This includes the return of materials from the distribution chain.

Appendix 2a Recycled material

The appendix applies to all windows, window doors and exterior doors which to a major extent consist of non-renewable material in profiles and door leaves. The first part shall be declared by the manufacturer of the window, window doors or the exterior door. The second part shall be declared by the supplier of the material.

Manufacturer
Name of the product
Product description

1. Which material do the window profile and/or door leavs consist of?

PVC Yes ☐ No ☐
Aluminium Yes ☐ No ☐
Steel Yes ☐ No ☐
Other? Please state:

_____

Signature of manufacturer

City and Date	Company
Name of contact person	Signature by contact person
Phone	E-mail

2. Is the above stated material recycled* to minimum the following extent?
30% for PVC Yes ☐ No ☐

40% for Aluminium Yes ☐ No ☐
20% for steel Yes ☐ No ☐
Other; please state percentage:

_____

[*] *Recycled material is defined as recycled material both from the pre-consumer phase and the post-consumer phase, in accordance with ISO 14021:*

Material in the pre-consumer phase: Material diverted from the waste stream during a manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it. Nordic Ecolabelling defines rework, regrind or scrap, that cannot be recycled directly in the same process, but requires a reprocessing (eg sorting, reclamation and granulation) before it can be recycled, to be pre-consumer material. This is whether it is produced in-house or externally.

Material in post-consumer phase: Material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product, which can no longer be used for its intended purpose. This includes returns of material from the distribution chain.

3. I hereby certify that the recycled PVC, does not contain lead or cadmium in levels exceeding 100 ppm? Yes ☐ No ☐

Signature of material supplier

City and Date	Company
Name of contact person	Signature by contact person
Phone	E-mail

Appendix 2b Declaration of contents of plastic materials

This appendix applies to virgin plastics.

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, bisfenol A, phthalates or halogenated flame retardants.

☐ Mercury and asbestos have not been used to produce chlorine for making plastics.

Manufacturer's/supplier's signature

Date and place	Company
Signature, contact person	
Clarification of name	Phone and e-mail address

Appendix 3a Specification of wood raw materials (supplier)

Manufacturer of window/exterior door
Product/wood raw material
Manufacturer/supplier of wood raw material

For the documentation of wood raw material:

- Type of wood and geographical origin (country/state and region/province).

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

Component/part of window/door*	**Supplier of wood raw material**	**Type of wood (in a nordic language)**	**Geographical origin (country/state and region/province/district)**

** The column is filled in by the manufacturer of window/door*

Signature of manufacturer or supplier of wood raw material

Date and place	Company
Signature, contact person	
Clarification of name	Phone and e-mail address

Appendix 3b Basis for calculation of certified amount wood raw material

To verify that, at least 70% of the wood raw material, on an annual basis, shall be derived from areas where forestry operations are certified pursuant to a forestry standard and certification system that meet the criteria stated in Appendix 4 the:

- Table and calculation below, shall be filled in by the manufacturer of windows/doors.
- Documentation shall be submitted, to verify that certified wood is delivered to the manufacturer of the Nordic Swan Ecolabelled product. For example a copy of a contract and/or specified invoices.

Financial figures are not relevant and are not necessary to be cleared.

Supplier	**Type of wood**	**Amount***	**Geographical origin (country/ state and region/ province)**	**Forest standard. Type of certification management system (FSC, PEFC)**	**Quantity (%) of timber from certified forests used in the product**

**Either volume or weight can be used as long as the same unit is used all through the table.*

The amount of timber derived from certified forests = timber derived from certified forests/total amount timber in the window or exterior door.

Signature of manufacturer

Date and place	Company
Signature, contact person	
Clarification of name	Phone and e-mail address

Appendix 3c Declaration of tree species not permitted or restricted to be used in Nordic Swan Ecolabelled windows and exterior doors

Name of applicant for Nordic Swan Ecolabelled window and / or exterior door
Product group/type
Version and date of the list of prohibited tree species used

It is hereby declared that tree species listed in the list of prohibited and restricted tree species (Nordic Ecolabelling – Prohibited and Restricted Wood) is not used in the applicant's Nordic Swan Ecolabelled window and /or exterior door.

The list of prohibited and restricted tree species is located on the website: http://www.nordic-ecolabel.org/certification/paper-pulp-printing/pulp--paper-producers/forestry-requirements-2020/

Nordic Ecolabelling may request further information if in doubt about specific tree species.

Applicant's signature

Date and place	Company
Signature, contact person	
Clarification of name	Phone and e-mail address

Appendix 4 Directions for forestry certification

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.

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 insulation materials

Name of the product
Manufacturer

☐ We hereby declare that the thermal insulation material stated above does not contain halogenated flame retardants.

☐ We hereby declare that the thermal insulation material stated above does not contain flame retardants containing borax or boric acid.

☐ We hereby declare that the thermal insulation material stated above are not produces using halogenated organic compounds as blowing agents.

Signature of manufacturer

Date and place	Company
Signature, contact person	
Clarification of name	Phone and e-mail address

Appendix 6 Declaration on the contents of chemical products

Apply to chemical products, for example unhardened paints, laquers, glues, plaster, sealants, wood preservatives, adhesive, putty, etc.

This appendix is completed and signed by the chemical supplier based to the best of his/her knowledge at the time of the application, also based on information from raw material manufacturers, recipe and available knowledge on the chemical product with reservations for new advances and new knowledge. Should such new knowledge arise, the undersigned is obliged to submit an updated declaration to Nordic Ecolabelling.

Name of the product
Manufacturer/supplier

Product description

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

Please specify: _____

Ingoing substances are defined as, unless stated otherwise, all substances in the product – including additives (e.g. preservatives or stabilisers) in the raw materials, but not residuals from the production, incl. the production of raw materials.

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

Impurities of over 1.0% concentration in the primary product are, however, regarded as constituent substances. Substances known to be degradation products of the constituent substances are also themselves considered to be constituent substances.

For two component products it is the ingredients in the separate components that shall comply with the requirement. Alternatively; the requirement can be applied to the finished product if it can be documented that; mixing of two component products and application of the mixed solution take place in specific areas and with methods and systems protecting from exposure.

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 more than 0.5 wt% of 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)

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

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

Exceptions are also made for polyurethane adhesives containing methylene diphenyl diisocyanate (MDI) classified Carc 2 H351.

Exceptions is also made to glue products containing formaldehyde, but the amount of free formaldehyde may not exceed 0.2% by weight (2000 ppm).

Exception for the classification H360D for propiconazole in wood preservatives. If propiconazole is no longer approved for use in wood preservatives in accordance with the Biocides Regulation EU 528/2012, the exemption will no longer apply.

Exceptions are made for titanium dioxide (TiO_2) classified Carc 2 H351 and 1,1,1-Trimethylolpropane (TMP, CAS nr: 77-99-6) classified Rep 2 H361.

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

Does the chemical product contain:

Substances on the Candidate List*?	☐ Yes	☐ No
Persistent, bioaccumulative and toxic (PBT) organic substances**?	☐ Yes	☐ No
Very persistent and very bioaccumulative (vPvB) organic substances**?	☐ Yes	☐ No
Substances considered to be potential endocrine disruptors in category 1 or 2 on the EU's priority list of substances that are to be investigated further for endocrine disruptive effects? See following link: http://ec.europa.eu/environment/chemicals/endocrine/pdf/final_report_2007.pdf (Annex L, page 238 onwards)	☐ Yes	☐ No
APEO – alkylphenol ethoxylates and alkylphenol derivatives (substances that release alkylphenols on degradation)?	☐ Yes	☐ No
Halogenated organic substances?***	☐ Yes	☐ No
Phthalates, with the exception of sealants?	☐ Yes	☐ No
Does the glue product contain more than 2% by weight of formaldehyde?	☐ Yes	☐ No

Sealants

If the chemical product is a sealant, does it contain any of the following phtalates: DEHP/DOP, DBP/DnBP, BBP, 711P, DIBP, DMEP, DIDP or DINP****?	☐ Yes	☐ No

** The Candidate List can be found on the ECHA website at: http://echa.europa.eu/candidate-list-table*

Excluded are D4 (octamethylcyclotetrasiloxane, CAS No. 556-67-2), D5 (Dekamethylcyclopentasiloxane, CAS No. 541-02-6) and D6 (Dodecamethylcyclohexasiloxane, CAS No. 540-97-6) as residual amount from silicone polymer production ≤ 1,000 ppm each.

*** PBT and vPvB substances are defined in Annex XIII of REACH (Regulation (EC) No 1907/2006). Substances that meet, or substances that form substances that meet, the PBT or vPvB criteria are listed at http://esis.jrc.ec.europa.eu/index.php?PGM=pbt. Substances that are "deferred" or substances "under evaluation" are not considered to have PBT or vPvB properties.*

**** Halogenated organic paint pigments that meet the EU's requirements concerning colourants in food packaging under point 2.5 of Resolution AP (89) are exempted.*

Non-bioaccumulative biocides and preservatives according to CLP are also exempted. The bioaccumulative properties of a substance can be tested on fish in line with OECD test method 305 A-E. If the bioconcentration factor (BCF) is ≥ 500, the substance is considered to be bioaccumulative. If there is no BCF for a substance, that substance is considered to be bioaccumulative if logKow ≥ 4 under the OECD's guidelines 107 or 117 or equivalent.

Note that if there is a measured BCF value and a logKow value, it is always the highest measured BCF that is used, rather than the logKow value.

***** DINP is, however, permitted in polyurethane filler/sealant.*

Signature of chemical manufacturer

Date and place	Company
Signature, contact person	
Clarification of name	Phone and e-mail address

Appendix 7a Declaration for nanoparticles in chemical products

Apply to chemical products, for example unhardened paints, laquers, glues, plaster, sealants, wood preservatives, adhesive, putty, etc.

Name of the product
Manufacturer/supplier

Does the chemical product contain nanoparticles/nanomaterials? ☐ Yes ☐ No

The definition of nanomaterials follows the European Commission's definition from 18 October 2011 (2011/696/EU): "A nanomaterial is 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 50% of the particles in the number size distribution, one or more external dimensions is in the size range 1-100 nm."

If yes, specify which: _____

The following substances or compounds are exempted from the requirement:

- Pigments (nano-titanium dioxide is not considered a pigment, and is thus not covered by the requirement)
- Naturally occurring inorganic fillers covered by Annex V point 7 in REACH.
- Polymer dispersions
- Traditional synthetic amorphous silica and calcium carbonate (CaCO3) with or without chemical modification. Chemically modified colloidal silica may occur as long as the silica particles form an aggregate in the end product. For surface treated nanoparticles, the surface treatment must meet the chemical requirements in O14 (Classification of constituent chemical substances) and O16 (Other substances excluded from use).

Signature of chemical manufacturer

Date and place	Company
Signature, contact person	
Clarification of name	Phone and e-mail address

Appendix 7b Nanoparticles in windows exterior doors

Name of the product
Manufacturer/supplier

Are nano particles (from nano materials*) actively added to the glass/the window's/door's glass surface? ☐ Yes ☐ No

If yes, specify which: _____

_____

** The definition of nanomaterials follows the European Commission's definition from 18 October 2011 (2011/696/EU): "A nanomaterial is 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 50% of the particles in the number size distribution, one or more external dimensions is in the size range 1-100 nm."*

Signature of manufacturer

Date and place	Company
Signature, contact person	
Clarification of name	Phone and e-mail address

Appendix 8 Declaration of statutory compliance

We hereby declare adherence to applicable patent legislation, safety regulations, working environment legislation, environmental legislation and conditions/concessions specific to the operations at all sites where the Nordic Swan Ecolabelled window/exterior door is manufactured.

Contact information for the regulatory authority for:

Working environment:

_____

Environmental legislation:

_____

Fire protection:

_____

Site-specific terms/concessions:

_____

Signature of licensee

Date and place	Company name
Signature, contact person	
Clarification of name	Phone and e-mail address