Nordic Ecolabelling of

Biological durable wood for outdoor use

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Nordic Ecolabelling

Contents

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Contact information

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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1 Environmental communication guideline for Nordic Swan Ecolabel biological durable wood for outdoor use

Nordic Swan Ecolabel biological durable wood has a reduced environmental and climate impact throughout its lifecycle. It meets strict requirements for raw materials, chemicals and quality, promoting circular economy.

Nordic Swan Ecolabel biological durable wood:

- Consists of traceable and legally harvested wood. At least 70% of the wood is sourced from certified forestry.
- Has not been impregnated with biocides or heavy metals.
- Meets strict requirements for chemicals used in production and for surface treatment. For example, only paint certified with the EU Ecolabel or the Nordic Swan Ecolabel may be used for any surface treatment.
- Has a reduced climate impact, achieved by meeting requirements for maximum energy use and ban of fossil oil and coal in production.
- Meets requirements for documented biological durability according to its intended use e.g., façade cladding or terrace decking. This promotes circular economy.

Why choose the Nordic Swan Ecolabel?

- The manufacturer of biological durable wood 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 chemicals.
- Environmentally suitable operations prepare the manufacturer 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.

2 What can carry the Nordic Swan Ecolabel?

Natural and modified solid wood with long biological durability may be Nordic Swan Ecolabelled. Biological durable wood is primarily intended for outdoor use e.g., cladding, decking, fencing and outdoor furniture but may also be used in special indoor constructions such as sauna.

The biological durability of Nordic Swan Ecolabelled wood refers to its ability to resist decay and damage caused by biological stresses such as fungi, insects, and bacteria.

Nordic Swan Ecolabelled biological durable wood may be:

- Heartwood with natural durability (natural resistance to biological agents).
- Modified wood with documented good biological durability.
- Surface treated with Nordic Swan- or EU Ecolabelled products. However, the wood must meet the durability requirements (test) without the use of any surface treatment.
- Pressure impregnated with fire-retardant chemicals to improve fire classification. However, the wood must meet the durability requirements (test) without the fire-retardant chemicals.
- Natural and thermally modified wood intended for indoor use (use class 1 and 2) in saunas that have not been impregnated or surface treated.

Nordic Swan Ecolabelled biological durable wood does **not** include the following products:

- Wood which is impregnated with heavy metals.
- Wood which is impregnated with biocides and biocidal products listed on the Biocidal Product Regulation (BPR)[1], Product Type 8 list (PT8 list).
- Wood that is surface treated with non-Ecolabelled products (for example stained or painted)*.
- Wood plastic composites (WPC). These can be labelled according to the criteria for Nordic Swan Ecolabelling panels for exterior use.
- Wood impregnated solely for fire resistance purposes, and not biological durability.

** Dyed through wood as a part of the modification process is not considered surface treatment. The dying may not be a separate operation.*

3 How to read this criteria document

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:

- Upload
- Requirement checked on site

[1] https://health.ec.europa.eu/biocides/regulation_en

4 Requirements and justification of these

This section presents requirements and requirements for documentation of requirements. The appendices referred to in the requirements can be found at the end of the criteria document. Background to the requirements, the chosen requirement levels, and any changes since generation 2 is described in the background document.

4.1 Overview of the requirements

The criteria are divided into 7 main areas. Each main area consists of one to several obligate requirements. The table below provides an overview of the requirements that must be met:

Requirement area	Requirement	Number of requirements	Responsible for documentation
Description of the product			
	Description of the product	O1	Product manufacturer
Wood raw materials			
	Prohibited and restricted tree species	O2	Product manufacturer/supplier of wood
	Traceability and certification	O3	Product manufacturer
Chemicals			
Chemicals used in production/surface treatment	Ecolabelled products – surface treatment	O4	Product manufacturer
	Classification of chemical products	O5	Manufacturer/supplier of chemical product
	Classification of ingoing substances	O6	Manufacturer/supplier of chemical product
	Prohibited substances	O7	Manufacturer/supplier of chemical product
	Nanomaterials	O8	Manufacturer/supplier of chemical product
	Preservatives/biocides	O9	Manufacturer/supplier of chemical product
	VOC in chemical products	O10	Manufacturer/supplier of chemical product
	Occupational exposure limit	O11	Product manufacturer
	Chemical residues in the final product	O12	Product manufacturer
Quality			
	Biological durability performance	O13	Product manufacturer
	Documentation of fire classification	O14	Product manufacturer
Climate and Energy			
Energy consumption and use of fossil fuels	Energy consumption	O15	Product manufacturer
	Fossil fuels	O16	Product manufacturer
Customer information			
	Product specification, instruction and maintenance	O17	Product manufacturer
Licence maintenance			
	Customer complaints	O18	Product manufacturer/licensee

	Traceability	O19	Product manufacturer/licensee

Definitions

Terms and definitions used in this document.

Abbreviation and terms	Definition
Biological durability	Inherent resistance of a wood species or a wood-based material against wood-destroying organisms. This can be natural or conferred durability.
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora. CITES is an international convention for the control of trade (across borders) in wild fauna and flora at risk of extinction.
CoC	Chain of Custody – certification that ensures traceability in the supply chain.
Conferred Durability (EN 460)	Improved resistance of a wood species to biological degradants provided by a treatment process (chemical, physical, etc.) such as wood modification or wood preservation.
Construction Products Regulation (EU 2024/3110 repealing Regulation (EU/305/2011)	Harmonized standard relevant for e.g. strength graded products, products intended for cladding windows and doors. Products intended for e.g. outdoor flooring is not covered by the regulation.
CMR substances	Substances classified as Carcinogenic, Mutagenic, or toxic for Reproduction (CMR substances).
Durability Class (DC)	Durability class defined according to EN 350: Durability Class 1 (DC 1): Very durable Durability Class 2 (DC 2): Durable Durability Class 3 (DC 3): Moderately durable Durability Class 4 (DC 4): Slightly durable Durability Class 5 (DC 5): Not durable
FSC	Forest Stewardship Council Certification scheme for forestry and traceability in the supply chain (CoC).
IFL	Intact Forest Landscape Continuous propagation of natural ecosystems within the zone with current forest spread, showing no sign of significant human activity. The area is large enough to maintain all-natural biodiversity, including viable populations of widespread species.
Heavy metals	A heavy metal is a dense metal that is (usually) toxic at low concentrations. Heavy metals are defined as metallic element with a density greater than 5,0, i.e. starting from nr. 22 Titanium in the periodic table.
In-can preservatives	Biocide used to prevent growth of microorganisms during storage of a water-based coating material or stock solution. Active substances within the meaning of Article 3(1)(c) of Regulation (EU) No 528/2012 of the European Parliament and of the Council (the "Biocide Regulation"), intended for use in Product Type 6 (PT 6) as described in Annex V to that Regulation.
IUCN	International Union for Conservation of Nature IUCN's Red List is the world's most comprehensive overview of the global conservation status of the planet's species, including trees.
LPG	Liquid Petroleum Gas
Modified wood (EN 460)	Wood modification - Non-biocidal process of a chemical, biological, or physical alteration of the cell wall substance of wood, resulting in a permanent desired property enhancement to primarily enhance biological durability and dimensional stability.

PEFC	Programme for the Endorsement of Forest Certification Certification scheme for forestry and traceability in the supply chain
Use Class (UC)	The service situation in which wood is exposed to different environments and the corresponding likelihood of susceptibility to biological degradation have been divided into Use Classes (UC) defined in EN 335: Use class 1 (UC 1): Situations in which the wood or wood-based product is inside a construction, not exposed to the weather and wetting. Use class 2 (UC 2): Situations in which the wood or wood-based product is under cover and not exposed to the weather (particularly rain and wind-driven rain) but where occasional, but not persistent, wetting can occur. Use class 3 (UC 3): Situations in which the wood or wood-based product is above ground and exposed to the weather (particularly rain). Use class 3.1 (UC 3.1): In this situation the wood and wood-based products will not remain wet for long periods. Water will not accumulate. Use class 3.2 (UC 3.2): In this situation the wood and wood-based products will remain wet for long periods. Water may accumulate. Use class 4 (UC 4): A situation in which the wood or wood-based product is in direct contact with ground and/or fresh water. Use class 5 (UC 5): A situation in which the wood or wood-based product is permanently or regularly submerged in salt water (i.e. seawater and brackish water).
VOC	Organic compounds with a steam pressure exceeding 0.01kPa, at 20°C. For products under EU Directive (2004/42/EC) in which steam pressure is not indicated: Organic substances with an initial boiling point that is lower than or equal to 250°C measured at a normal pressure of 101.3 kPa.
Wood preservatives	Products containing a biocide with the primary purpose intended to inhibit the development of wood-destroying and/or wood-staining organisms in the wood to which it is applied. Preservatives used today must comply with regulations like the Biocidal Products Regulation (EU) 528/2012 intended for use in Product Type 8 (PT8) wood preservatives.

4.2 Description of the product

This chapter contains product specifications such as a description of the product, production methods and any treatment techniques.

O1 Description of the product

Applicants must provide the following information about the product:

- Trade name/brand.
- A description of the product/products.
- Products covered by the Construction Products Regulation (EU/2024/3110):
  - Declaration of performance (DoP) in accordance with the regulation.
- Products **not** covered by the Construction Products Regulation (EU/2024/3110):
  - Product or other technical specification/data sheet describing intended use and relevant performance properties.
- A description of all chemical products used for modification, surface treatment or any other treatment of the wood.
- The intended use classes for the product must be stated according to EN 335, including the sub-classes of use class 3.

- A description of production methods/treatment techniques. Suppliers must be described with the name of their business, production site, contact person and the production steps carried out.

- A detailed description of the points above. Product data sheets can be sent in as part of the documentation.

- A flowchart to describe the production process.

- Safety data sheet, in compliance with current European legislation (Annex II of REACH, Regulation (EC) No. 1907/2006). for all chemical products used in the durable wood.

4.3 Wood raw materials

This chapter contains requirements for wood raw materials used in the production of durable wood.

O2 Prohibited and restricted tree species

Nordic Ecolabelling's list of tree species* consists of virgin woods listed on:

a) CITES (Appendices I, II and III)

b) IUCN Red List, categorised as CR, EN and VU

c) Rainforest Foundation Norway's tree list:

d) Siberian larch (from forests outside the EU)

Use of tree species listed on a) CITES (Appendices I, II and III) is not permitted.

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

- the tree species does not originate from an area/region where it is on the IUCN Red List, categorised as CR, EN or VU
- the tree species does not originate from an Intact Forest Landscape (IFL), as defined in 2002 http://www.intactforests.org/world.map.html.
- the tree species shall originate from FSC or PEFC certified forests/plantations and shall be covered by a valid FSC/PEFC Chain of Custody (CoC) certificate documented/controlled as FSC or PEFC 100% through the FSC transfer method or PEFC physical separation method.
- tree species grown in plantations shall in addition not originate from plantations established on areas converted from forest after 1994.

** https://www.nordic-swan-ecolabel.org/pulp-paper-declaration-portal/what-can-be-declared/forestry-requirements/forestry_requirements_2020/*

- Enter the names of the tree species included in the product.

- Declaration from the applicant/manufacturer/supplier that tree species listed on a)–d) are not used in the product.

If species from the lists b), c) or d) are used:

- Valid FSC/PEFC Chain of Custody certificate from supplier/applicant/manufacturer covering the specific tree species and documenting that the wood is controlled as

FSC or PEFC 100% through the FSC transfer method or PEFC physical separation method.

- The applicant/manufacturer/supplier shall document full traceability back to the certified forest unit and document the following:
  - the wood does not originate from an area/region where it is on the IUCN Red List, categorised as CR, EN or VU.
  - the tree species do not originate from an Intact Forest Landscape (IFL), as defined in 2002: http://www.intactforests.org/world.webmap.html
  - for plantations, the applicant/manufacturer/supplier must document that the tree species does not originate from plantations established on areas converted from forest after 1994.

O3 Traceability and certification

The requirement applies to wood raw material and bamboo used in the product.

Species name

The applicant/manufacturer must state the name (species name) of the wood raw material/bamboo used in the product.

Chain of Custody certification

All wood raw materials and bamboo used in Nordic Swan Ecolabelled products must be covered by a valid Chain of Custody certificate in accordance with FSC/PEFC schemes.

The applicant or product manufacturer must have Chain of Custody certification under the FSC/PEFC schemes.

Certified wood raw material, bamboo, and cork

A minimum of 70% by weight/volume of the wood raw material and bamboo used in the Nordic Swan Ecolabelled product must come from forests that are managed in accordance with sustainable forestry management principles established by FSC and PEFC.

The remaining proportion of wood raw material in all durable wood must be covered by FSC/PEFC's control schemes (FSC controlled wood/PEFC controlled sources) or be recycled material.

The applicant/manufacturer must create a designated product group for Nordic Swan Ecolabelled products in their accounting system to control and meet the required certified content in Nordic Swan Ecolabelled products.

- The names (species names) of the wood raw material, bamboo and cork that are used.
- The applicant/manufacturer must provide valid FSC/PEFC CoC certification that includes all wood raw material, bamboo and cork used in the Nordic Swan Ecolabelled product.
- The applicant/manufacturer shall provide audited accounting documents showing that at least 70% of the material in the Nordic Swan Ecolabelled product or production line is from forests or areas that are managed in accordance with sustainable forestry management principles that meet the requirements of the FSC or PEFC scheme. If the product or production line includes uncertified material, evidence must be provided that the content of uncertified material does not exceed 30% and is covered by a verification system that ensures that it is legally harvested and meets any other

requirements laid down by FSC or PEFC regarding controlled wood//controlled sources.

4.4 Chemical requirements

What do the chemical requirements cover?

The chemical requirements cover all chemical products used for modification, surface treatment or other treatment of the wood. The requirements apply to the chemicals used by the manufacturer and those used by any supplier.

Definitions

The requirements in the criteria document apply to all ingoing substances in the chemical product. Impurities are not regarded as ingoing substances and are therefore exempt from the requirements. Ingoing substances and impurities are defined below unless stated otherwise.

- Ingoing substances: All substances in the product, including additives (e.g., preservatives and stabilisers) in the raw materials. Substances known to be released from ingoing substances (e.g., formaldehyde, arylamine, in situ-generated preservatives) are also regarded as ingoing substances.
- Impurities: Residues from production, incl. raw material production, which remain in the chemical product at concentrations below 1000 ppm (0.1000% by weight).

Examples of impurities are reagent residue incl. residues of monomers, catalysts, by-products, “scavengers” (i.e., chemicals used to eliminate/minimise undesirable substances), cleaning agents for production equipment and “carry-over” from other/previous production lines.

O4 Ecolabelled products - surface treatment

Only Nordic Swan Ecolabel or EU Ecolabel* paint or varnish may be used for any surface treatment of durable wood. Ecolabelled products fulfil all requirements in section 4.4.

The application process for any surface treatment must be industrial (no manual application of products).

** Valid license according to Nordic Swan Ecolabel Paint and varnishes gen. 4 or EU Ecolabel EU44 2014/312 - or later valid generations.*

Durability test (O13) must be fulfilled/documented for the product prior to any surface treatment.

- Nordic Swan Ecolabel or EU Ecolabelled paint or varnish: The name of the product, manufacturer and license number.
- A declaration from the applicant that the application process for any surface treatment is industrial.

O5 Classification of chemical products

Chemical products used in the impregnation, modification or any other treatment of wood must not be classified according to the table below.

CLP Regulation 1272/2008		
Hazard statement	**Hazard class and category**	**Hazard code**
Toxic to the environment	Aquatic Acute 1 Aquatic Chronic 1 Aquatic Chronic 2 Ozone	H400 H410 H411 H420
Acute toxicity	Acute Tox 1 or 2 Acute Tox 1 or 2 Acute Tox 1 or 2 Acute Tox 3 Acute Tox 3 Acute Tox 3	H300 H310 H330 H301 H311 H331
Specific target organ toxicity – single exposure/repeated exposure	STOT SE 1 STOT RE 1	H370 H372
Carcinogenic[1]	Carc. 1A or 1B Carc. 2	H350 H351
Germ cell mutagenic[1]	Mut. 1A or 1B Mut. 2	H340 H341
Reproductive toxicity[1]	Repr. 1A or 1B Repr. 2 Lact.	H360 H361 H362

[1] *Including all combinations of stated exposure routes and stated specific effects.*

For example, H350 also covers the classification H350i.

Note that responsibility for correct classification lies with the manufacturer.

Exempted are products with the following classifications:

- H351 due to the presence of furfuryl alcohol (CAS 98-00-0)
- H372 and H373 due to the presence of maleic acid anhydride (CAS 108-31-6).
- H330 due to the presence of acetic acid anhydride (CAS 108-24-7).

Such products may be used on condition that the requirements in O11 and O12 are fulfilled.

- A declaration from the chemical manufacturer or supplier. Appendix 2 may be used.
- A safety data sheet for the product in compliance with current European legislation (Annex II of REACH, Regulation (EC) No. 1907/2006).

O6 Classification of ingoing substances

Ingoing substances in the chemical product used in production must not be classified as in the table below.

CLP Regulation 1272/2008		
Hazard statement	**Hazard class and category**	**Hazard code**
Carcinogenic[1]	Carc. 1A or 1B Carc. 2	H350 H351

Germ cell mutagenic[1]	Mut. 1A or 1B Mut. 2	H340 H341
Reproductive toxicity[1]	Repr. 1A or 1B Repr. 2 Lact.	H360 H361 H362
Endocrine disruption for human health	ED HH 1 ED HH 2	EUH380 EUH381
Endocrine disruption for the environment	ED ENV 1 ED ENV 2	EUH431 EUH431
Persistent, Bioaccumulative and Toxic properties Very Persistent, Very Bioaccumulative properties	PBT vPvB	EUH440 EUH441
Persistent, Mobile, and Toxic properties Very Persistent, Very Mobile properties	PMT vPvM	EUH450 EUH451

[1] *Including all combinations of stated exposure routes and stated specific effects. For example, H350 also covers the classification H350i.*

Exemptions apply for:

- furfuryl alcohol (CAS 98-00-0) classified as Carc 2, H351.

☐ A declaration from the chemical manufacturer or supplier. Appendix 2 may be used.

☐ A safety data sheet for the product in compliance with current European legislation (Annex II of REACH, Regulation (EC) No. 1907/2006).

O7 Prohibited substances

The chemical product used in production must not contain the following substances:

- Substances on the Candidate List*
- Substances that have been judged in the EU to be PBT (Persistent, Bio accumulative and Toxic) or vPvB (very Persistent and very Bio accumulative)**
- Per- and polyfluoroalkyl substances (PFASs)
- Halogenated organic compounds.

  Exemptions* apply for:

  - Preservatives in O9.

** Perfluorinated and polyfluorinated alkyl substances are covered by their own bulletin and are not included in this exemption.*

- Butylhydroxytoluene (BHT, CAS No. 128-37-0)
- Aziridine and polyazidirines
- Bisphenols and bisphenol derivatives belonging to the group of 34 substances that have been identified by ECHA for further EU regulatory risk management that are known or potential endocrine disruptors for the environment of for human health, or that can be identified as toxic for reproduction[2]
- APEO (alkylphenol ethoxylates) and APD (alkylphenol derivatives/alkylphenols) ***

[2] Assessment of regulatory needs: Bisphenols. ECHA – 16 December 2021: Section 2.1: Bisphenols for which further EU RRM is proposed – restriction https://echa.europa.eu/documents/10162/c2a8b29d-0e2d-7df8- dac1-2433e2477b02

- Phthalates****
- Pigments and additives based on lead, tin, cadmium, chromium VI and mercury, and their compounds
- Endocrine disruptors: Substances on the EU member state initiative “Endocrine Disruptor Lists”, List I, List II and List III, see following links:

List I: https://edlists.org/the-ed-lists/list-i-substances-identified-as-endocrinedisruptors-by-the-eu

List II: https://edlists.org/the-ed-lists/list-ii-substances-under-eu-investigationendocrine-disruption

List III: https://edlists.org/the-ed-lists/list-iii-substances-identified-asendocrine-disruptors-by-participating-national-authorities

Substances that are transferred to one of the corresponding sub-lists “Substances no longer on list” and that no longer feature on Lists I–III are not prohibited. However, this does not apply to the substances listed in Sub-List II that were evaluated based on regulations or directives that do not have provisions for identifying endocrine disruptors (e.g., the Cosmetics Regulation). These substances may have endocrine disrupting properties. Nordic Ecolabelling will assess these substances on a case-by-case basis, based on the background information provided in Sub-List II.

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

*** PBT and vPvB in accordance with the criteria in Annex XIII of REACH*

**** Alkylphenol derivatives are defined as substances that release alkylphenols when they break down.*

***** Phthalates are esters of 1,2-benzenedicarboxylic acid (orthophthalic acid).*

☐ A declaration from the manufacturer/supplier of the chemical product. Appendix 2 may be used.

☐ A safety data sheet for the product in compliance with current European legislation (Annex II of REACH, Regulation (EC) No. 1907/2006).

O8 Nanomaterials

The chemical product must not contain nanomaterials*.

Exemptions apply for:

- Pigments. This exemption does not include pigments added for purposes other than colouring.
- Naturally occurring inorganic fillers**.
- Synthetic amorphous silica (SAS)***.
- Polymer dispersions.

** Nanomaterials/-particles are defined according to the EU Commission Recommendation on the Definition of Nanomaterial (2022/C 229/01).*

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

**** This applies to non-modified synthetic amorphous silica and surface-treated pyrogenic silica, as long as the silica particles form aggregates or agglomerates in the end product.*

For surface treated nanoparticles, the surface treatment must meet the chemical requirements in O6 (Classification of ingoing substances) and O7 (Prohibited substances).

- A declaration from the chemical manufacturer that the chemical product does not contain any nanomaterial. Appendix 2 may be used.

O9 Biocides

Biocides/preservatives are not to be used in the impregnation, modification or treatment of wood. In this context, biocides are defined as chemical substances with primary intended purpose to inhibit the development of wood destroying and/or wood-staining organisms in the wood to which it is applied, regulated by the Biocidal Products Regulation (EU) 528/2012 under Product Type 8 (Wood preservatives).

Only preservatives/biocides used for in-can preservation compliant with PT-6 (in-can) according to Regulation (EU)528/2012 (The Biocidal Products Regulation) can be used in chemical products.

- The amount of preservative/combination of preservatives (PT-6) in the chemical products is limited according to table below.

If the chemical product is diluted before use, please state the final concentration in the product.

Preservative	Concentration limit
Isothiazolinone compounds in total*	500 ppm (0.05% w/w)
BIT (CAS no. 2634-33-5)	500 ppm (0.05% w/w)
CIT/MIT (CAS no. 55965-84-9)	15 ppm (0.0015% w/w)
MIT (CAS no. 2682-20-4)	15 ppm (0.0015% w/w)

** Note that dithio-2,2'-bis-benzmethylamide (DTBMA) is to be included in the total amount of isothiazolinones.*

- Declaration from the manufacturer/supplier of the chemical product that the requirement is met. If no chemicals are used, this must be stated in the process description (see O1).
- Calculation that clearly shows that the requirement concerning biocides/preservatives is fulfilled.

O10 Volatile organic compounds

Volatile organic compounds (VOC, see Definitions), including volatile aromatic compounds (VAH), may be present in the chemical product to a maximum of 3% by weight.

Any solvents that polymerise in the wood may be used if the degree of polymerisation is at least 95%.

If there is any polymerisation of solvent in the wood, submit a report documenting that the degree of polymerisation is at least 95%.

- Overview of the organic solvents included in the chemicals, stating the boiling point and aromatic content.
- A report documenting the degree of polymerisation is at least 95% if used. Appendix 2 may be used.

O11 Occupational exposure limit

If the production of durable wood involves the use of furfuryl alcohol (CAS 98-00-0) or acetic acid anhydride (CAS 108-24-7), the air pollution in the production premises must not exceed:

- 1 ppm for furfuryl alcohol or
- 0.6 ppm for acetic acid anhydride

The limit value of 1 ppm (furfuryl alcohol) or 0.6 ppm (acetic acid anhydride) states the highest acceptable limit value over an eight-hour shift and may be exceeded by a maximum of 200% for periods of 15 minutes.

The classification shall be according to the CLP Regulation (No) 1272/2008 with subsequent amendments and adaptations.

Sampling and analysis methods must comply with the instructions given for national measurements in the administrative standards issued by the authorities. The analysis laboratory/test institute must fulfil the general requirements for analysis laboratories, see Appendix 1.

t̄ Test results from measurements showing compliance with the limit value.

O12 Chemical residues in the final product

If the production of the durable wood involves the use of furfuryl alcohol (CAS 98-00-0) or acetic acid anhydride (CAS 108-24-7) the final product can contain:

- maximum of 0.2% (2000 ppm) by weight of furfuryl alcohol or
- maximum 0.1% (1000 ppm) by weight of acetic acid anhydride.

The amount of furfuryl alcohol or acetic acid anhydride in the final product must be tested according to relevant test method.

The analysis laboratory/test institute must fulfil the general requirements for analysis laboratories, see Appendix 1.

t̄ Test report showing that the average values fulfil the requirement.

4.5 Quality and durability

This chapter contains requirements for test and documentation for durability performance and fire classification.

O13 Biological durability performance

To ensure adequate quality for the intended use, the use class (UC) must as a minimum fulfil the corresponding durability performance and test methods in the table below. The test(s) must be performed by an accredited laboratory and be accompanied by a separate statement or certificate that confirms the achieved durability performance of the product(s).

Natural and thermally modified wood intended/marketed for indoor use (use class 1 and 2) in saunas is exempted from this requirement.

Wood protection method	Use class as per EN 335	Test procedure	Durability Performance
Heartwood with natural durability (may not be treated with wood preservatives)	UC 3.1	EN 350	Median % mass loss (ML) ≤10% (corresponding to DC 2)
	UC 3.2	EN 350	Median % mass loss (ML) ≤ 5% (corresponding to DC 1)
Modified wood not classified in accordance with NTR	UC 3.1	EN 113-2 after separating accelerated ageing in line with EN 73 and EN 84.	Median % mass loss (ML) ≤ 10% (corresponding to DC 2)
		Field test EN 12037:2022 or EN 330	Must perform equivalent or better than reference.
	UC 3.2	EN 113-2 after separating accelerated ageing in line with EN 73 and EN 84	Median % mass loss (ML) ≤ 5% (corresponding to DC 1)
		Field test EN 12037:2022	Must perform equivalent or better than reference.
	UC 4	EN 113-2 after separating accelerated ageing in line with EN 73 and EN 84. ENV 807 soft rot test	EN 113-2: Median % mass loss (ML) ≤ 5% (corresponding to DC 1) ENV 807: validate test
		Field test EN 252 for at least five years in three locations, two of which are in a Nordic country.	Must perform equivalent or better than reference.
	UC 5	- EN 113-2 including testing with Coriolus versicolor after separating accelerated ageing in line with EN 73 and EN 84.	EN 113-2: Median % mass loss (ML) ≤ 5% (corresponding to DC 1 (DC D for marine organism)) ENV 807: validate test
		Marine test EN 275 for at least five years in a Nordic country.	Must perform equivalent or better than reference.
Modified wood, classified in accordance with NTR[3]	UC 3.1	DC 2	NTR B mod
	UC 3.2	DC 1	NTR AB mod
	UC 4	DC 1	NTR A mod
	UC 5	DC 1	NTR M mod

- Analysis report showing test result according to table above.
- A separate statement or certificate showing the durability performance in relation to use class of the product.

[3] https://www.nwpc.eu/#

O14 Documentation for fire classification

Wood that is pressure impregnated with fire-retardant products must document the following:

- Fire classification according to EN 14915.

Products that are not treated with fire-retardant chemicals are exempted from this requirement.

Note that chemicals used for impregnation must comply with the chemical requirements.

The fire-retardant chemicals may only be applied by a pressure impregnation process, superficial process is not accepted.

Test for durability (O13) must be fulfilled/documented for the product prior to any pressure impregnated with fire-retardant products.

The durability of reaction to fire performance can today be documented according to EN 16755. EN 16755 is expected to be updated in the period 2024-2026, as today's version is not adequate according to the industry. Nordic Ecolabelling will update the requirement with the new version of the standard when it's ready, which will require that all relevant products must be documented with a test report within a specified timeframe. There will be a notification period before the updated requirement is introduced.

- Documentation according to EN 14915.
- Classification report documenting the durability according to EN 16755.

4.6 Energy and climate

This chapter contains requirements for the energy consumption in the production of biological durable wood.

The energy consumption is calculated as MJ/m^3 product produced (final product), and encompasses all energy used from gate to gate (phase A3 in EPDs) at the production site. Energy use for any pre-drying of wood or transport before the production (chemical/thermal modification process) is not part of the requirement. Processes included in the calculation: wood modification process, drying, cooling, cutting, trimming, sanding, surface treatment and packaging.

The requirements must be documented in the form of energy consumed (actual energy used in production) without the use of primary energy factors.

The requirement may be documented either just for the specific production of the Nordic Swan Ecolabelled durable wood (production line) or for the company's total annual production at the production site.

O15 Energy consumption - production of durable wood

Energy consumption in the production of durable wood (final product) must not exceed the following limit values:

Durability class (DC) as per EN 350	Energy consumption MJ/m^3 durable wood
DC 1	2600 MJ/m^3
DC 2	2300 MJ/m^3

- Calculation showing compliance with the requirement. The calculation must contain information about the quantity produced, electricity and fuel consumed, and which fuel sources have been used.

O16 Energy consumption - fossil fuel

Fossil oil and coal are not allowed to be used in the production of durable wood (from gate to gate (phase A3 in EPDs) at the panel production site).

If natural-/LPG gas is used to produce heat, steam or pressure the applicant must work actively with energy savings by:

- Being certified according to ISO 50001 or
- Being certified according to ISO 14001 (must contain an energy review corresponding to part 6.3 of ISO 50001 upon recertification) or
- Have undergone an audit according to EN 16247 within the last 3 years.

- Declaration from the manufacturer for durable wood that no fossil oil or coal is used in the production of durable wood.

- If natural-/LPG gas is used in the production of durable wood: documentation for certification according to ISO 50001, ISO 14001 (including extended energy review corresponding to part 6.3 of ISO 50001 upon recertification or audit according to EN 16247 within the last 3 years).

4.7 Customer information

O17 Product specification, instruction for use and maintenance

The product specification/instructions for use shall, as a minimum, contain information and recommendations related to the following topics:

- Areas of use (Use class).
- Biological durability class.
- Declaration of performance (DoP) or similar technical specification describing intended use and relevant performance properties.
- Instructions for installation. The installation process must recommend methods to support reuse at a later stage. The use of chemical fasteners should be avoided.
- Recommended maintenance and possible surface treatment* during the use phase.
- Recommendations for end-of-life treatment of the durable wood, also including scrap and surplus materials. Reuse must always be at least one of the recommended treatments.

** If surface treatment is recommended to extend the product's service life, the producer must strive to recommend Nordic Swan Ecolabelled products.*

- Product specification/instructions for use containing the points above.

4.8 Licence maintenance

The purpose of the licence maintenance is to ensure that fundamental quality assurance is dealt with appropriately.

O18 Customer complaints

The licensee must guarantee that the quality of the Nordic Swan Ecolabel product or service does not deteriorate during the validity period of the licence. Therefore, the licensee must keep an archive over customer complaints.

Note that the original routine must be in one Nordic language or in English.

- Upload your company's routine for handling and archiving customer complaints.

O19 Traceability

The licensee must be able to trace the Nordic Swan Ecolabel products in the production. A manufactured /sold product should be able to trace back to the occasion (time and date) and the location (specific factory) and, in relevant cases, also which machine /production line where it was produced. In addition, it should be possible to connect the product with the actual raw material used.

You can upload your company's routine or a description of the actions to ensure traceability in your company.

- Please upload your routine or a description.

5 Criteria version history

Nordic Ecolabelling adopted version 3.0 of the criteria for biological durable wood on 07 March 2025. The criteria are valid until 31 March 2030.

6 How to apply and regulations for the Nordic Ecolabelling

Application and costs

For information about the application process and fees for this product group, please refer to the respective national website. For contact information see the beginning of this document.

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

Licence validity

The Nordic Swan Ecolabel licence is valid providing the criteria are fulfilled and until the criteria expire. The validity period of the criteria may be prolonged 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 on-site inspection visit/-s 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 contact info in the beginning of this document. Further information and assistance (such as calculation sheets or electronic application help) is available. Visit the relevant national website for further information.

Follow-up inspections

Nordic Ecolabelling may decide to check whether durable wood 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 the product 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.

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.nordic-swan-ecolabel.org/regulations

Appendix 1 Laboratories and methods for testing and analysis

General requirements for test and analysis laboratories

Tests must be carried out in a correct and competent way. The analysis laboratory/test institute must be impartial and professional.

If accreditation is not separately required, the test and/or analysis laboratory must comply with the general requirements of the EN ISO 17025 standard for the quality control of test and calibration laboratories or have official GLP status.

The applicant's laboratory can be approved if it is accredited and complies with the requirements of the standard EN ISO 17025.

When testing quality and performance properties, the applicant's own laboratory can be approved even if it is not accredited. The following applies:

- The laboratory has a certified quality system (ISO 9001) which includes testing, and
- The laboratory can show that the test results obtained are similar to the results from an accredited test laboratory through initial tests performed as parallel tests. Parallel tests must as a minimum be performed when test standards are updates, and
- The laboratory performs the tests in accordance with an established plan for the current test standard and documents the selection of products in a product series for worst case tests, and
- An independent inspection body shall, on the basis of test reports, confirm that the manufacturer's test results are consistent with the results of an accredited laboratory. This can, for example, be evaluated as part of an inspection of the laboratory's quality system carried out by the inspection body for certification of the quality system.

Appendix 2 Chemicals used in production and surface treatment of biological durable wood

To be used in conjunction with an application for a licence for the Nordic Swan Ecolabel of biological durable wood for outdoor use.

The declaration is made by the chemical manufacturer or supplier based on the best of their knowledge at the given time and available knowledge on the chemical product with reservations for new advances/knowledge. Should such new knowledge arise, the undersigned is obliged to submit an updated declaration to Nordic Ecolabelling.

This declaration shall be filled for chemical products used in the production of the Nordic Swan Ecolabelled durable wood, such as impregnation fluids.

Name of chemical product:

Function of the chemical product:

Ingoing substances in the raw material/ingredient (chemical name, CAS-number, amount in weight-%):

The requirements in the criteria document and accompanying appendices apply to all ingoing substances in the Nordic Swan Ecolabelled product. Impurities are not regarded as ingoing substances and are exempt from the requirements. Ingoing substances and impurities are defined below, unless stated otherwise in the requirements.

Ingoing substances: *all substances in the chemical product regardless of amount, including additives (e.g., preservatives and stabilisers) from the raw materials. Substances known to be released from ingoing substances (e.g., formaldehyde, arylamine, in situ-generated preservatives) are also regarded as ingoing substances.*

Impurities: *Residues from production, incl. raw material production, which remain in the chemical product at concentrations below 1000 ppm (0.1000% by weight).*

Examples of impurities are residues of reagents include residues of monomers, catalysts, by-products, scavengers (i.e. chemicals that are used to eliminate/minimise undesirable substances), detergents for production equipment and carry-over from other or previous production lines.

O5 Classification of chemical products used in the production	**YES**	**NO**
Is the chemical product classified with any of the hazard phrases below? Including all combinations of stated exposure routes and stated specific effect. For example, H350 also covers classification H350i.		
H400 – Toxic to the environment Aquatic Acute 1		
H410 – Toxic to the environment Aquatic Chronic 1		
H411 – Toxic to the environment Aquatic Chronic 2		
H420 – Toxic to the environment Ozone		
H300 – Acute toxicity; Acute Tox 1 or 2		
H310 – Acute toxicity; Acute Tox 1 or 2		
H330 – Acute toxicity; Acute Tox 1 or 2		
H301 – Acute toxicity; Acute Tox 3		
H311 – Acute toxicity; Acute Tox 3		
H331 – Acute toxicity; Acute Tox 3		
H370 – Specific organic toxicity, STOT SE 1		
H372 – Specific organic toxicity, STOT RE 1		
H350 – Carcinogenic, Carc. 1A or 1B		
H351 – Carcinogenic, Carc. 2		
H340 – Germ cell mutagenic, Mut. 1A and 1B		
H341 – Germ cell mutagenic, Mut. 2		
H360 – Reproductive toxicity, Repr. 1A or1B		
H361 – Reproductive toxicity, Repr 2		
H362 – Reproductive toxicity, Lact.		
The following are exempted from the requirement: H351 due to the presence of furfuryl alcohol (CAS 98-00-0) H372 and H373 due to the presence of maleic acid anhydride (CAS 108-31-6). H330 due to the presence of acetic acid anhydride (CAS 108-24-7). - UV curing products are exempted from classification H411 under the following conditions: There must be a controlled closed process where no discharge to recipient takes place. Spillage and general waste (e.g., cleaning residue) must be collected in containers approved for hazardous waste and handled by a waste contractor.		

If yes, please state the CAS No., chemical name, and level (in ppm, % by weight or mg/kg). Also state whether the substance is contained in the form of an impurity or an added substance or if the above-mentioned exceptions apply.

O6 Classification of ingoing substances	**YES**	**NO**
Does the chemical product contain substances classified with any of the hazard phrases below? Including all combinations of stated exposure routes and stated specific effect. For example, H350 also covers classification H350i.		
H350 – Carcinogenic, Car 1A and 1B		
H351 – Carcinogenic, Carc. 2		
H340 – Germ cell mutagenic, Mut. 1A or 1B		
H341 – Germ cell mutagenic, Mut. 2		
H360 – Reproductive toxicity, Repr. 1A and 1B		
H361 – Reproductive toxicity, Repr. 2		
H362 – Reproductive toxicity, Lact.		
EUH380 - Endocrine disruption for human health, ED HH1		
EUH381 - Endocrine disruption for human health, ED HH2		
EUH431 - Endocrine disruption for the environment, ED ENV 1		
EUH431 - Endocrine disruption for the environment, ED ENV 2		
EUH440 - Persistent, Bioaccumulative and Toxic properties, PTB		
EUH411 - Very Persistent, Very Bioaccumulative properties, vPvB		
EUH450 - Persistent, Mobile and Toxic properties, PMT		
EUH451 - Very Persistent, Very Mobile properties, vPvM		
The following are exempted from the requirement: furfuryl alcohol (CAS 98-00-0) classified as Carc 2, H351.		

If yes, please state the CAS No., chemical name, and level (in ppm, % by weight or mg/kg). Also state whether the substance is contained in the form of an impurity or an added substance or if the above-mentioned exceptions apply.

O7 Prohibited substances	YES	NO
Does the chemical product contain any of the following substance groups?		
Substances on the Candidate List The Candidate List can be found on the ECHA website: http://echa.europa.eu/candidate-list-table		
Substances that have been judged in the EU to be PBT (Persistent, Bioaccumulative and Toxic) or vPvB (very Persistent and very Bioaccumulative) PBT and vPvB in accordance with the criteria in Annex XIII of REACH		
Halogenated organic compounds Exemptions apply to preservatives in O9. However, not PFASs.		
Per- and polyfluoroalkyl substances (PFASs)		
Butylhydroxytoluene (BHT, CAS No. 128-37-0)		
Aziridine and polyazidirines		
Bisphenols and bisphenol derivatives - Bisphenol A used in the production of epoxy acrylate is not covered by the requirement. - Assessment of regulatory needs: Bisphenols. ECHA- 16 December 2021: Section 2.1: Bisphenols for which further EU RRM is proposed – restriction https://echa. Europa.eu/documents/10162/c2a8b29d-0e2d-7df8-dac1-2433e2477b02		
APEO (alkylphenol ethoxylates) and APD (alkylphenol derivatives/alkylphenols) Alkylphenol derivatives are defined as substances that release alkyphenols when they break down.		
Phthalates - Phthalates are esters of 1,2-benzenedicarboxylic acid (orthophthalic acid).		
Pigments and additives based on lead, tin, cadmium, chromium VI and mercury, and their compounds.		
Endocrine disruptors: Substances on the EU member state initiative “Endocrine Disruptor Lists”, List I, List II and List III, see following links: List I: https://edlists.org/the-ed-lists/list-i-substances-identified-as-endocrine-disruptors-by-the-eu List II: https://edlists.org/the-ed-lists/list-ii-substances-under-eu-investigation-endocrine-disruption List III: https://edlists.org/the-ed-lists/list-iii-substances-identified-as-endocrine-disruptors-by-participating-national-authorities Substances that are transferred to one of the corresponding sub-lists “Substances no longer on list” and that no longer feature on Lists I–III are not prohibited. However, this does not apply to the substances listed in Sub-List II that were evaluated on the basis of regulations or directives that do not have provisions for identifying endocrine disruptors (e.g., the Cosmetics Regulation). These substances may have endocrine disrupting properties. Nordic Ecolabelling will assess these substances on a case-by-case basis, based on the background information provided in sub-List II.		

If yes, please state the CAS No., chemical name, and level (in ppm, % by weight or mg/kg). Also state whether the substance is contained in the form of an impurity or an added substance or if the above-mentioned exceptions apply.

O8 Nanomaterials	YES	NO
Does the chemical product contain nanomaterials/-particles? Nanomaterials/-particles are defined according to the EU Commission Recommendation on the Definition of Nanomaterial (2022/C 229/01):		

O8 Nanomaterials	YES	NO
'Nanomaterial' means a natural, incidental, or manufactured material consisting of solid particles that are present, either on their own or as identifiable constituent particles in aggregates or agglomerates, and where 50% or more of these particles in the number-based size distribution fulfil at least one of the following conditions: one or more external dimensions of the particle are in the size range 1 nm to 100 nm; the particle has an elongated shape, such as a rod, fibre or tube, where two external dimensions are smaller than 1 nm and the other dimension is larger than 100 nm; the particle has a plate-like shape, where one external dimension is smaller than 1 nm and the other dimensions are larger than 100 nm.		
The following are exempted from the requirement: Pigments. This exemption does not include pigments added for purposes other than colouring. Naturally occurring inorganic fillers in accordance with annex V point 7 in REACH. Synthetic amorphous silica (SAS). This applies to non-modified synthetic amorphous silica and surface-treated pyrogenic silica, as long as the silica particles form aggregates or agglomerates in the end product. For surface treated nanoparticles, the surface treatment must meet the chemical requirements in O31 (Classification of ingoing substances) and O32 (Prohibited substances). Polymer dispersions		

If yes, please state the CAS No., chemical name, and level (in ppm, % by weight or mg/kg). Also state whether the substance is contained in the form of an impurity or an added substance or if the above-mentioned exceptions apply.

O9 Preservatives		YES	NO
Please state if content of preservatives exceeds the limit values below			
Preservative (PT-6)	Limit value		
Isothiazolinone compounds in total (dithio-2,2'-bis-benzmethylamide (DTBMA) is to be included in the total amount of isothiazolinones)	500 ppm (0.05% w/w)		
BIT (CAS no. 2634-33-5)	500 ppm (0.05% w/w)		
CIT/MIT (CAS no. 55965-84-9)	15 ppm (0.0015% w/w)		
MIT (CAS no. 2682-20-4)	15 ppm (0.0015% w/w)		

If yes, please state the CAS No., chemical name, and level (in ppm, % by weight or mg/kg). Also state whether the substance is contained in the form of an impurity or an added substance or if the above-mentioned exceptions apply.

O10 Volatile organic compounds	YES	NO
Does the chemical product contain more that 3% VOC, including VAH, by weight?		

O10 Volatile organic compounds	YES	NO
Any solvents that polymerise in the wood may be used if the degree of polymerisation is at least 95%. If there is any polymerisation of solvent in the wood, submit a report, documenting that the degree of polymerisation is at least 95%.		

If yes, please state the CAS No., chemical name, and level (in ppm, % by weight or mg/kg). Also state whether the substance is contained in the form of an impurity or an added substance or if the above-mentioned exceptions apply.

Signature of chemical product manufacturer

Date	Company
Signature by contact person	
Name of contact person	Phone