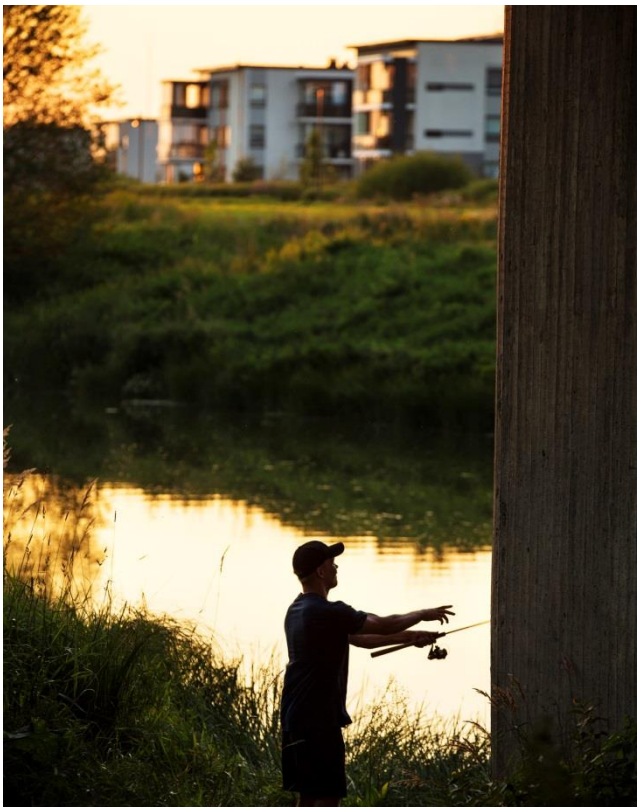
Nordic Ecolabelling of

Small houses, apartment buildings and buildings for schools and pre-schools



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Nordic Ecolabelling

Content

What is a Nordic Ecolabelled building? 4

Why choose the Nordic Ecolabel? 4

What can carry the Nordic Ecolabel? 4

What is subject to the requirements? 5

Who may be licence holders? 6

How to apply 6

What are the requirements of the Nordic Ecolabelling? 8

1 General requirements 9
2 Resource efficiency 10
2.1 Energy and climate 10
2.2 Waste 12
3 Indoor environment 13
4 Chemical products, solid building products (goods) and materials 17
4.1 General 17
4.2 Chemical products 17
4.3 Solid building products/goods 22
4.4 Timber, bamboo and fibre materials 25
5 Quality management of the construction process 27
6 Instructions for residents and property managers 29
7 Quality and regulatory requirements 30
8 Point-score requirements 31

Marketing 35

Design of the Nordic Ecolabel 35

Follow-up inspections 36

History of the criteria 36

New criteria 36

Terms and definitions 37

Appendix 1 Laboratories and methods for testing and analysis
Appendix 2 Exemptions from overall responsibility
Appendix 3 Template for calculation of points
Appendix 4 Energy Calculation
Appendix 5 Daylight Calculation
Appendix 6 Declaration on emissions of formaldehyde
Appendix 7 Declaration on Classification of chemical products
Appendix 8 Declaration on the contents of chemical products
Appendix 9 Substances excluded from solid building products
Appendix 10 Nanoparticles and antibacterial additives in goods
Appendix 11 Declaration on timber/wood and bamboo raw material
Appendix 12 Certified wood raw material
Appendix 13 Use of Ecolabelled building products

089 Small houses, apartment buildings and buildings for schools and pre-schools, version 3.0, 21 May 2015

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

Addresses

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

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What is a Nordic Ecolabelled building?

The Nordic Ecolabel makes requirement of the building's energy use, chemical products, solid building products/construction supplies and a number of indoor environmental factors that are relevant to people's health and to the environment. The Nordic Ecolabel also makes requirements of quality management in the construction process, and the handover of the building to the residents and administration/operations.

Nordic Ecolabelled buildings are assessed on the basis of a lifecycle perspective, and fulfil high environmental and health requirements in terms of:

- low energy consumption
- construction supplies and materials
- chemical products controlled regarding health and environment
- a good interior environment and low emissions
- a quality-assured construction process

Why choose the Nordic Ecolabel?

- The license holder may use the Nordic Ecolabel trademark for marketing. The Nordic Ecolabel is a very well-known and well-reputed trademark in the Nordic region.
- The Nordic Ecolabel is a cost-effective and simple way of communicating environmental work and commitment to customers.
- The Nordic Ecolabel adds value to the building and provide safety to the residents, the pupils and the persons working in the school.
- Environmentally suitable operations prepare the licence holder for future environmental legislation.
- The Nordic Ecolabel not only covers environmental issues but also quality requirements, since the environment and quality often go hand in hand. This means that a Nordic Ecolabel licence can also be seen as a mark of quality.

What can carry the Nordic Ecolabel?

The Nordic Ecolabelling criteria for "Small houses, apartment buildings and buildings for schools and pre-schools" make it possible to achieve Nordic Ecolabelling of the following newly constructed:

- Small houses (detached, row houses, semi-detached houses and terraced houses) regardless of the form of tenure.
- Apartment buildings, regardless of the form of tenure.
- Buildings for schools and pre-schools.
- Extensions to existing buildings. The extension must be a home, pre-school or school, and only the extension will be ecolabelled.
- Homes for the elderly that are classed as homes and not as care facilities. The same applies to residential institutions for persons with physical or

mental functional impairment. Shared areas for the home's residents and staff areas are also covered by the Nordic Ecolabelling.
- Cottages/holiday homes, provided that the building is not exempt from the national building permit regulations, is heated, has running water and drains, and is approved according to local regulations. A cottage/holiday home must fulfil the energy regulations in the national building regulations for small houses for permanent residence, without any simplifications due to size, etc.
- Homes, nursery schools or schools that are temporary, i.e. constructed for a limited time. This are often called modules, pavilions or annexes.

The licence applicant must be able to document to Nordic Ecolabelling that all of the requirements in the criteria are fulfilled. Licences may be granted for:

- A specific type of small house, apartment building, pre-school or school
- Unique buildings that are covered by the product group definition

Variations of a building type (options or customer adjustments) are permitted provided that the variations also fulfil the Nordic Ecolabelling requirements.

A building is Nordic Ecolabelled on its completion/occupation/implementation. The building can communicate that it achieved Nordic Ecolabelling in a specific year: "Nordic Ecolabel 201X". As required, the current version number of the criteria can be stated. Nordic Ecolabelling is not responsible for the building's fulfilment of the criteria at any later time, such as after renovation.

On the other hand, the following buildings may not be labelled:

Permanent supplementary buildings such as huts, tool sheds, bicycle sheds, refuse depots[1] and so on must fulfil relevant requirements in the criteria, but may not themselves be ecolabelled.

Separate buildings such as gymnastics halls, ball sports halls, swimming halls, etc. that may belong to a school cannot be labelled either "themselves" or as part of the labelling of a school building. This means that when a school and a sports hall are built, the school building can be labelled, but not the separate sports hall. On the other hand, exercise rooms, sports rooms and so on that are integrated in the nursery school/school building may be included in labelling and in such case must fulfil all relevant requirements.

Nursing and care homes and homes for dementia patients may not be Nordic Ecolabelled as they are more like premises and cannot be fully included under the definition of homes.

What is subject to the requirements?

Buildings including any permanent supplementary buildings that are constructed together with and marketed with the Nordic Ecolabelled buildings are subject to the requirements. Supplementary buildings are e.g. garages (whether the garage is

[1] Instead, they can be labelled under the criteria for Nordic Ecolabelled Outdoor Furniture and playground and park equipment.

a separate structure or directly connected to the building), outhouses, sheds, bicycle sheds, refuse depots and so on. Supplementary buildings must fulfil all relevant requirements, but may not receive separate labelling.

The requirements concern the entire building/building carcass, but commercial areas such as shop premises, offices, etc. are excluded. On the other hand, the building's communal areas for residents such as gyms and hobby rooms are included.

//illustration in the final document//

The requirements to be fulfilled as those that apply at the time of the commencement of construction, i.e. when the base plate or basement floor is laid. The only exception is the energy requirement, which is "locked" with the energy calculation in conjunction with the building permit process, and thus applies from the time of receipt of the building permit or when starting clearance is given.

Installations up to the building are not included. This e.g. means that electrical cables up to the main fuse box are not included, nor are sewerage pipes up through the base up to pipes connected from inside the building.

Whenever anything that would normally have been built on site is purchased as pre-fabricated the same requirements apply as if it has been built on site. This is described further in section 5.6 concerning Chemical products, solid building products (goods) and materials..

Who may be licence holders?

The rules for Nordic Ecolabelling of products states that licence holders may be:

- companies that manufacture the products;
- companies that are solely responsible for a product within a Nordic country (such as an importer, reseller, distributor or similar entity).

For the product group of Nordic Ecolabelled small houses, apartment buildings and school and pre-school buildings, the licence holder is ideally, either a contractor, property owner, house builder or other party that can take full responsibility for all requirements. This also means that architects or technical consultants can only be licence holders if they can take full responsibility for all requirements.

How to apply

The criteria for Small houses, apartment buildings and buildings for schools and pre-schools comprise a combination of obligatory requirements and point score requirements. The letter "O" and a number indicate obligatory requirements. These requirements must always be fulfilled.

The letter "P" and a number distinguish point score requirements. Each requirement of this type gives a point score. These scores are then totalled. A minimum total score must be achieved to fulfil the licence constraints.

Icons in the text

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

✉ Enclose

🔑 The requirement checked on site

Application

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

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

Sales in the Nordic region

Once granted, a licence is valid throughout the Nordic region. The licence document specifies in which Nordic countries the products are sold according to the information provided on the application. The products are published on Nordic Ecolabelling's website(s). The licensee undertakes to inform Nordic Ecolabelling of any changes as to where the product is sold. If the product is to be sold in other Nordic countries than those initially specified in the application, the licensee must provide written notification of this and submit any extra documentation required to Nordic Ecolabelling in the country that issued the license.

Validity of the licens

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

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

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.

Costs

An application fee is charged to companies applying for a licence. There is an additional annual fee based on the constructed square meter living space or technical value of the Nordic Ecolabelled building.

Enquiries

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

What are the requirements of the Nordic Ecolabelling?

To be awarded a Nordic Ecolabel licence:

- All obligatory requirements must be fulfilled.
- A minimum of 25 % (small houses and buildings for schools and pre-schools) and 30 % (apartment buildings) of the total points score must be achieved. Use table in Appendix 3 to calculate the points score.
- Nordic Ecolabelling must inspect the site.

1 General requirements

O1 Overall description of the building

The application must include an overall description of the building(s) to be labelled. The description must include:

- Details of the number of storeys, number of square metres of living space in usual terminology, and details of any premises/commercial space.
- Statement that the Nordic Ecolabelled building includes measurement of electricity consumption for each residential unit (also called individual electricity metering).
- A description of the building or building type's type of carcass/bearing structure, façade, roof, foundations, heating system and ventilation system.
- Details of any supplementary buildings such as garages, storerooms, bicycle sheds, refuse depots, etc.
- Details of any lifts, as well as balconies and terraces.
- Details of any options for various layouts or materials and fittings.
- A report on the work that the buyer of the home, the tenant and/or tenants of the premises may themselves perform.
- For pre-schools and schools the type of activities must also be described, as well as the estimated number of children.

✉ Description of the aforementioned items.

O2 Responsibility for Nordic Ecolabelling

The licence holder must be responsible for all requirements in the criteria document and for the fulfilment of the requirements, no matter who the work is performed by. If subcontractors are used, for example, the licence holder is responsible for the sub-contractor being informed of the requirements and being held responsible for their fulfilment.

There must be a description of the client, contractor, any use of subcontractors and type of contract.

Reference must be made to requirements O36 and 037.

Certain exemptions may be made from the basic rule concerning the licence holder's responsibility.

See Appendix 2.

✉ Must be reported as stated above.

O3 Points achieved

The licence applicant must receive at least a certain percentage points in order to be granted a Nordic Ecolabelling licence. The point requirements are stated in chapter 7 of the criteria document.

- For small houses this corresponds to 25 % which is equivalent to 10 out of 40 possible points.
- For pre-school and school buildings this corresponds to 25 % which is equivalent to 10 out of 38 possible points.
- For apartment buildings this corresponds to 30 % which is equivalent to 13 out of 42 possible points.

✉ Description and assessment of the points that the licence holder intends to achieve. Appendix 3 can be used.

2 Resource efficiency

2.1 Energy and climate

O4 The building's energy consumption

For a Nordic Ecolabelled building in a Nordic country the energy consumption per year may not exceed:

- Finland: 85% of the Ministry of the Environment's regulation for buildings' energy performance, 2012.
- Sweden: 75% of BBR21 and thereafter 85% of the energy management requirement that entered into force on 1 March 2015 in BBR22.
- Norway: 75% of TEK 10.
- Denmark: 90% of Low energy class 2015.

The transitional periods set by the national authorities also apply to the fulfilment of the Nordic Ecolabel's energy requirements.

If new national regulations and thresholds for buildings' energy consumption are introduced during the criteria's term of validity, Nordic Ecolabelling will perform a new assessment of the energy requirement and may adjust the requirement, including the percentage rate, in relation to the new regulations. The adjustment is made in a national consultation round.

For extensions to existing buildings the energy requirement must be fulfilled by the extension. On the other hand, the energy calculation can be made for the overall entity, i.e. both the extension and the existing house, or only the extension.

The energy calculation must be performed in accordance with:

- NS 3031 in Norway.
- BE10 or equivalent in Denmark.
- The Ministry of the Environment's regulation on the energy performance of buildings in Finland.
- National practice in the sector for Sweden, see Appendix 4.

✉ Energy calculation. If the energy consumption varies with different building configurations it must be specified that each configuration in the application fulfils the requirements. Alternatively, the requirements must be fulfilled for the building configuration that has the greatest energy consumption (a worst-case consideration).

O5 Energy-efficient light sources

When the Nordic Ecolabelled building is taken into use/on occupation light sources for both indoor and outdoor lighting must be:

- of the LED type and in at least energy class A+

  or
- Energy-efficient fluorescent lamps (T5 fluorescent lamps and T5 circular fluorescent lamps of the eco type) in at least energy class A in accordance with regulation regarding energy labelling of electrical lamps and luminaires (874/2012/EU).

Lighting that is built into technical installations, equipment and fittings are exempt from the requirement.

✉ Reporting of the type and number of fixtures and light sources and related labelling in product specification, and so on.

O6 Lighting management

For any building, outdoor lighting must have automatic demand control. The requirement also applies to private balconies, patios and terraces.

In apartment buildings, the indoor lighting in general/communal areas such as entrance halls, stairs, laundry rooms, storerooms, etc. must have automatic demand control.

In nursery schools and schools all indoor lighting must have automatic demand control.

Lighting of lifts and emergency lighting are exempt from the demand control requirement.

Automatic demand control entails automatic light adjustment to match lighting to the requirements. Management based on time, daylight, acoustics or movement are examples of automatic demand control/detectors that can be approved.

✉ Reporting of demand control for indoor and outdoor lighting in accordance with the requirement.

O7 Energy-efficient white goods

The following energy class requirements apply to the white goods that are installed.

White goods consumer (Energy labelling regulation in brackets)	Lowest permitted energy class
Washing machines (1015/2010/EU)	A+++
Fridges and freezers* (1060/2009/EU)	A++
Dishwashers (1059/2010/EU)	
Tumble dryers (392/2012/EU)	
Ovens (65/2014/EU)	A+
Extractor hood (65/2014/EU)	A
Combined washing machines and tumble dryers (combi-products) (96/60/EU)	

White goods that are not subject to the EU's energy labelling directive (2010/30/EU) are exempt from the requirement.

* *For wine coolers the requirement of minimum energy class A applies.*

✉ Reporting of the type and number of white goods and related labelling in product specifications, and so on.

O8 Sanitary fixtures

Mixer taps, shower heads and showers mainly used to tap water for personal hygiene, cleaning and cooking and as drinking water must have the following maximum energy consumption:

Type of sanitary fixture	Maximum measured energy consumption Corresponding energy class	Measurement standard
Washbasin and mixer taps	2.2 kWh Equivalent to energy class B	SS 820000 Sanitary fixtures -Method to determine the energy efficiency of mechanical washbasin and mixer taps
Thermostatic mixers with shower	1.6 kWh Equivalent to energy class A	SS 820001 Sanitary fixtures -Method to determine the energy efficiency of thermostatic mixers with showers

Touchless taps are accepted regardless of energy performance.

Flow regulator is permitted.

Any aerators must be activated when the building is handed over to the customer or it is taken into use/on occupation.

Bath mixer taps, taps in broom closets, two-handle shower mixers and sanitary fixtures for separate purposes that are not intended for household use are not subject to the requirement.

Flow regulators are a (technical) device to limit the water flow to a specific volume and that only allow a greater water flow if this is activated by the user for a certain period in one and the same instance of use.

✉ Reporting of measured energy use in kWh and statement of the standard used. Nordic Ecolabelling can accept the use of other standards for the measurement of energy efficiency if an independent expert authority/testing laboratory or similar can document that the testing methods are equivalent.

✉ For energy labelled fixtures only the energy class label is required stating the measured energy consumption, certificate number and name of the standard.

2.2 Waste

O9 Possibility of sorting at source

Sorting vessels with the possibility of sorting at source into at least:

- four fractions to be installed in the Nordic Ecolabelled residential unit, i.e. in the flat and small house;
- five fractions to be installed in or adjacent to the kitchen of the Nordic Ecolabelled school and pre-school.

Residual waste is deemed to be a fraction.

Waste disposal units/waste disposer are only deemed to be a fraction, provided that the food waste that is disposed of is degraded or composted and that the disposal unit installed is approved in accordance with municipal/local sewerage regulations. Requirement O26 (nano) also applies to waste disposal units.

✉ Description of vessels for waste sorting at source.

O10 Waste sorting station

In connection with pre-school and school buildings, as well as buildings with more than eight flats, there must be a waste sorting station with room for at least six fractions, for the sorting of e.g.:

- Paper
- Coloured and clear glass
- Plastic
- Metal
- Electronic waste
- Cardboard packaging
- Corrugated board
- Organic waste for degradation or composting
- Hazardous waste

✉ Description of the types and numbers of fractions and distance from the waste sorting station to the Nordic Ecolabelled building.

3 Indoor environment

O11 Radon

The radon content in Nordic Ecolabelled buildings must not exceed 100 Bq/m3 in the indoor air.

✉ Documentation to show how the requirement is fulfilled. The example is the result of geotechnical studies and a description of how the radon risk is handled (such as radon protection or radon protected execution).

O12 Moisture prevention

In order to minimise the risk of damp and moisture in Nordic Ecolabelled buildings, and to ensure a good and healthy indoor environment, there must be a plan for moisture prevention work that at least includes:

a) selection of materials and technology;

b) weather protection and other handling of materials and building/ construction elements at the construction site;

c) ensuring that the building dries out sufficiently and statement of the time this is estimated to take;

d) determination of the highest permitted moisture status of various materials (critical moisture state plus a safety margin);

e) control of moisture protection by calculating or measuring the moisture in concrete. Borehole measurements must be undertaken as surface moisture measurement is not sufficient to determine whether the concrete slab is dry enough.

In addition, competent moisture expertise must be designated to follow up on the moisture protection plan. If subcontractors are hired for work that affects moisture protection, the licence applicant must ensure that subcontractors either adhere to the licence applicant's routines or have their own routines to ensure that moisture problems are minimised.

✉ The moisture protection plan or equivalent document with routines to show how items a) to e) are fulfilled. If subcontractors used for work that affects moisture protection have their own routines, these must also be reported.

✉ Statement of the intended moisture protection with a description of competence.

O13 Waterproof construction

Products must fulfil and the execution of water installations* must adhere to the relevant latest version(s) of the following national industry regulations:

Wet room installers must be certified in the countries where certification is possible, and follow the relevant latest version of the following national industry regulations.

Sweden

- Branschreglerna Säker Vatteninstallation (Industry safety regulations for safe water installation)
- Golvbranschens våtrumskontroll, GVKs branschregler Säkra Våtrum
- Byggkeramikrådets branschregler för våtrum, BBV
- Måleribranschens våtrumskontroll, MVK

Norway

- ByggbranschensVåtrumsnorm, BVN

Denmark

- The BR10 Building Regulations' chapters 4.6 and 8.4 and chapter 8.4 (or later versions of BR)

Finland

- Finland's Building Regulations Compendium for moisture and for properties' water and drainage installations.
- Föreningen Inneklimat instructions for moisture-protected buildings.

Prefabricated wet rooms

Prefabricated wet rooms must be subject to technical approval by SINTEF, type approval by SP or another system of equivalent quality and scope granted by an independent third party.

Water installations are pipe systems for domestic hot water, heating and drainage.

✉ Documented routine to show how the requirement is fulfilled.

O14 Ventilation

Ventilation systems in Nordic Ecolabelled buildings must be function-controlled before the system is taken into use for the first time. The control must include:

- that the ventilation system does not contain pollutants that might be spread in the building;
- that instructions and maintenance instructions are easily accessible;
- that the ventilation system otherwise functions as intended; and
- that the function and characteristics of the ventilation system are in accordance with the current regulations.

Function control must be performed for each small house and nursery school and school building. For apartment buildings and extensions to apartment buildings, this must be performed for a representative selection that constitutes at least 10% of the total number of flats, but always at least one flat.

Automatic controls for demand management of air volume/ventilation must be installed in nursery school and school buildings.

In Sweden, the mandatory ventilation control (OVK) is a fully valid function control. The result of the first OVK inspection can be used for verification.

✉ Protocol from the function control of ventilation performed showing the result and stating the number of buildings and the proportion of flats in an apartment building.

✉ Description of the type of demand-controlled ventilation.

O15 Noise environment (solely concerns small houses and apartment buildings)

Bedrooms and living rooms/family rooms must comply with noise class B, (according to national standards) for noise from technical installations directly connected to the building (indoor or outdoor).

National noise standards: Denmark DS 490, Sweden SS 25267, Norway NS 8175, Finland SFS 5907.

✉ Calculated or measured values showing that the requirement is fulfilled.

O16 Noise environment (solely applies to pre-school and school buildings)

Buildings must fulfil noise class B for all parameters assessed.

Rooms that are occupied temporarily are exempt from the requirement concerning noise class and reverberation time.

National noise standards must be used in Norway, Sweden and Finland. For Denmark, reference is made to the Danish building regulations (BR).

Examples of rooms that are occupied temporarily are corridors, entrance halls, photocopying rooms, changing rooms and WCs.

National noise standards: Sweden SS 25268, Norway NS 8175, Finland SFS 5907.

✉ Calculated threshold values and statement of the noise class achieved for all parameters in rooms where people stay more than temporarily.

O17 Daylight

In pre-schools and schools the average daylight factor must be at least 3.0% in common rooms/playrooms, or classrooms.

In small houses and apartment buildings the average daylight factor must be at least 2.0% in at least one room per residential unit.

If the average daylight factor exceeds 5.0% in any of these rooms the licence holder must use calculations or equivalent to verify that the official requirements of the summer indoor temperature are fulfilled.

If the pre-school has more than one department, at least one common room per department must fulfil the requirement.

A small house and a flat are considered to be a residential unit.

A computer program must be used to calculate daylight. See Appendix 5 for calculation variables and methodology.

✉ Calculation results showing the average daylight factor for each of the assessed rooms, with the function of each of the rooms stated. The submitted evidence must include all items listed under "Reporting requirements" in Appendix 5.

O18 Formaldehyde emissions

The requirement concerns all wood-based panels that are not solely marketed as façade panels.

Panels that are either building panels, floors or fittings containing more than 3% by weight formaldehyde-based additives must fulfil one of the following two requirements:

1. The average content of free formaldehyde must not exceed 5 mg formaldehyde/100 g dry substance for MDF panels and 4 mg/100 g dry substance for all other types of panels, in accordance with the current version at the time of sampling of EN 120, or an equivalent method approved by Nordic Ecolabelling, see Appendix 1.

   The requirement applies to wood -based panels with a moisture content of H = 6.5%.

   If the panel has different moisture content within the range of 3-10%, the measured perforator value must be multiplied by the factor F, which is calculated using the following formula:

   For chipboard: $F=-0.133\ H + 1.86$

   For MDF panels: $F = -0.121\ H + 1.78$

2. The average emission of formaldehyde must not exceed 0.09 mg/ m^3 air for MDF panels and 0.07 mg/m^3 air for all other types of panel in accordance with

the current version at the time of sampling of EN 717-1, or an equivalent method approved by Nordic Ecolabelling, see Appendix 1.

EN 717-1 shows the correlation with the test methods ASTM E 1333 and JIS A 1460. This requirement can therefore alternatively be documented according to these methods as in the Table below:

Test method:	**EN 717-1 (23°C/45% RH)**	**ASTM E 1333 (23°C/50% RH)**	**ASTM E 1333 (23°C/50% RH)**	**JIS A 1460**
MDF	0.09 mg/m^3	0.06 ppm	0.07 mg/m^3	0.66 mg/l
Other panels	0.07 mg/m^3	0.08 ppm	0.10 mg/m^3	0.53 mg/l

3. Laminated panels do not need to be tested for formaldehyde if a certificate can be provided to show that the level of free formaldehyde in glue with any hardener (i.e. the final glue compound) does not exceed 2,000 ppm (0.2% by weight).

✉ Certificate concerning occurrence of formaldehyde-based additives in accordance with Appendix 6.

✉ Analysis report, including measurement methods, measurement results and measurement frequency. It must be clearly stated which method/standard was used, the laboratory that conducted the analysis, and that the analysis laboratory is an independent third party. Other analysis methods than those stated may be used, provided that the correlation between test methods can be verified by an independent third party. For more information, see Appendix 1.

4 Chemical products, solid building products (goods) and materials

This chapter consists of four elements. The first element concerns requirements of lists of materials and property logbooks. The next element contains requirements of the chemical products that are used to construct a Nordic Ecolabelled building. Section three comprises the requirements of solid building products and materials. Finally, in section four, are the requirements of timber and bamboo.

The requirement must be fulfilled for the Nordic Ecolabelled building, but also for any supplementary buildings that are constructed and marketed with the Nordic Ecolabelled building. This might e.g. concern refuse depots, outhouses, bicycle sheds and huts.

In general, for ecolabelled products (Nordic Ecolabel and EU Ecolabel) subject to the requirement in section 5.6, the documentation requirement will lapse. Nordic Ecolabelled products fulfil the requirements automatically and only need to be included in the list of materials/logbook with the product and manufacturer name.

4.1 General

O19 List of materials and logbook

1. There must be a list of the chemical products and solid building products to be used to construct the Nordic Ecolabelled building. The list of materials must include the name of the producers and products, as well as details of the type of product, showing the area of use.
2. The Nordic Ecolabelled property must have a digital materials logbook for the solid construction supplies and chemical products used in production. The logbook must state:
   - Type of product, product name and producer.
   - Compounds used in the chemical product and solid building products/ goods, and the main constituent elements of the material. This can be done by e.g. reporting the safety datasheet or building product declaration.
   - Approximate location in the building

The following products are not subject to either part 1 or 2 of the requirement:
Building fixtures (e.g. locks, handles, hole plates and hinges).
Nails, screws, nuts, bolts, washers and similar fasteners).

✉ List of materials in accordance with 1 and digital logbook in accordance with 2. Alternatively, an integrated digital document that covers both 1 and 2.

4.2 Chemical products

Definition of constituent substances

Chemical products are liquid and/or uncured chemical products that are used in construction work at the building site or by manufacturers of prefabricated construction elements. Chemical products used to construct any supplementary buildings and playground equipment at the site are also included.

Constituent substances are all substances used in the chemical products, including additives (such as preservatives and stabilisers) in the raw materials, but does not include impurities from production including primary production. Impurities are

residues from production including primary production which may be found in the finished chemical products at concentrations below 700 ppm (0.07% by weight, 700 mg/kg), but not substances that have been added to a raw material or the product actively and for a particular purpose, irrespective of quantity.

Impurities of over 1% 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.

What applies to two-component products?

For two-component products it is the ingredients added to the sub-components that must comply with the requirement. Alternatively, if it can be documented that protective equipment was used when the sub-components were mixed and that the finished two-component product was applied in a closed system, the requirement may apply to the hardened product.

Built on-site versus prefabricated

In principle, when anything that would normally have been built on site is purchased as prefabricated the same chemical and material requirements will apply as if it has been built on site. Since the degree of prefabrication may change over time and also vary between the Nordic countries, this list of examples can serve as a guide to what is subject to our requirements of chemical products, whether they are prefabricated or not:

- Bathrooms
- Painted wooden panels, both exterior and interior, and ceilings. Applies to both primed and final coated elements. As a triviality limit, primed or final coated mouldings, skirtings, bases and thresholds, or stained loose timber incorporated in the Nordic Ecolabelled building, are not included.
- Surface treatment of indoor staircases.

Delineations

The requirements of chemical products comprised what is "incorporated". The requirements do not include fuel for construction machines, marking paint, marking tape that is removed, cable lubricant or cleaning agents and similar chemical products. Nor do they include sealing foam, formwork oil, etc. used to seal or lubricate casting moulds.

For cement, concrete, mortar and plaster, the requirements for chemical products solely concern any chemical additives. Nordic Ecolabelling thus does not make chemical requirements of the actual cement or concrete.

Triviality limit

As a rule of thumb, the requirements do not have to be fulfilled for the chemical products that are used to a very limited extent. All exemption requirements must be communicated to Nordic Ecolabelling for approval. Examples of products for which exemptions can be made:

- Touch-up paint for e.g. damage to white goods, fittings and similar.
- (Rust protection) paint to restore railings and beams, e.g. after welding and when screw holes have been drilled.

O20 Classification of chemical products

Chemical products used to produce Nordic Ecolabelled buildings must not be classified according to the table below. Classification must be 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).

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 Hazardous to public health	H420, EUH059	N with R59
Acute toxicity Categories 1-3	H300, H310, H330, H301, H311, H331	T+ with R26, R27 or R28 T with R23, R24 or R25
Specific target organ toxicity (STOT) with single and repeated exposure STOT SE category 1 STOT RE category 1	H370, H371,H372	T+ with R39 T with R39, R48
Carcinogenic Carc 1A/1B/2	H350, 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)
Reprotoxicity Repr 1A/1B/2	H360, H361, H362	T with R60 and/or R61 (Repr1 or Repr2), Xn with R62, R63 and/or R64 (Repr3)

The classifications in the Table concern all classification variants. For example, H350 also covers classification H350i.

✉ Declaration from the manufacturer of the chemical product, in accordance with Appendix 7.

✉ Safety data sheet in accordance with the applicable statutory requirement in the country of application, e.g. Annex II to REACH (Council Regulation (EC) no. 1907/2006) for all chemical products.

O21 CMR substances

Chemical substances that are classified as carcinogenic (Carc), mutagenic (Mut) or reprotoxic (Rep) may not be constituent in chemical products used in the production of Nordic Ecolabelled buildings, see Table below:

Classification under CLP Regulation 1272/2008		**Classification under the Dangerous Preparations Directive 1999/45/EC 2008**
Hazard class and category	**Hazard phrases**	**Hazard class and risk phrases**
Carcinogenic Category Carc 1A/1B/2	H350, H351	T with R45 and/or R49 or Xn with R40
Mutagenic Mut 1A/1B/2	H340, H341	T with R46 or Xn with R68
Reprotoxic Repr 1A/1B/2	H360, H361, H362	T with R60 and/or R61 or Xn with R62, R63 and/or R64

The classifications in the Table concern all classification variants. For example, H350 also covers classification H350i.

An exemption is made for:

- Tin organic compounds that are governed by O23.
- The level of free formaldehyde (from formaldehyde not intentionally added or from formaldehyde-releasing substances) in the end-product may not exceed 200 ppm (0.02% by weight).
- Desiccant driers classified as reprotoxic category 2 in paint containing alkyd-based binders are permitted up to and including 30 November 2016 for outdoor paint (both consumer products and industrial paint). The total content of desiccant with the same classification must also be less than 0.3%. The exemption does not apply to substances on the EU's Candidate List.

✉ Declaration from the manufacturer of the chemical product, in accordance with Appendix 8.

✉ Safety data sheet in accordance with the statutory requirement in the country of application, e.g. Annex II to REACH (Council Regulation (EC) no. 1907/2006) for all chemical products.

O22 Preservatives

The amount of preservative/combination of preservatives is limited according to the following:

Isothiazolinone compounds totally	**Iodopro-pynyl-butylcarba mate (IPBC)**	**IPBC + isothiazo-linone**	**MIT*** (2-Metyl-3(2H)-isotiazolinon (CAS-nr 2682-20-4)	**CMIT/MIT (3:1)** (5 chloro-2-methyl-3(2H)-isothiazolinone CAS-no. 26172–55-4 or 2-Methyl-3(2H)-isothiazolinone (CAS-no. 2682-20-4	**Preserva-tives totally**
Indoor paints and varnishes					
500 ppm (0.0500% w/w)	n.a	n.a	100 ppm (0.0100 % w/w)	15 ppm (0.0015% w/w)	600 ppm (0.0600% w/w)
All other chemical building products for indoor use					
500 ppm (0.0500% w/w)	2000 ppm (0.2000% w/w)	2500 ppm (0.2500% w/w)	n.a	15 ppm (0.0015% w/w)	n.a

The term preservative refers to both preservatives for tinned products and preservatives for the surface finish.

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

* *Note that the shortening MI may also be used.*

✉ Declaration from the manufacturer of the chemical product, in accordance with Appendix 8.

✉ If preservatives are present, a calculation is required to clearly show that the requirement is fulfilled.

O23 Other substances excluded from use

The following substances may not be constituent in chemical products used in the production of Nordic Ecolabelled buildings:

- Substances on the Candidate List*.
- Substances evaluated by the EU to be PBT substances (persistent, bioaccumulative and toxic) or vPvB substances (very persistent and very bioaccumulative) in accordance with the criteria in Appendix XIII in REACH**.
- 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***.
- Short-chain chlorinated paraffins (C10-C13) and medium chain chlorinated paraffins (C14-C17).
- Perfluorinated and polyfluorinated alkylated substances (PFAs).
- APEO – alkylphenol ethoxylates and other alkylphenol derivatives (substances that release alkylphenols on degradation).
- Brominated flame retardants.
- Phthalates
- The heavy metals lead, cadmium, arsenic, chromium (VI), mercury and their compounds.
- Volatile organic compounds at more than 1% by weight
- Organic tin compounds Exemptions are made for dibutyltin (DBT) and dioctyltin (DOT) which are included in the following levels and products in sealing systems****:
  a) Maximum 0.5% in SMP polymers such as MS polymers.
  b) Maximum 0.2% in silicon products and PUR polymers containing silanes instead of isocyanates.
  c) Maximum 0.03% in PUR polymers with isocyanates.

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

*** Substances that are "deferred" or substances "under evaluation" are not considered to have PBT or vPvB properties.*

**** See the following link: http://ec.europa.eu/environment/chemicals/endocrine/strategy/being_en.htm*

***** By sealing system is meant both the joint product and primer. In this case only primer for porous material may contain the organic tin compounds in the exemption.*

Note the national legislations concerning PFOA in the Nordic countries. In Norway PFOA is regulated in «Forskrift om begrensning i bruk av helse- og miljøfarlige kjemikalier og andre produkter (produktforskriften)», §2- 32

✉ Declaration from the manufacturer of the chemical product, in accordance with Appendix 8.

✉ Safety data sheets according to prevailing European legislation for chemical products.

O24 Nanoparticles in chemical products

Nanoparticles (from nanomaterial*) may not be constituent in chemical products, with the following exemptions:

- Pigments**
- Naturally occurring inorganic fillers***
- Synthetic amorphous silica***
- Polymer dispersions

* *The definition of nanomaterial follows the European Commission's definition of nanomaterial of 18 October 2011 (2011/696/EU):*

** *Nano-titanium dioxide is not considered to be a pigment, and is therefore not covered by the requirement.*

*** *This applies to fillers covered by Annex V, item 7 of REACH.*

*** *This applies to traditional synthetic amorphous silica. Chemically modified colloidal silica may occur for as long as the silica particles form an aggregate in the end product.*

✉ Declaration from the manufacturer of the chemical product, in accordance with Appendix 8.

4.3 Solid building products/goods

Requirement O25 comprises two parts. First, the building products to which the requirement applies are listed. Then the chemical substances that may not be included in these building products, are listed.

By "included" is meant substances added by the producer or its subsuppliers and that are included in the end-product with more than 100 ppm.

O25 Substances excluded from solid building products

The requirement applies to the following solid building products:

- Sealing products (such as vapour, wind and radon barriers, fixed waterproofing of wet rooms, roof surfacing and roofing membrane).
- Thermal, acoustic and technical insulation.
- Interior and exterior building panels (besides panels of solid wood, laminated timber, veneer, OSB, plywood, MDF/HDF and chipboard)
- Wood that is impregnated as protection from rot, blue stain and mould.
- Wood composites
- Interior coverings of plastic for floors, ceilings and walls. Technical areas are exempt from the requirement*
- Drainage pipes, electricity cables, plastic sleeve pipes to carry electricity, and plastic pipes for central vacuum cleaners. Technical areas are exempt from the requirement*

In the above groups of construction supplies none of the following substances may be included:

- A substance on the EU's 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****.

- Highly chlorinated short chain (C10-C13) and medium chain (C14-C17) chlorinated paraffins.
- Phthalates.
- Brominated flame retardants.
- The heavy metals lead, cadmium, arsenic, chromium (VI), mercury and their compounds.
- Perfluorinated and polyfluorinated alkylated substances (PFAs).
- Alkylphenol ethoxylates(APEO) and other alkylphenol derivatives (substances that release alkylphenols on degradation).
- Bisphenol A.
- Boric acid, sodium perborate, perboric acid, sodium borate (borax) and any other boron compounds classed as carcinogenic, mutagenic or reprotoxic.
- Tin organic compounds.

** Technical areas are fan rooms, substations, lift shafts, machine rooms, electricity centres and other areas to which unauthorised persons do not have access.*

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

**** PBT and vPvB substances are defined in Annex XIII of REACH (Regulation (EC) No. 1907/2006). Substances that are "deferred" or substances "under evaluation" are not considered to have PBT or vPvB properties.*

***** See the following link: http://ec.europa.eu/environment/chemicals/endocrine/strategy/being_en.htm*

✉ Declaration from the manufacturer of the solid building product, in accordance with Appendix 9.

O26 Nanoparticles and antibacterial additives in goods

1. Chemicals or additives, including nanomaterial* added to provide an antibacterial** or disinfecting surface may not be used in or on:
   - Floor coverings
   - Kitchen and bathroom fittings such as worktops, splashbacks, cabinet fronts, mirrors and shower walls.
   - White goods
   - Ventilation system for the elements in contact with the indoor air.
   - Waste disposal units
2. Nanoparticles from nanomaterial may not be actively added to the outer glass surface of windowpanes on windows, window doors and exterior doors. The outer glass pane is in contact with the exterior environment.

** The definition of nanomaterial follows the European Commission's definition from 18 October 2011 (2011/696/EU).*

*** An antibacterial chemical inhibits or stops growth of microorganisms such as bacteria, fungi or protozoa (single-celled organisms). Silver ions, nano silver, nano gold and nano copper are considered to be antibacterial substances.*

✉ Certificate concerning the occurrence of nanoparticles and antibacterial chemicals in accordance with Appendix 10.

O27 Surface layers on floors, roofs and walls

Interior surface layers on floors, roofs and walls may not contain chlorinated plastics (PVC).

Technical areas are exempt from the requirement. Technical areas are fan rooms, substations, lift shafts, machine rooms, electricity centres and other areas to which unauthorised persons do not have access.

Watertight layers, wall film, acoustic dampening foam and other surfacing under surface finishes are not subject to the requirement.

PVDC (polyvinylidene chloride) is a type of chlorinated plastic (PVC) that is not permitted either.

✉ Documentation to show how the requirement is fulfilled.

O28 Windows and exterior doors in non-renewable materials

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

- At least 30% of the aluminium in profiles or door leaves must be recycled aluminium
- 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. Stainless steel is not permitted.

Recycled plastic resources may not contain lead or cadmium in levels exceeding 100 ppm**.

The requirement concerning the proportion of recycled material does not apply to:

- external cladding of outer wood components for the sole purpose of weatherproofing;
- (plastic) composite material;
- materials that account for less than 3% by weight of the window's, window door's or outer door's total weight;
- hinges, handles, fittings, stabiliser plates and kick plates;
- window and outer door insulation
- non-renewable components in glass panes/insulation panes.

A Nordic Ecolabelled window, window door and outer door will fulfil the requirement and must only verify the requirement with product name and licence number.

** Recycled material is defined as post-consumer material, recycled waste materials from window and outer door manufacturing, and waste from other production of e.g. plastics and metals. Production waste from the manufacture of window and door profiles, however, is not included in the proportion of recycled material.*

*** Plastic items weighing 50 grams or less are exempt from the requirement concerning lead and cadmium.*

✉ Specification of the proportion of recycled material used. Declaration from the manufacturer that the raw material is recycled.

✉ For recycled plastic, also test results or the equivalent showing that the requirement concerning lead and cadmium is fulfilled.

O29 Façades and roofs

Cladding for roofs and façades and products for roofs and façades may not have a copper content of more than 10% by weight.

✉ Documentation to show that the requirement is fulfilled.

4.4 Timber, bamboo and fibre materials

O30 Origin, legality and traceability

The requirement concerns all building elements and fixtures (including refined products, for example windows, floor coverings, doors and kitchen fixtures) containing solid wood, bamboo, plywood/veneer and fibreboard (panels) such as OSB boards, chipboard and MDF/HDF boards.

Nordic Ecolabelled products meet the requirements. State the manufacturer, licence number and name of the product.

The applicant must state the name (in Latin and one Nordic language) and geographic origin (country/state and region/province) and supplier of the timber and bamboo resources used.

Resources originating from a country with a corruption index (CPI) below 40 may not be used in Nordic Ecolabelled buildings without further risk assessment of the area. Risk assessment is performed by Nordic Ecolabelling.

The CPI index requirement applies at the time of application. CPI-index information can be found at http://www.transparency.org

Timber resources used in Nordic Ecolabelled buildings must fulfil European Timber Trade Regulation (EUTR) (No. 995/2010). Licence holders are obliged to inform Nordic Ecolabelling if they become aware of infringements of the legality principle in EUTR, either under their own auspices or in their supply chains.

Species of timber and bamboo listed in CITES, Annexes I, II and III, may not be used in Nordic Ecolabelled buildings.

Information on CITES annexes can be found at "The CITES Appendices" website: www.cites.org/eng/app/index.php

✉ Name (in Latin and one Nordic language) and geographical origin (country/state and region/province) of the tree species and bamboo used. Nordic Ecolabelling may require further documentation if there is any uncertainty concerning the origin of the raw material. Appendix 10 may be completed by the producer/supplier.

✉ Attestation by the producer/supplier that all timber resources fulfil the European Timber Trade Regulation (EUTR) (No. 995/2010). Appendix 11 can be used.

✉ Attestation by the producer/supplier that timber and bamboo resources listed on CITES, annexes I, II and II are not used in a Nordic Ecolabelled building. Appendix 11 can be used.

✉ In cases where the resources are from countries with a corruption index CPI < 40, an external risk assessment in accordance with EUTR may be included as documentation.

O31 Resources from controlled and certified forestry

Controlled resources
All timber and building products of solid wood, bamboo or plywood/veneer a in Nordic Ecolabelled buildings must, as a minimum, be from controlled sources, i.e. be subject to the FSC or PEFC controlled wood schemes.

The requirement does not include fibreboards (panels) such as OSB boards, chipboard or MDF/HDF boards.

Certified resources
For the following construction elements of solid wood, bamboo or plywood/ veneered at least 70% of all resources must come from certified forestry:

- Roof trusses
- Frames and joists

- Interior panels
- Exterior façades including timber for balcony, terrace and veranda

Nordic Ecolabelled products meet the requirements. State the manufacturer, licence number and name of the product.

Certification (FSC or PEFC) must be performed by accredited certification bodies, i.e. an independent third party.

The requirement on 70% certified amount must be documented as the amounts of timber and bamboo purchased to the Nordic Ecolabelled building/on a project basis. Amount can be reported as purchased volume or weight, but the units may not be combined in the statement. The requirement applies to either per construction element or in total for the listed elements.

✉ Controlled resources: Documentation that purchased resources is subject to a control scheme. The traceability system must be described. A Chain of Custody Certificate issued by FSC or PEFC must be included in the documentation for the whole or parts of the supply chain. Appendix 12 can be used.

✉ Certified resources: Documentation that 70% certified amount is fulfilled. Calculation/estimation on the purchased total volumes and a copy of invoice(s) to confirm the proportion of certified timber purchased for the building/project. If a building product is labelled with the FSC- or PEFC-logo (logo licence product) it automatically fulfils the requirement and is documented with a photography/image.

O32 Durable/resistant wood for outdoor use

Pressure-impregnated timber in classes M, A and AB according to the Nordiska Träskyddsrådet (Nordic Wood Preservation Council) classification may not be used in or in direct relation to the Nordic Ecolabelled building, or in yards or outdoor playground areas that belong to the Nordic Ecolabelled house, school or pre-school.

Exemptions may be made from the requirement for wood in contact with the ground, in contact with fresh or salt water, and in special cases on ground where there is a considerable risk of rotting, i.e. risk classes 4 and 5 according to EN 335.

All durable wood for outdoor use must fulfil required O25, Unwanted chemical substances.

Nordic Ecolabelled sustainable durable timber for outdoor use fulfils the requirement and may be used without completing a form. Only the manufacturer and product name must be stated.

Nordiska Träskyddsrådet (NTR) (Nordic Wood Preservation Council) has drawn up an industry standard to define the Nordic wood preservation classes within the framework of current European standards and is a Nordic implementation document for EN 351.

✉ Duly completed Appendix 9. For Nordic Ecolabelled timber for outdoor use, only the product name/commodity name and manufacturer need to be stated.

✉ To use one or both exemptions, the need for pressure-impregnated timber must be documented in writing, stating the reason. An approval decision by Nordic Ecolabelling must be obtained.

5 Quality management of the construction process

O33 Air permeability

The licence holder must have a routine to measure air permeability in order to ensure that the project designed air permeability requirements are fulfilled. The routine must include defect analysis and corrective measures in cases where the project designed permeability is not achieved in the Nordic Ecolabelled building. The routine may be an element of self-inspection.

For small houses, pre-schools and school buildings air permeability must be measured for each building. For standardised products, air permeability can be measured for a representative selection that amounts to at least 10% of the total number of small houses, pre-schools and school buildings constructed.

For apartment buildings and extensions to apartment buildings, air permeability must be measured for a representative selection that constitutes at least 10% of the total number of flats, but always at least one flat. Both flatwise and stairwise measurement of air permeability is approved.

Where air permeability is measured on a random sample basis, there must be a routine to ensure that other flats or buildings have equivalent air permeability.

A measurement method according to EN 13829 or simplified method recognised by the industry must be used. Air permeability must be measured with at least 50Pa.

✉ Routine(s) to measure air permeability comprising measurement method, error analysis when the measured value deviates from the project designed value, and corrective measures.

✉ The result of the air permeability testing must be submitted to Nordic Ecolabelling on request.

O34 Material requirements

The licence holder must ensure fulfilment of the material requirements in chapter 4 (requirement O19 up to and including O32). If the licence applicant uses subcontractors for all or parts of the building, it must be documented that the subcontractor is aware of and adheres to the materials requirement.

Materials and chemical products added to the building via subcontractors must also be controllable, e.g. via agreements and inspection.

✉ Routines or agreements that show how materials requirements O19 to O32 are fulfilled for the entire construction process.

✉ If subcontractors are hired, their routines or agreement for this must be reported.

O35 Information to those involved in the construction process

Employees, including supervisors, site managers, subsuppliers and subcontractors involved in the construction process must have the relevant knowledge to be able to ensure fulfilment of the requirements in conjunction with the project design and construction of a Nordic Ecolabelled building.

Parties that require information on how chemical products must be handled to avoid risks to people and the environment in another language than that of the country in question must receive this information.

✉ Routine in the quality management system and training programme.

🔑 Lists of participants after completion of training.

O36 The contractor's self-monitoring

The contractor must have documented self-monitoring during construction, in order to safeguard building quality. As a minimum, self-monitoring must include the following (where relevant):

- Risk of the occurrence of radon, from the ground and from purchased aggregate
- Waste handling at construction sites
- Moisture/damp proofing
- Secure execution of water installations
- Electrical installations
- Ventilation
- Heating system
- Material requirements
- Routines for the performance of pre-inspection of the building before independent third-party control/final inspection.

If the licence holder is not the same as the contractor, the contractor's self-monitoring can be used for verification.

✉ Description of the self-monitoring system and the party responsible.

🔑 Results of the self-monitoring performed can be controlled on-site.

O37 Inspection of the completed building

The completed building must be inspected for its quality. The inspection must be performed by an independent third party with relevant expertise.

If the final inspection reveals defects, these must be subject to an action plan and the defects must be rectified as agreed between the parties.

For the licence holder's first Nordic Ecolabelled building and for the following 25% of the small houses and for all (100%) apartment buildings, nursery school buildings and school buildings, final inspection must be performed. Unless stipulated by legislation or practice in the industry, flats and areas of a building may be inspected on a random basis.

Unless stipulated otherwise by the national building regulations, as a minimum the final inspection must include the general status of the building and documentation of any quality breaches and building defects.

✉ Final inspection report.

✉ Documentation to reinforce the independence and competence of the person performing the inspection.

6 Instructions for residents and property managers

O38 Operation and maintenance instructions

There must be overall general information and operation and maintenance instructions for the Nordic Ecolabelled building. The aim is to ensure that the property managers of the building and the residents are aware of the building's and technical installations' operation and need for service and maintenance, and the most appropriate measures from an environmental viewpoint.

Where relevant, the information must include normal operation, performance of maintenance or service, whether special expertise or authority is required, and whether special products are required to achieve the objective. If special products are recommended, they must fulfil the material and chemicals requirements in chapter 4 of the criteria, or be ecolabelled with the Nordic Ecolabel or the EU Ecolabel.

The information must include the following (where relevant).

- Manual for the heating system and ventilation system stating how the systems are adjusted to achieve the best possible energy efficiency and indoor climate. The manual must include time intervals for service and filter replacement.
- Maintenance and control of electrical installations, including energy meters.
- Description of how the building is protected from radon radiation.
- Surface treatment of the façade and other weather-exposed wooden parts such as terraces, veranda, wooden railings, etc.
- Care and maintenance of windows, including solar protection.
- Maintenance of roof surfacing, including cleaning of gutters and drainpipes.
- Cleaning and maintenance/surface treatment of floors.
- A description of such equipment as white goods, WCs, etc.
- A recommendation to use energy-efficient light sources.

✉ Overall general information and operation and maintenance instructions as above.

7 Quality and regulatory requirements

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

If the licence holders environmental management system 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.

O39 Documentation

The licence holder must archive the documentation that is sent in with the application, or in a similar way store information in the Nordic Ecolabelling data system.

🔑 On-site inspection.

O40 Documentation of the buildings

The licence holder must have a list of the constructed Nordic Ecolabelled buildings built. The documentation must be stored by the licence holder for at least five years after occupation.

🔑 On-site inspection.

O41 Planned changes

Written notice of planned product and market changes that affect the Nordic Ecolabelling requirements must be submitted to Nordic Ecolabelling. New material received after the licence has been granted must be approved if it is subject to the requirements in chapter 4.

✉ Routines describing how planned product and market changes will be handled.

O42 Unforeseen non-conformities

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

✉ Routines describing how unforeseen non-conformities will be handled.

O43 Complaints

There must be routines for the documentation, reporting and handling of any complaints/claims concerning the Nordic Ecolabelled buildings. It must be clearly stated that the licence applicant is responsible for the customer and is the party that the customer must contact concerning any complaints and claims.

✉ Routines describing how complaints and claims will be handled.

O44 Laws and regulations

The licence holder must ensure compliance with all relevant applicable laws and provisions at all production sites for the Nordic Ecolabelled buildings, e.g. with regard to safety, working environment, environmental legislation and site-specific terms/concessions.

✉ Duly signed application form.

8 Point-score requirements

P1 Energy contributions from local energy sources or energy recovery

Solar collectors, solar cell panels or heat recovery from domestic hot water consumption that are installed and that give an annual energy supplement to the Nordic Ecolabelled building give points as described below.

If the building is supplied with energy from several local, renewable energy sources, points will be added, and maximum 6 points can be achieved.

Solar collectors that are calculated to provide:

- from 10% up to and including 25% of the domestic hot water requirement give 1 point;
- 26 - 50% of the domestic hot water requirement give 2 points; or
- more than 50% of the domestic hot water requirement give 3 points.

Solar cell panels that are calculated to provide:

- from 5% up to and including 15% of the building's calculated electricity requirement give 1 point;
- 16 - 25% of the building's calculated electricity requirement give 2 points; and
- more than 25% of the building's calculated electricity requirement give 3 points.

Heat recovery from wastewater that is calculated to achieve:

- up to 15% of the domestic hot water requirement gives 1 point;
- 16 - 25% of the domestic hot water requirement gives 2 points; and
- more than 25% of the domestic hot water requirement gives 3 points.

Local energy sources are defined as an energy source at the building or in its immediate vicinity.

✉ Description of the type of local renewable energy source or energy recovery, its location, calculation of annual energy generation and percentage of the calculated energy need.

P2 Individual metering of domestic hot water

In buildings with shared hot water supply to several residential units, 1 point is give if the system:

- is either equipped with a presentation display so that residents can view their consumption at least every 24 hours.
- or for comparison, also displays the domestic hot water consumption of other residential units in apartment buildings, either separately or as mean values.

Measuring instruments must be approved in accordance with the measuring instruments directive (MID) (2004/22/EC) or an equivalent method/standard, see Appendix 1.

✉ Description of the system(s) for individual measurement of domestic hot water that are installed.

P3 Minimised hot water circulation (HWC) losses

If the hot water circulation (HWC) energy losses are calculated for a project or a standardised building, 1 point is gained.

Standard values or table data are not accepted as calculated values.

✉ Energy calculation clearly stating calculated HWC losses.

P4 White goods with better energy class

If all products within a product group/category see table below, is classified in an energy class better than the mandatory requirement 1 point is gained. A total of maximum 3 point can be given.

Product group	Mandatory requirement (O7)
Washing machines	A+++
Fridges and freezers	A++
Dishwashers	
Tumble dryers	
Ovens	A+
Extractor hood	A
Combined washing machines and tumble dryers	
Wine coolers	

✉ Reporting of the type and number of white goods and related labelling in product specifications, and so on.

P5 Cement and concrete with a reduced energy and climate impact

For each product type, points are given if at least half of the requirement within this product type is covered by cement products that contain cement clinker at maximum 70% by weight.

A maximum of 2 points can be achieved.

Types of cement or concrete products that can give 1 point each:

- Roof trusses
- Bearing systems and ground/floor decks
- Wall elements
- Façade elements
- Balcony elements, terrace and porch
- Other types of cement products of equivalent size/scope may be approved by Nordic Ecolabelling.

Cement clinker is defined as the ratio of Portland cement clinker in the cement, in accordance with the definition in EN 197-1. Cement clinker is thus also included in the cement mix in the finished concrete. For concrete, the cement clinker ratio in the cement mix used in the concrete is calculated.

✉ Overview of cement/concrete products with maximum 70% cement clinker by weight, and calculation showing that the listed cement/concrete products constitute at least half of the product requirement within the product type.

✉ Product sheet stating the cement clinker content for each cement/concrete product that will give points.

P6 Timber structures

The following points are given for renewable materials:

- For buildings of which the carcass/bearing structure (excluding the roof) is of wood or another renewable material, 1 point is given.
- For buildings of which the rood structure is of wood or another renewable material, 1 point is given.
- For buildings of which more than 50% of the façade area is of wood or another renewable material, 1 point is given.

A maximum of 3 points can be achieved for this requirement.

✉ A description of the building or building type's materials in the carcass/bearing structure, roof structure and façade, see also O1.

P7 Better noise environment (solely concerns small houses and apartment buildings)

Apartment buildings and small houses can achieve the following points:

- 1 point if noise class B is achieved for the parameters airborne noise insulation and impact noise insulation between adjacent homes, e.g. between flats and row houses.
- 2 points if
  a) the building achieves noise class B overall

  or

  b) the requirement for noise class A for the parameters airborne noise insulation and impact noise insulation between adjacent homes, e.g. between flats or row houses, is fulfilled.

Noise from stairways is not included in the requirement.

National noise standards must be used: Denmark DS 490; Sweden SS 25267, Norway NS 8175 and Finland SFS 5907.

✉ Calculated or measured values and statement of the noise class achieved, showing that the requirement is fulfilled.

P8 Ecolabelled building products

Ecolabelled (Nordic Ecolabel or EU Ecolabel) building products used in the Nordic Ecolabelled building give points. For each product area:

- 1 point is given if at least 10% of the product requirement is covered by ecolabelled products;
- 2 points are given if at least 30% of the product requirement is covered by ecolabelled products; and
- 3 points are given if at least 50% of the product requirement is covered by ecolabelled products.

A maximum of 10 points can be achieved.

✉ A list of ecolabelled products with related licence number and share of the product requirement. Appendix 13, which manages the breakdown of product areas, must be completed.

P9 Chlorine-free plastic products

If all products within one of the following categories is chlorine-free, 1 point is given.

A maximum of 2 points can be achieved.

- Cable ducts for electrical wiring
- Mains cables (except lifts)
- Drainage pipes
- Plastic pipes for central vacuum cleaners

✉ Documentation from the licence applicant and from manufacturers of plastic products.

P10 High ratio of timber from certified forestry

If the volume of timber from certified forestry according to O31 exceeds 70% of the total volume of timber, points are given as stated below. Maximum 4 points can be achieved.

- 80% gives 2 points
- 90% gives 4 points

✉ Documentation according to O12.

P11 Recovered or reused materials in building products

For each building product and building material outside the vapour barrier consisting of at least recovered or reused resources, 1 point per product is awarded. A maximum of 3 points can be achieved.

The recovered resource may not contain any of the following substances at a level that exceeds 100 ppm:

- Halogenated flame retardants
- Cadmium, lead, mercury, chromium VI and arsenic, and compounds of these substances.

✉ Documentation showing the ratios of recirculated resources in building products or materials.

✉ Documentation of the occurrence of the substances listed in the requirement, for example via an analysis report.

P12 Recycling of building waste

If the ratio of building waste from the construction process that is recovered or is subject to recycling of materials is:

- 60% or higher 1 point is given, or
- 70% or higher 3 points are given.

A maximum of 3 points can be achieved.

The proportion of building waste that is recovered and recycled also includes the unsorted waste that is handled at the construction site, but which on subsequent sorting could be recovered, if this can be documented in writing.

✉ Documented waste volumes that are received and could be recovered or recycled in relation to the total volume of building waste occurring.

P13 Innovations

Points are given for innovation in construction projects. To ensure flexibility, the requirement is not completely controlled. The following list must be seen as a guide to the innovations that can be rewarded with points. Other innovations can be accepted as decided by Nordic Ecolabelling. In total, maximum 2 points can be achieved for innovation.

Innovation points are given for:

- Green roofs and façades, i.e. surfaces used to grow plants.
  - 1 point if the green area is 10% to 25%.
  - 2 points if the green area exceeds 25% of the total roof or façade area.
- Local disposal of surface water (1 point)
- Opportunities created for urban cultivation, such as via cultivation boxes (1 point)

- Creating habitats for wild animals such as bird feeders, insect boxes/cubes for wild bees, or by replacing lawns with meadow vegetation (1 point)
- Exterior solar protection (fixed or movable) on all south-facing windows (1 point).
- Making it easier to use bicycles as a means of transport with:
  - Indoor bicycle workshops for residents. (1 point)
  - At least 1.5 bicycle parking spaces per flat are provided and equipped with access to frame locks (1 point). Bicycle stands alone are not deemed to be an innovation.
  - At least 50% of bicycle parking is protected from the elements (1 point)
- At least one parking space is equipped with access to charge electric vehicles (1 point).

Other innovations may give points as assessed by Nordic Ecolabelling.

✉ Documented description of innovative measures.

Marketing

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

The label must be positioned so that there is no doubt as to what the label refers and so that it is clear that the small house, apartment building or building for school or pre-school is ecolabelled.

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

Design of the Nordic Ecolabel

Design of the Nordic Ecolabel:



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

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

Follow-up inspections

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

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

History of the criteria

Nordic Ecolabelling adopted the criteria for Small houses, apartment buildings and building for schools and pre-schools on DAY MONTH YEAR. The criteria are valid until DAY MONTH YEAR.

New criteria

- Text will be inserted after the consultation

Terms and definitions

Term	Explanation or definition

Appendix 1 Laboratories and methods for testing and analysis

Requirements for testing and analysis laboratories

Sampling is to be carried out in a competent manner. The analysis laboratory/testing institute must be impartial and competent.

If accreditation is not separately required, the testing and/or analysis laboratory shall fulfil the general requirements of standard EN ISO 17025 on general requirements for the competence of testing and calibration laboratories or have official GLP status.

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

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

Formaldehyde in wood-based panels

The Perforator method

To determine the content of free formaldehyde the latest applicable European standard for the perforator method must be used. Subsequently the EN 120 standard applicable at the time must be applied until the method is ultimately replaced by another EN method. Results are expressed in mg formaldehyde/100g panel.

Other test methods such as JIS A 1460 or equivalent can be used on application to Nordic Ecolabelling. It must be clearly stated which test method has been used and if conversion factors have been used, this must be documented.

The Chamber method

European standard EN 717-1 is recommended as an appropriate chamber method for wood-based board. Results are expressed in mg formaldehyde/m^3 air.

As chamber method for laminated panels the European standard EN 717-2 can also be used. Note that the results are expressed in mg formaldehyde /m2h. Any conversion factor must be stated.

An alternative method for EN 717-1 can be EN 16000-9 with measuring of formaldehyde after 28 days. Subsequently the EN-standard applicable at the time for determining reference emission values must be applied.

Other test methods such as ASTM D6007-2 or equivalent can be used on application to Nordic Ecolabelling. It must be stated which method has been used and if conversion factors have been used, this must be documented.

Individual metering of domestic hot water

The measuring instrument for individual metering of domestic hot water must be approved in accordance with the measuring instruments directive (MID) (2004/22/EC) or an equivalent method/standard with the same accuracy. The approval concerns the metering unit and not the communication unit.

Appendix 2 Exemptions from overall responsibility

The basic rule is that the licence applicant is responsible for the fulfilment of all requirements in the criteria. Certain exemptions may be made from this rule with regard to small houses and apartment buildings; see below. No exemptions may be made for school buildings and nursery school buildings.

Exemptions from overall responsibility concerning small houses and apartment buildings:

- Fitting of kitchens. But kitchens that fulfil the Nordic Ecolabel criteria for Furniture and fittings, as well as white goods that fulfil the Nordic Ecolabel criteria for White Goods, must be recommended.
- Painting of interior surfaces (with the exception of wetrooms): Paint that fulfils the EU Ecolabel or Nordic Ecolabel criteria for interior paint must be recommended.

Exemptions from overall responsibility concerning small houses:

- Fitting of attics/lofts: If the attic is delivered without fitting out, the building envelope must be completed so as to fulfil the energy and impermeability requirements.
- Painting of façades: The building must be primed and have undergone at least one year's exposure without any damage. Paint that fulfils the EU Ecolabel or Nordic Ecolabel criteria for exterior paint must be recommended.
- Work on the site and foundations

Nordic Ecolabelling may approve other exemptions on request.

Appendix 3 Template for calculation of points

The table provides an overview over possible points and can be filled in to verify requirement O3.

No	Requirement	Appliers point	Maximium points small houses	Maximum points apartment buildings	Maximum points scools/pre-schools
P1	Energy contribution from local energy sources or energy recovery		6	6	6
P2	Individual metering of domestic hot water		n.a	1	n.a
P3	Minimised hot water circulation losses		na	1	na
P4	White goods with better energy class		3	3	3
P5	Cement and concrete with a reduced energy and climate impact		2	2	2
P6	Timber structures		3	3	3
P7	Better noise environment (solely concerns small houses and apartment buildings)		2	2	na
P8	Ecolabelled building products		10	10	10
P9	Chlorine-free plastic products		2	2	2
P10	High ratio of timber from certified forestry		4	4	4
P11	Recovered or reused materials in building products		3	3	3
P12	Recycling of building waste		3	3	3
P13	Innovations		2	2	2
Sum			**40**	**42**	**38**

Appendix 4 Energy Calculation

Energy calculation for verification of requirement O4 must be performed in accordance with:

Norway

NS 3031 Calculation of energy performance of buildings - Method and data

Denmark

BE10 or equivalent concerning instructions and input data.

Finland

The Ministry of the Environment's regulation on the energy performance of buildings or equivalent concerning instructions and input data.

Sweden

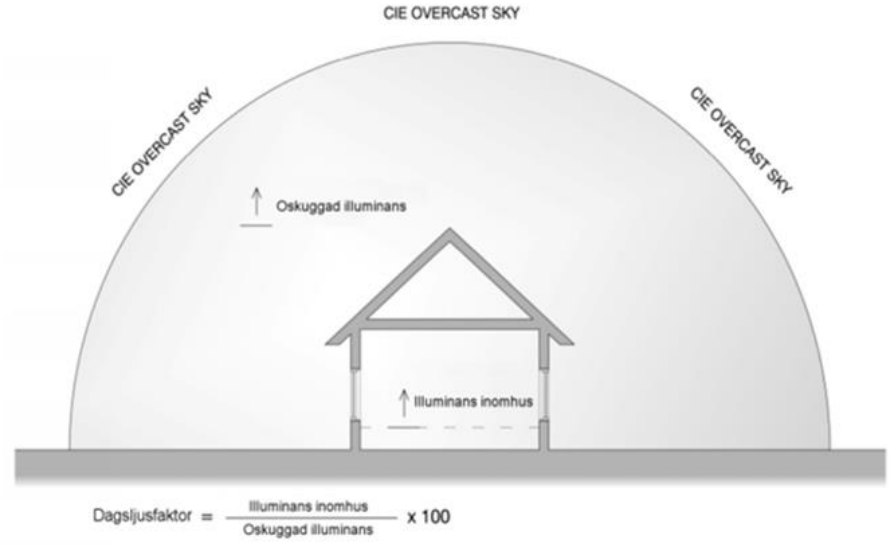
Nordic Ecolabelling does not set requirements for specific software, but to achieve energy calculations of good quality the following applies:

- The calculation must be made using a dynamic energy calculation program, i.e. a program that takes account of variations in e.g. temperature over time. Examples of dynamic energy calculation programs are IDA ICE, VIP+ and BV2
- The energy calculation program must be adapted to the type of building.
- Façades with the highest percentage window area must be placed to face north, unless the position of the building is known at the time of project design.
- Standard values may not be used for thermal bridges. Thermal bridges at connection points such as outer wall-window; outer wall-eaves; outer wall, between joists and external walls-ground slabs must instead be calculated according to the Swedish Standard, SS-EN ISO 13789 Thermal performance of buildings – Transmission and ventilation heat transfer coefficients – Calculation method.
- Data concerning U values and g values for the relevant windows must be used.
- Air gaps with façade trim are not included in the calculation of the outer wall's U value.
- Cold wind resistance must follow Table 3 of SS-EN ISO 6946 Building components and building elements - Thermal resistance and thermal transmittance - Calculation method.
- User input data must be taken from the current edition of Sveby User Related Input Data for homes, or the relevant parts of Sveby User Related Input Data for offices, unless other more customised user input data is appropriate.
- Analogous to Sveby User Related Input Data for homes, no deductions may be made for domestic hot water consumption with individual measurement.
- If a room is optional in a small house, for example, it must not be included to raise the individual heat contribution.
- COP from exhaust air heat pump and effectiveness of heat exchangers must preferably be based on the measured annual value, taking account of relative humidity

Appendix 5 Daylight Calculation

Daylight factor

Daylight factor is defined as the relationship between the illuminance at a point inside a room to an unshaded point outside under a CIE overcast sky.



The average daylight factor for a room, DF_m is the median of the daylight factors of a given calculation grid with n number of points according to $DF_m = (DF_1 + DF_2 + ... + DF_n) / n$.

The calculation grid is to be place 80 cm over finished floor and 50 cm from perimeter walls. The grid is to have equal distance between the calculation points in both directions with the minimum distance between points as per the table given below.

Length/width of room	Maximum distance between points
< 2,0 m	0,10 m
2,0 - 3,0 m	0,30 m
3,0- 10,0 m	0,50 m
10,0 – 25,0 m	1,0 m
>25,0 m	2,0 m

Daylight factor is to be calculated with a computer program which has been verified using CIE 171:2006 TEST CASES. Examples of acceptable programs include Velux Daylight Visualizer and Radiance. The split flux method should not be used.

Properties of Materials

If a materials reflectance is known, it should be used in the calculation of Daylight factor. If the reflectance is not known, then the following values should be used:

	Reflectance [%]
Ceiling	80
Walls	80
Floor	30
Window frames/profiles	50
Ground	25
Surroundings	30

- Furniture is not to be included in the calculations
- The light transmission for the glass is to be given according to SS-EN 410 and is to be referred to as LT or τ_v. Note that this is not the same as the energy transmittance T_{uv} or ST/DET/T-value. The effect of the accumulation of dirt and dust on glass (maintenance factor) can be excluded.
- Within the calculation program it is important to represent the window glass as a single plane without thickness even if the glass consists of a multiple panes. Within the model, the representative glass plane should be placed matching the outer surface of actual glass construction.
- Operable sunshades can be excluded so long as they do not negatively affect daylight.

Overshaddowing objects

Consideration is to be given to all objects which may reduce daylight. This includes adjacent buildings, balconies, access balconies, handrails to balconies, window frames and wall thickness. Also, the placement of the glass within the wall is important. If the thickness of the window frame is unknown, a minimum of 10% area from the window's perimeter can be assumed. This reduction can be made either by modelling a solid area or by reducing the glass' light transmission by at least 10%.

Vegetation, in particular trees, can have strong shading effect. Consideration should only be given to vegetation outside of the project's property line. This is to discourage the practice of removing vegetation to increase daylight access.

When classifying a standardized building design, the specific geometry of surrounding obstructions is unknown. A generic method for modelling surrounding obstructions for such situations is given in figure A below.

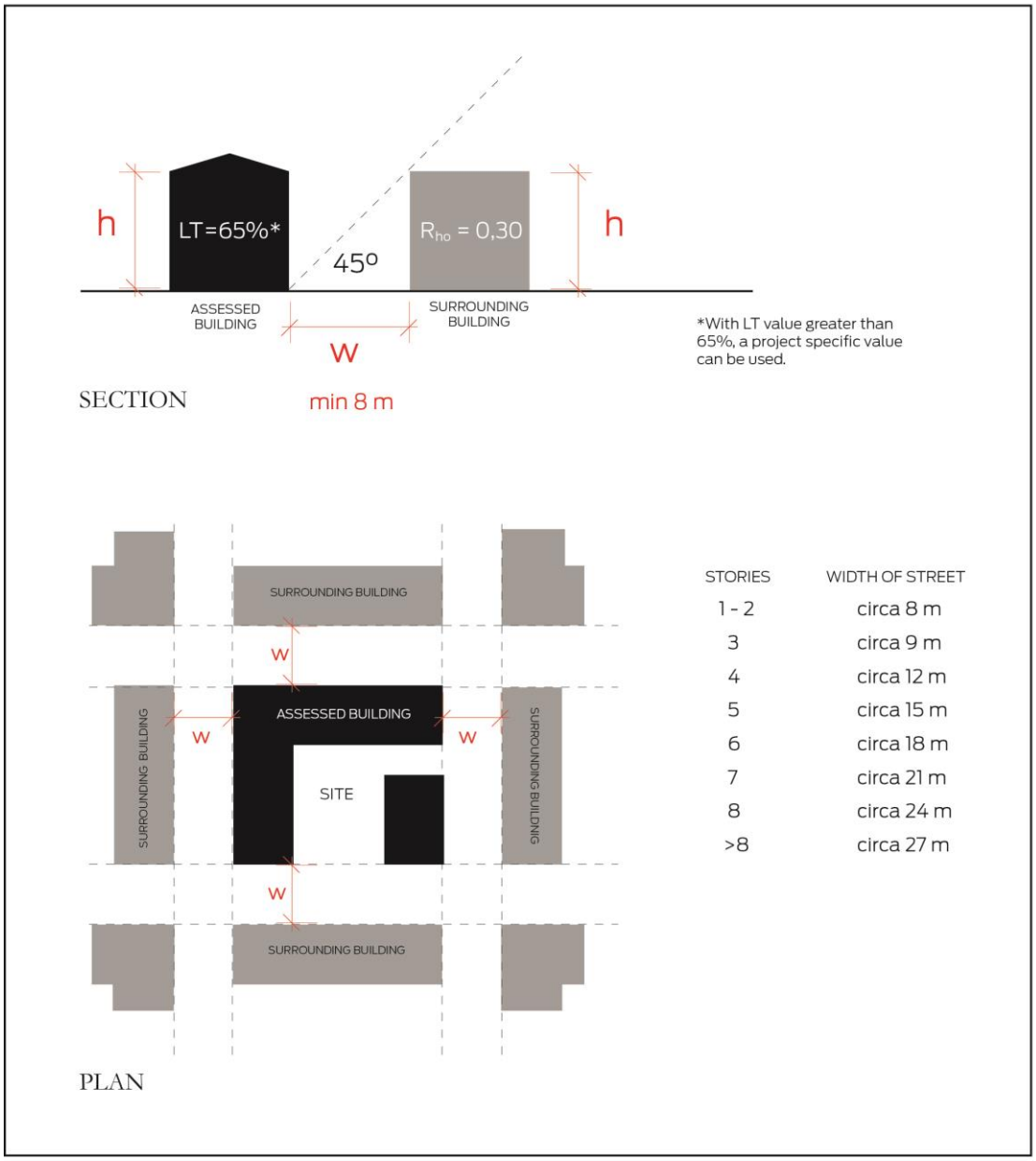


Figure A: Handling of surrounding buildings for classification of generic building designs.

Geometric constraints

The geometric boundary of the model is not to affect the calculation result. For example, a shadowing object cannot be precluded merely because they are far away. Similarly, when simulating a room adjacent a courytard it is important to consider all glass area within the courtyard as such glass has very low reflectance.

Dayilght systems

Daylight harvesting with, for example light pipes, cannot easily be simulated with today's current simulation tools. If such systems are used, then it is recommended that daylight factor be calculated by the system's manufacturer.

Required Evidence

In order to verify that the daylight factor requirement is met, the following should documentation must be provided:

- Siteplan showing surroundings obstructions
- Marked up floor plans for each of the buildings floors indicating rooms for classification
- Marked up indicating the position of the rooms for classification
- List of material reflectances
- Drawings or specifications stating LT of window glass
- Simulation program used to carry out the calculations
- Average daylight factor for each of the rooms selected.
- For apartment buildings, calculation results need only be submitted for 10 apartments (1 room per selected apartment). The selection should best support the argument that all apartments in the building have at least one room which meets the daylight criteria. .

Appendix 6 Declaration on emissions of formaldehyde

Applies to all wood-based panels used in the production of Nordic Ecolabelled buildings either as (building) panels/boards, floors or fittings. Panels that are not solely marketed as façade panels are exempted.

Product name:
Manufacturer:
Product description:

Does the wood board/panel contain more than 3% by weight of formaldehyde-based additives? Yes ☐ No ☐

If yes, please answer the questions below and enclose test results or certificate.

Does the average content of free formaldehyde exceed 5 mg formaldehyde/100 g dry substance for MDF panels and 4 mg/100 g dry substance for all other types of panels, in accordance with the current version at the time of sampling of EN 120, or an equivalent method approved by Nordic Ecolabelling. Yes ☐ No ☐

The requirement applies to wood -based panels with a moisture content of H = 6.5 %.

If the panel has different moisture content within the range of 3-10%, the measured perforator value must be multiplied by the factor F, which is calculated using the following formula:

For chipboard: $F=-0.133\ H + 1.86$

For MDF panels: $F = -0.121\ H + 1.78$

Does the average emission of formaldehyde exceed 0.09 mg/m^3 air for MDF panels and 0.07 mg/m^3 air for all other types of panel in accordance with the current version at the time of sampling of EN 717-1, or an equivalent method * approved by Nordic Ecolabelling? Yes ☐ No ☐

Is the product certified regarding its content of formaldehyde? Yes ☐ No ☐

If yes, what certification is held?

_____

For laminated panels:

Does the level of free formaldehyde in glue with any hardener (i.e. the final glue compound) exceed 2,000 ppm (0.2% by weight)? Yes ☐ No ☐

Signature of board manufacturer:

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

Appendix 7 Declaration on Classification of chemical products

Applies to all chemical products that are used in construction work at the building site or by manufacturers of prefabricated construction elements. Chemical products used to construct any supplementary buildings and playground equipment at the site are also included.

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 tests and/or declarations from raw material manufacturers, with reservations for new advances and new knowledge.

Chemical product name:
Manufacturer:
Type of chemical product (e.g. adhesive, paint) and its area of use:

Classification of chemical products

Is the product/raw material classified according to the table below? Yes ☐ No ☐

If yes, which classification? _____

_____

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, EUH059	N with R59
Acute toxicity Category 1-3	H300, H310, H330, H301, H311, H331,	T+ with R26, R27 or R28 T with R23, R24 or R25
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
Carcinogenic Carc 1A/1B/2	H350 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 and/or R61 (Repr 1 or Repr 2), Xn with R62, R63 and/or R64 (Repr 3)

Signature of chemical product manufacturer:

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

Appendix 8 Declaration on the contents of chemical products

Applies to all chemical products (liquid and/or uncured chemical products) that are used in construction work at the building site or by manufacturers of prefabricated construction elements. Chemical products used to construct any supplementary buildings and playground equipment at the site are also included.

This declaration is completed and signed by the chemical product or material supplier/ manufacturer based on the knowledge we have at the time of the application, based on tests and/or declarations from raw material manufacturers, with reservations for new advances and new knowledge.

Product name:
Manufacturer/supplier:
Product's function/product group (e.g. adhesive, paint):

Definition of constituent substances

Constituent substances are all substances used in the chemical products, including additives (such as preservatives and stabilisers) in the raw materials, but does not include impurities from production including primary production. Impurities are residues from production including primary production which may be found in the finished chemical products at concentrations below 700 ppm (0.07% by weight, 700 mg/kg), but not substances that have been added to a raw material or the product actively and for a particular purpose, irrespective of quantity.

Impurities of over 1% 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.

CMR sustances

Is any of the following CMR substances constituent in chemical products used in the production of Nordic Ecolabelled buildings? Yes ☐ No ☐

Classification under CLP Regulation 1272/2008		**Classification under the Dangerous Preparations Directive 1999/45/EC 2008**
Hazard class and category	**Hazard phrases**	**Hazard class and risk phrases**
Carcinogenic Category Carc 1A/1B/2	H350, H351	T with R45 and/or R49 or Xn with R40
Mutagenic Mut 1A/1B/2	H340, H341	T with R46 or Xn with R68
Reprotoxic Repr 1A/1B/2	H360, H361, H362	T with R60 and/or R61 or Xn with R62, R63 and/or R64

The classifications in the Table concern all classification variants. For example, H350 also covers classification H350i.

Exemptions are made for:

- Tin organic compounds that are governed by O23.
- The level of free formaldehyde (from formaldehyde not intentionally added or from formaldehyde-releasing substances) in the end-product may not exceed 200 ppm (0.02% by weight).
- Desiccant driers classified as reprotoxic category 2 in paint containing alkyd-based binders are permitted up to and including 30 November 2016 for outdoor paint (both consumer products and industrial paint). The total content of desiccant with the same classification must also be less than 0.3%. The exemption does not apply to substances on the EU's Candidate List.

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/lacquer and is the application of the finished two-component product done in a closed system? Yes ☐ No ☐

Preservatives

A) Are any of the following preservatives/combinations of preservatives constituent in indoor paint and varnishes?

- Isothiazolinone compounds totally exceeding 500 ppm? Yes ☐ No ☐
- MIT* (2-Methyl-3(2H)-isotiazolon CAS-nr 2682-20-4) exceeding 100 ppm? Yes ☐ No ☐
- A mixture (3:1) of CMIT/MIT (5 chloro-2-methyl-3(2H)-isothiazolinone CAS-nr 26172–55-4 respectively 2-Methyl-3(2H)-isothiazolinone CAS-nr 2682-20-4) exceeding 15 ppm? Yes ☐ No ☐
- Preservatives totally exceeding 600 ppm? Yes ☐ No ☐

B) Are any of the following preservatives/combinations of preservatives constituent in any other chemical product for indoor use?

- Isothiazolinone compounds totally exceeding 500 ppm? Yes ☐ No ☐
- Iodopropynylbutylcarbamate (IPBC) exceeding 2000 ppm? Yes ☐ No ☐
- IPBC + isothiazolinone exceeding 2500 ppm Yes ☐ No ☐

- A mixture (3:1) of CMIT/MIT (5 chloro-2-methyl-3 (2H)-isothiazolinone CAS-nr 26172–55-4 respectively 2-Methyl-3(2H)-isothiazolinone CAS-nr 2682-20-4) exceeding 15 ppm? Yes ☐ No ☐

The term preservative refers to both preservatives for tinned products and preservatives for the surface finish.

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

∗ *Note that the shortening MI may also be used.*

Other substances excluded from use

Is any of the following substances constituent in chemical products used in the production of Nordic Ecolabelled buildings?:

	Yes	No
• Substances on the Candidate List∗	☐	☐
• Substances evaluated by the EU to be PBT substances (persistent, bioaccumulative and toxic) or vPvB substances (very persistent and very bioaccumulative) in accordance with the criteria in Appendix XIII in REACH∗∗	☐	☐
• 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∗∗∗	☐	☐
• Short-chain chlorinated paraffins (C10-C13) and medium chain chlorinated paraffins (C14-C17)	☐	☐
• Perfluorinated and polyfluorinated alkylated substances (PFAs)	☐	☐
• APEO – alkylphenol ethoxylates and other alkylphenol derivatives (substances that release alkylphenols on degradation)	☐	☐
• Brominated flame retardants.	☐	☐
• Phthalates	☐	☐
• The heavy metals lead, cadmium, arsenic, chromium (VI), mercury and their compounds	☐	☐
• Volatile organic compounds at more than 1% by weight	☐	☐
• Organic tin compounds Exemptions are made for dibutyltin (DBT) and dioctyltin (DOT) which are included in the following levels and products in sealing systems∗∗∗∗: a) Maximum 0.5% in SMP polymers such as MS polymers. b) Maximum 0.2% in silicon products and PUR polymers containing silanes instead of isocyanates. c) Maximum 0.03% in PUR polymers with isocyanates	☐	☐

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

∗∗ Substances that are ''deferred'' or substances ''under evaluation'' are not considered to have PBT or vPvB properties.

∗∗∗ See the following link: http://ec.europa.eu/environment/chemicals/endocrine/strategy/being_en.htm

∗∗∗∗ By sealing system is meant both the joint product and primer. In this case only primer for porous material may contain the organic tin compounds in the exemption.

Note the national legislations concerning PFOA in the Nordic countries. In Norway PFOA is regulated in «Forskrift om begrensning i bruk av helse- og miljøfarlige kjemikalier og andre produkter (produktforskriften)», §2- 32

Nanoparticles in chemical products

Are nanoparticles (from nanomaterial∗) constituent in chemical product? Yes ☐ No ☐

Exemptions are made for:

- Pigments∗∗
- Naturally occurring inorganic fillers∗∗∗
- Synthetic amorphous silica∗∗∗
- Polymer dispersions

∗ The definition of nanomaterial follows the European Commission's definition of nanomaterial of 18 October 2011 (2011/696/EU):

∗∗ Nano-titanium dioxide is not considered to be a pigment, and is therefore not covered by the requirement.

∗∗∗ This applies to fillers covered by Annex V, item 7 of REACH.

∗∗∗ This applies to traditional synthetic amorphous silica. Chemically modified colloidal silica may occur for as long as the silica particles form an aggregate in the end product.

Signature of chemical product manufacturer:

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

Appendix 9 Substances excluded from solid building products

The declaration applies to manufacturers of any of the following building products/materials:

☐ Sealing products (such as vapour, wind and radon barriers, fixed waterproofing of wet rooms, roof surfacing and roofing membrane).	☐ Thermal, acoustic and technical insulation.
☐ Interior and exterior building panels (besides panels of solid wood)	☐ Wood that is impregnated as protection from rot, blue stain and mould.
☐ Wood composites	☐ Interior coverings of plastic for floors, ceilings and walls*
☐ Drainage pipe*s	☐ Plastic sleeve pipes to carry electricity*
☐ Electricity cables*	☐ Other Please specify:
☐ Plastic pipes for central vacuum cleaners*	

* *Technical areas are exempt from the requirement. Technical areas are fan rooms, substations, lift shafts, machine rooms, electricity centres and other areas to which unauthorised persons do not have access.*

This declaration is completed and signed by the chemical product or material supplier/ manufacturer based on the knowledge we have at the time of the application, based on tests and/or declarations from raw material manufacturers, with reservations for new advances and new knowledge.

Name of the product:
Manufacturer:

By "included" is meant substances added by the producer or its subsuppliers and that are included in the end-product with more than 100 ppm.

Are any of the following substances included in the building product/material?

	Yes	No
• Substances on the EU´s 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****	☐	☐
• Highly chlorinated short-chain (C10-C13) and medium chain (C14-C17) chlorinated paraffins	☐	☐
• Phthalates (PFAs)	☐	☐
• Brominated flame retardants	☐	☐
• The heavy metals lead, cadmium, arsenic, chromium (VI), mercury and their compounds	☐	☐
• Perfluorinated and polyfluorinated alkylated substances (PFAs)	☐	☐
• Alkylphenol ethoxylates (APEO) and other alkylphenol derivatives (substances that release alkylphenols on degradation)	☐	☐
• Bisphenol A	☐	☐
• Boric acid, sodium perborate, perboric acid, sodium borate (borax) and any other boron compounds classed as carcinogenic, mutagenic or reprotoxic	☐	☐
• Tin organic compounds	☐	☐

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

*** *PBT and vPvB substances are defined in Annex XIII of REACH (Regulation (EC) No. 1907/2006). Substances that are "deferred" or substances "under evaluation" are not considered to have PBT or vPvB properties.*

**** *See the following link: http://ec.europa.eu/environment/chemicals/endocrine/strategy/being_en.htm*

Signature of chemical product manufacturer:

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

Appendix 10 Nanoparticles and antibacterial additives in goods

Name of the product:
Manufacturer:

The declaration applies to the following building products/goods:

☐ Floor coverings	☐ Ventilation system for the elements in contact with the indoor air
☐ Kitchen fittings	☐ White goods
☐ Bathroom fittings	☐ Windows
☐ Waste disposal units	

Appendix to be completed by floor coverings, kitchen and bathroom fittings, white goods ventilation systems and waste disposal units:

Are chemicals or additives, including nanomaterial* added to provide an antibacterial** or disinfecting surface ? Yes ☐ No ☐

If yes, for what pupose? _____

_____

Appendix to be completed by windows, window doors and exterior doors:

Are nanoparticles from nanomaterial actively added to the outer glass surface of windowpanes on windows, window doors and exterior doors? The outer glass pane is in contact with the exterior environment. Yes ☐ No ☐

If yes, for what pupose? _____

_____

* *The definition of nanomaterial follows the European Commission's definition from 18 October 2011 (2011/696/EU).*

** *An antibacterial chemical inhibits or stops growth of microorganisms such as bacteria, fungi or protozoa (single-celled organisms). Silver ions, nano silver, nano gold and nano copper are considered to be antibacterial substances.*

Signature of manufacturer:

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

Appendix 11 Declaration on timber/wood and bamboo raw material

This appendix shall be used to document the origin of the wood and bamboo raw material used in a Nordic Ecolabelled product.

Licence holder:	Project:
Product:	
Manufacturer of wood and bamboo raw material:	

All timber and building products of solid wood, bamboo or plywood/veneer a in Nordic Ecolabelled buildings must, as a minimum, be from controlled sources, i.e. be subject to the FSC or PEFC controlled wood schemes.

The requirement does not include fibreboards (panels) such as OSB boards, chipboard or MDF/HDF boards.

Table: Overview of origin and corruption index.

Type of wood/raw material (type and name)*	**Geographical origin (country/state and region/province)**	**CPI rating for the area from which the wood raw material originates www.transparency.org**

**Describe whether it is, for example, pine, spruce, beech, etc. and the Latin name*

Does the wood raw material meet the requirements in the European Union Timber Regulation (EUTR) (No.995/2010)? Yes ☐ No ☐

Is the wood raw material listed on CITES, appendix I, II or III? Information on CITES can be found at www.cites.org Yes ☐ No ☐

The manufacturer or supplier's signature:

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

Appendix 12 Certified wood raw material

Licence holder:	Project:

To verify requirement O31:

- The table and calculations below must be filled in by licence holder per project.
- Documentation must be submitted to verify that certified wood raw material is used in the Nordic Ecolabelled building– for example, invoices or delivery notes
- Description of the system for traceability of wood raw material must be submitted.

Table: Purchased wood, wood fibre and bamboo raw material for the Nordic Ecolabelled building. Applies to both certified and controlledraw material.

Type of wood/ Raw material (Type and name)*	**Supplier and number of certificate**	**Project, quantity (m^3, kg)**	**Proportion (%) from certified forestry**	**Proportion (%)from controlled sources**
Total				

**Describe whether it is, for example, pine, spruce, beech, etc. and the Latin name*

Signature of manufacturer:

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

Appendix 13 Use of Ecolabelled building products

The table shall be used to calculate points for the use of ecolabelled building products.

For each row in the table, i.e for every product area:

- 1 point is given if at least 10% of the product requirement is covered by ecolabelled products;
- 2 points are given if at least 30% of the product requirement is covered by ecolabelled products; and
- 3 points are given if at least 50% of the product requirement is covered by ecolabelled products.

A maximum of 10 points can be achieved.

Product type	**Trade name**	**Licence No**	**Are of use**	**Share of need(%)**	**Points**
Wood-based board /panels for indoor use (m2 or kg)					
Façade panels (m2 or kg)					
Acoustic panels (m2 or kg)					
Windows and Exterior doors (pcs)					
Flooring (m2) Floor coverings (EU Ecolabel) (m2)					
Fittings (including kitchen cabinets, wardrobes and bathroom fittings) (pcs)					
White Goods (pcs)					
Indoor paints and varnishes (m2 or kg)					
Outdoor paints and varnishes (m2 or kg)					
Chemical building products (m2 or kg)					
Durable wood for outdoor use (m2 or kg)					
Sanitary tapware (EU Ecolabel (pcs)					

Playground equipment (pcs)					
Closed biofuel fireplaces (pcs)				Installation of an Ecolabelled closed biofuel fireplace, boiler or heat pump gives instead a maximum of 1 point per building. If a Nordic Ecolabelled shed, outhouse or similar 1 point is also given.	
Solid biofuel boilers (pcs)					
Heat pumps (pcs)					
Refuse depots, bicycle sheds and the like see criteria for outdoor furniture and playground equipment					
Other product groups after approval from the Nordic Ecolabel					