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Guide for Municipalities - Integrating the European Ecolabel in building projects

CONCERTO INITIATIVE Class 1

Cost-effective Low-energy Advanced Sustainable So1utions

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Guide - Integrating the European Ecolabel in building projects



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1. THE CLASS 1 PROJECT – AND THIS GUIDE

The idea of the project CLASS 1 is to use strengthening of the energy requirements to boost and drive the technological developments and to prove the economical and environmental benefits of ultra-low energy buildings (50% below the new requirements in the Danish building regulations) integrated with biomass- and solar heating based renewable energy supply.

In this context the Scientific & Technical objectives of the project are to:

1. Optimise the integration of low-energy building technologies with supply (renewable and conventional) and distribution (heating and electricity) technologies.
2. Advance selected technologies within the 3 areas: low-energy building, renewable energy supply and distribution
3. Improve the design, checking and verification procedures (this relates directly to the implementation of the building energy performance directive -EPBD).
4. Integrate the European Ecolabel in the building projects (houses and components)
5. Demonstrate large scale implementation at close to market technical and economical conditions.

The Class 1 project is focused on the optimisation of sustainable energy systems in local communities, through an innovative integration of RE technologies with ultra low-energy buildings. The bio-mass CHP system produces electricity and heat that are distributed directly to the use for heating in an innovative local district heating system for the dense, low-rise houses, and through the electricity network to heat the single family houses by heat pumps. Solar heating systems integrated in the network – and individual systems on the single family houses will be supplementing the CHP and taking over the in summer months when it is shut down. An advanced Building Energy Management System will control the energy supply, the thermal storages (for solar and for heating energy pulses from the CHP plant).

The project also has special focus on the Indoor Environmental Quality (IEQ) to make sure that the energy savings are met without reducing the IEQ standards set out in the design specification phase. The IEQ focus is one of the areas in which the Class 1 project involves partners from other EU countries who are experts in respectively lighting and thermal comfort issues. Also trans-national cooperation is introduced for the socio-economic research part of the project, which deals with the user point of view (priorities, etc.) in the participating countries.

The Ecolabel is integrated in Class1 through product use and information dissemination and the development of the guide below has been based on the experiences gained in Class 1.

The class1 guide below is a simple and practical tool that can be used by municipalities engaged in both new and renovation building projects to take care of the environmental and quality issues regarding building products use. Also included below is a chapter on the role of the EU Ecolabel in GPP (Green Public Purchasing)

2 . THE EUROPEAN ECOLABEL



The EU Ecolabel is recognised throughout the EU. To qualify for the Ecolabel, products have to comply with a tough set of criteria.

The Official environmental symbol for non food products

An extensive number of products can be certified by the EU Ecolabel and by the end of 2011 there were over 1300 licences issued covering more than 17000 products.

The Ecolabel offers benefits to producers, retailers and consumers/purchasers.

The Flower makes it **easy and quick** to identify products which guarantee:

- Lessened environmental damage
- Good quality
- Health aspects are taken into account

The Flower **cooperates** with a number of National Ecolabel such as the **Nordic Swan** which was established in 1989 in the Nordic countries:



The purpose of the Flower is to promote sustainable products and reduce environmental damage

Ecolabel criteria are based on studies which analyse the impact of the product or service on the environment throughout its **life-cycle**, starting from raw material extraction in the pre-production stage, through to production, distribution and disposal.

For more information on the Ecolabel and products visit:

EU:
http://ec.europa.eu/environment/Ecolabel/index_en.htm

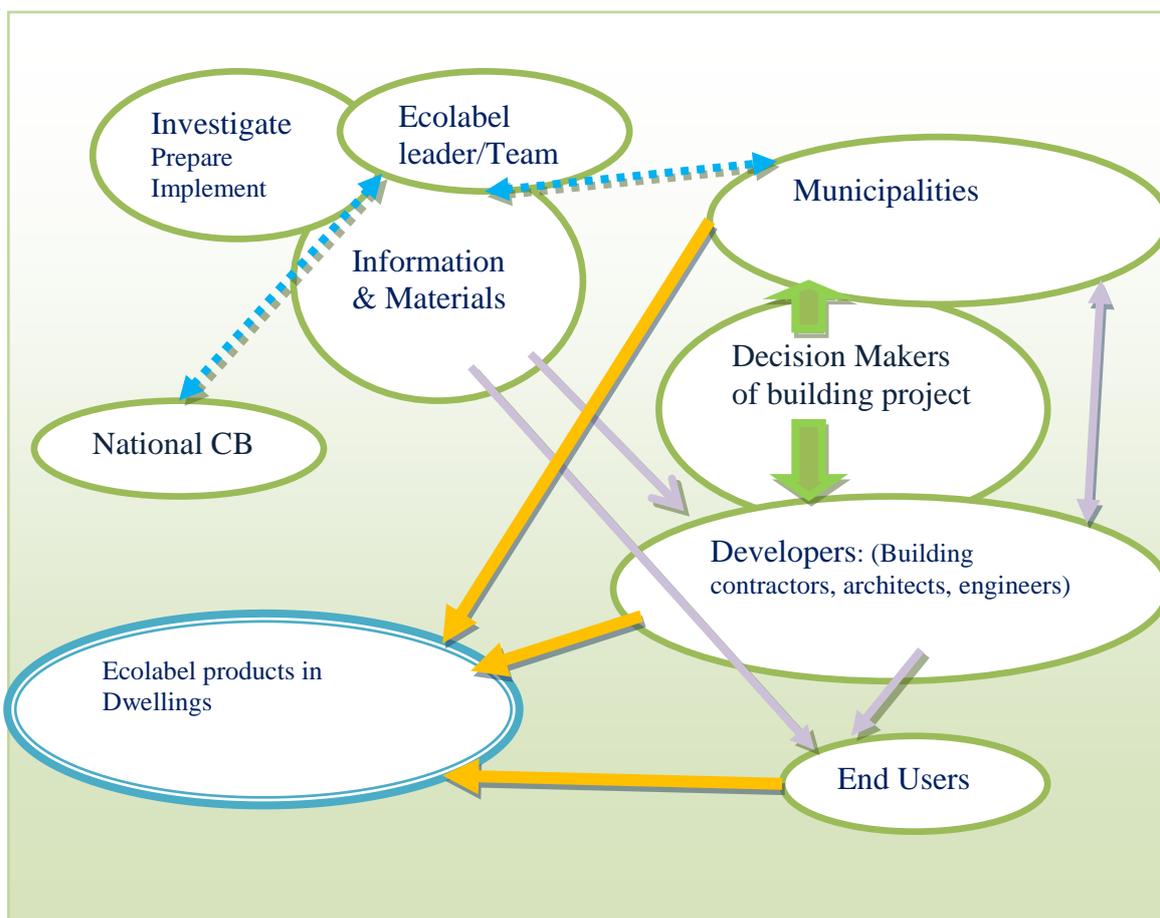
DK:
www.Ecolabel.dk

3 . GUIDE FOR MUNICIPALITIES

This guide has been developed for municipalities engaged in building projects and wishing to integrate the Ecolabel in these projects and is based on the experiences derived from integrating the Ecolabel in CLASS 1.

The guide offers recommendations of procedure to the **Ecolabel team/leader** which can either be internally appointed staff by the Public Authority or hired external consultants.

The elements of the guide graphically:



The overall aim is to integrate the Ecolabel in the building project through materials use and information and as such the tasks of the Ecolabel leader/team are:

- To research and identify the stakeholders and determine the degree of participation and or cooperation
- To coordinate and establish a best possible cooperation with the CB (Competent Body) and the Public Authority for support activities
- To increase the Ecolabel competence level of the municipality staff and other stakeholders involved

- To prepare Ecolabel information materials for the developers and other stakeholders and the end users and to present the information to these groups
- To incorporate the use of Ecolabel products in the building projects through Green public purchasing (GPP) as well as with fruitful dialogue together with the architects and developers
- To monitor, evaluate and report on the progress and results of the project

There are 2 crucial factors that need to be considered by the Ecolabel team as early as possible in the process for ensuring a successful integration of the EU Ecolabel and Ecolabel product use in building projects.

1. **Defining the role of the municipality.** It is very important to clarify the extent of involvement and commitment regarding the requirements placed on developers through both tenders and the selection process.

The Ecolabel team should have a very clear picture of the situation regarding the role and extent to which the municipality will require and support the integration of the Ecolabel through use of Ecolabel products etc. and to what extent?

Ideally the municipality will:

- a) Require that the developers use Ecolabel products or at least use them in some areas where the products are readily available and do not incur any meaningful extra cost.
- b) Commit to cooperate fully in all areas of Ecolabel activities: Product use in public buildings, information dissemination, participation in relevant meetings and prompt information to the Ecolabel team about the developers and their cooperation.

This may not be possible in all situations and will differ from country to country depending on the rules and regulations regarding building projects.

In situations where the municipality cannot/does not set down requirements for the developers, it is important that the Ecolabel team gets the message of integrating the Ecolabel across to the stakeholders (architects, developers etc. as well as all relevant municipality staff attached to the project).

In other words the Ecolabel team should ensure the full cooperation of all stakeholders directly involved in the building project before any decisions are made.

2. **Defining the role of the architects and developers before they decide on product use.** The architects and developers are the final stipulators of the building requirements and in this case, the use of Ecolabel building materials that the various contractors and suppliers have to comply with.

In order for this to happen:

- a) The municipality must stipulate material requirements through their tender in a legal way. It is not legal to ask for Ecolabel products in the tender. The municipality can however simply ask that materials to be used in the building should conform to the

criteria set down by the EU Ecolabel or any other equivalent ISO type 1 Ecolabel as far as possible (*See chapter on GPP below*)

OR the other choice is to specify the criteria for the various materials used.

A third option is to set down criteria for each product group (See link below for available criteria http://ec.europa.eu/environment/gpp/eu_gpp_criteria_en.htm http://ec.europa.eu/environment/gpp/toolkit_en.htm) or to set criteria regarding chemical building products, chemical substances in permanent building products and timber (*See Annex 1: material requirements*)

- b) The architects and developers are convinced that they will benefit through the **Ecolabel marketing advantages** of the dwellings.

It is imperative for the municipalities (Ecolabel team) to inform the architects and developers early in the process and stipulate the integration of the Ecolabel in the project.

The following table shows the procedure and steps involved in integrating the Ecolabel in building projects

Procedure	Steps	Comments
Investigate	Identify the present situation regarding:	
	<ol style="list-style-type: none"> 1. Availability of EU Ecolabel products. 2. Suppliers of Ecolabel products. 	<p>Identify Ecolabel products available Both Nationally and in the EU. Use the National and EU Ecolabel web sites (The “green Store” http://www.eco-label.com/). Not all products can be Eco-labelled.</p> <p>This information is vital to have as soon as possible. The Ecolabel team should have a list of products available in the building area product groups as well as home products.</p> <p>Identify the “focus products” in the building stages and for the end users: These are the most readily available locally and the most likely to be considered for use.</p> <p>If EU flower products are very limited, look at the National Ecolabel availability of products (The EU flower cooperates with most National Ecolabel).</p> <p>Who are they and what can they offer.</p> <p>A clear picture of the existing situation regarding suppliers will make it easier to plan and carry out the activities. Some suppliers may be willing to contribute with product information, presentations at municipality/stakeholder meetings and in some cases discounts on their products</p>

<p>3. Stakeholders that can help.</p>	<p>The municipality behind the project is the driving force and it is important to define the role of the municipality as explained above.</p> <p>Investigate if the public purchasers are active in GPP (Green public Procurement) and carry out a training session if they are not active to increase their knowledge regarding GPP and the Ecolabel.</p> <p>The National Competent body.</p> <p>The local CB is the best partner in terms of support with both, information, materials and marketing. Most CB's will cooperate within their rules and competence capacity.</p> <p>Other stakeholders.</p> <p>Stakeholders/references that may help in Ecolabel activities can be local associations, partners in the project and the Ecolabel web site. Identify them and determine their willingness or extent of participation</p>
<p>4. The developers</p>	<p>Who are they and what is their level of commitment.</p> <p>These are the building contractors, engineers and architects</p> <p>The municipality behind the project must notify and provide the identity of the developers to the Ecolabel team as soon as possible. The Public authority should also help in setting up a meeting with the developers</p>
<p>5. Ecolabel competence.</p>	<p>Identify the level of Ecolabel awareness amongst the stakeholders</p> <p>Are the relevant stakeholders aware of the Ecolabel and how much do they know</p> <p>This will help in the planning of Ecolabel activities and also determine the extent of Ecolabel training for the various stakeholders</p>
<p>6. The focus groups.</p>	<p>Define the focus groups for the various activities</p> <p>The main focus groups are the developers and ultimately the End users.</p>

<p>Prepare</p>	<p>Preparation of the following</p>	<p>The municipality is also a focus group for Ecolabel competence training and supporting activities.</p> <p>The builders/contractors are focus groups as well, as it is them that will use Ecolabel products during the building stages</p>
<hr/>		
	<ol style="list-style-type: none"> 1. Product availability information. 2. General Ecolabel information 3. Specific Ecolabel product information 4. Activities plan 	<p>What you prepare has to be relevant to the focus group and related to the level of Ecolabel competence of the focus group.</p> <p>Building products for the contractors, home products for the end users, all products for the municipality</p> <p>Information for all participating stakeholders. This information will be used to increase the awareness of the Ecolabel in the planned activities. The CB can in most cases provide information, leaflets and so on. The Ecolabel web site is also a good source of information http://ec.europa.eu/environment/Ecolabel/index_en.htm</p> <p>Specific information of the focus products. This information should be in more detail and should contain a list of all suppliers, their contact details and their leaflets/material on the products. Ask these suppliers if they can come to a meeting and present their company and products – most are very glad for the opportunity.</p> <p>A plan of activities based on the information gathered should be worked out. The aim of the activities is to increase the Ecolabel awareness and competence level for the purpose of Ecolabel product use.</p> <p>These activities could be in the form of meetings,</p>

		<p>seminars/workshops and so on depending on the audience or focus group.</p> <p>A very important aspect to remember is to always point out the benefits of using Ecolabel products for the target groups.</p> <p>For example: The benefits for the developers are such things as improved company image and marketing potential when selling the dwellings, product quality guarantee, assurance of diminished use of harmful substances and good indoor climate and so on depending on the product.</p> <p>The benefits for the end users are such things as less energy use, good for the environment, quality assurance and so on depending on the product.</p>
Implement	Carrying out the work	
	<ol style="list-style-type: none"> 1. Carrying out the planned activities 2. Evaluating 3. Following up 	<p>The activities plan contains who does what, what the objective is, practicalities (venue, equipment etc.), speakers/presenters, participants and so on depending on the specific activity.</p> <p>It is the job of the Ecolabel team to ensure that the planned activities are carried out and that materials, letters, brochures, presentations, product selection and whatever else is relevant to the specific activity are in order.</p> <p>It is important to evaluate the activities especially in terms of concrete results relating to the use of Ecolabel products. This can be done in different ways and one good approach is to hand out a questionnaire about the specific activity and include questions that can be analysed to determine the success/failure and possible recommendations for re-planning purposes.</p> <p>Following up is easier if the evaluation provides first hand information.</p> <p>A developer for example could express cost as an obstacle for using an Ecolabel product instead for the conventional equivalent.</p>

A follow up action can then be planned. It could be to try and find an Ecolabel product that is not more expensive or it could be an action of pointing out the benefits of the specific Ecolabel product or the type of end user and their expectations and so on depending on the barrier and the products in question.

4 . GREEN PUBLIC PROCUREMENT (GPP)

There is a lot of work that has been done through various EU and National projects in developing tools to make it easier for public purchasers to practice GPP. Many tools have already been developed to assist public purchasers, criteria have also been developed for certain product groups and work in developing criteria for further product groups is continuing. These criteria can be downloaded, copied and pasted in tenders as needed especially for specific product groups.

The first two sections of this chapter are taken from the Ecolabel web site and the purpose is to give an overview of the EU Ecolabel's role in GPP and the benefits as well as point the way to where related information can be found.

The second part describes the procedure in using the EU Ecolabel and the Nordic Swan in the Class 1 project. This is a good example of how to simply use the Ecolabel criteria in public tenders covering different product groups and at the same time meeting the requirements of the EU procurement directive.

Part C is a few lines to point to the fact that Ecolabel products are not necessarily more expensive which has been one of the main assumptions by many public purchasers.

Green Public Procurement (GPP)

Part A: Ecolabel and GPP (Green Public Procurement)

Under the EU Procurement Directives (2004/18/EC and Directive 2004/17/EC), Ecolabel may be used in public procurement, providing a number of conditions are met:

- Procurers are not allowed to demand that a product carries an ecolabel, but may only indicate that the criteria underpinning a certain ecolabel must be met and that the ecolabel may be used as one form of proof of compliance.
- Procurers may only use ecolabel criteria that refer to characteristics of the product or service itself or production processes, not those relating to the general management of the company.
- Procurers may only refer to ecolabels that meet a number of requirements (the Type I or ISO 14024 ecolabels, such as the EU Ecolabel, meet these requirements).
- The requirements for the label are based on scientific evidence.
- The ecolabels are adopted with the participation of all stakeholders, such as government bodies, consumers, manufacturers, distributors and environmental organisations.
- They are accessible to all interested parties.

Benefits EU Ecolabel in GPP

The EU Ecolabel Makes Green Procurement Easy:

Under the conditions set out above, procurers can make reference to the requirements underlying the EU Ecolabel in order to specify their needs. This makes it easier for public authorities to buy green.

No Expert Knowledge Required:

The EU Ecolabel criteria take the main environmental impacts of a product into account, as well as the technically possible improvements. These criteria are established at the European level through a transparent, multi-stakeholder process.

Fully Compatible With the Principles of the Internal Market:

The EU Ecolabel scheme is public, transparent and non-discriminatory. It is valid and identical throughout the European Union and the European Economic Area (EEA) countries (Norway, Iceland and Liechtenstein).

Easy Identification:

On the E-catalogue, information is available on the products and services awarded the EU Ecolabel. A potential purchaser can thus easily know the minimum number of companies capable of meeting the purchasing requirements.

The link below points to the official Ecolabel/GPP page with the above information as well as further information about the about ready-made criteria that can be copied and pasted, GPP training tool kit, handbook and so on.

<http://ec.europa.eu/environment/Ecolabel/Ecolabel-and-green-public-procurement.html>

Link to EU procurement directives

<http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32004L0018:en:NOT>

The National contact points for GPP are also very good source for information and support. These are usually located under the various ministries of environment.

**Part B:
GPP
example in
class 1**

The municipality of Egedal put out a tender regarding the energy renovation of public buildings of 110,000 m² which included the buildings under the Class1 project. The size of the tender was approx. 50 million Danish crowns.

The tender was sent to five ESCO companies and included the usual requirements about time frame, quality, safety, indoor climate, etc.

The Class1 requirements concerned energy efficiency and material use.

For the energy requirements:

Energy requirements of all energy uses in a building incl. heating, air conditioning, hot water, ventilation, lighting and operation were specified

as well as requirements for energy monitoring, verification and follow-up.

Energy efficiency was prioritised over payback time which could be up to as much as 20 years and that is unusual because most municipalities focus on shorter payback time.

For the material requirements in the tender:

After discussions and taking into consideration the availability of Ecolabel building products and the fact that the tender was aimed at ESCOs, Egedal municipality decided to proceed with a general requirement covering materials rather than to make individual requirements for each product group.

This was due to the fact that ESCOs would have the freedom to choose the solutions themselves and the materials to be used were not identified when the tender was issued. Specific requirements are difficult to define when the products are not defined.

The material requirements covered two groups.

a) "Ecolabel products" - Products that are certified and available in the market

b) "Non-Ecolabel products" –Products that do not fall under any product group in the relevant Ecolabel schemes

For the "Non-Ecolabel" products, Egedal made some general requirements (see below –" materials and product selection").

For the Ecolabel products, Egedal specified a list of possible products that could be used and decided to make a simple reference to the Ecolabel criteria rather than stipulating that the materials should be Ecolabelled as this is not legal.

The result was that the requirement was worded as follows:

”Materiale og produktvalg

Materialer eller komponenter bør generelt vælges lavt emitterende. Materialer skal generelt være miljøvenlige og må ikke ved afsmiltning, afdrysning eller afdunstning afgive nogen former for skadelige stoffer og fibre. Miljøbelastende stoffer så som PVC og trykimprægneret træ bør fravælges.

Materialer, der udgør en høj sundheds- og miljøbelastning ved forarbejdning, brug og bortskaffelse, skal fravælges.

For produkttyperne byggeplader, gulve, maling, spartelmasse, vinduer, tekstiler og varmepumper, skal der anvendes produkter, der opfylder kriterierne for enten det europæiske miljømærke "Blomsten" eller det nordiske miljømærke "Svanen".

Translation of the Danish text:

"Material and product selection

Materials and products chosen should generally be low emitting. Materials should generally be environmentally friendly, and should not emit any kinds

of harmful substances and fibres through various exposures. Environmentally harmful substances such as PVC and impregnated wood should not be selected.

Materials that pose high health and environmental risks during installation, use and disposal must not be selected.

“Products that fall in the following groups: ***Building panels, floor coverings, paint, plaster, windows, textiles and heat pumps***” must be products that fulfil the criteria (1) contained in either the European Ecolabel or the Nordic Swan.”

(1) An explanation and a link for the appropriate criteria was included.

This approach was a simple and efficient way of incorporating the Ecolabel in public purchasing through a tender.

The material requirements was well suited to the ESCOs. Egedal did not specify that Ecolabel products must be used, only that products used must adhere to the Ecolabel criteria. It is now up to the ESCO selected to use Ecolabel products and actually they can stipulate use of Ecolabel products to the contractors they employ because they are a private organisation.

There were no problems associated with the material requirements as defined by Egedal in the tender and no objections from the bidders of the tender.

An ESCO company has been chosen to perform the tasks of renovating the public buildings.

The materials used will be documented to show conformity of the requirements.

**Part C:
LCC and GPP**

Studies on Life Cycle Costs (LCC) of conventional products versus Ecolabel products have shown that “green products” are not necessarily more expensive and in some cases less expensive especially when **LCC and joint procurement initiatives** are taken into account.

For Example: A study by Oko-institut e.V and ICLEI on “Costs and benefits of green public procurement in Europe” showed that the price of Ecolabel paint was 7% (relative) cheaper than conventional paint when LCC was used.

5. ANNEX 1 : MATERIAL REQUIREMENTS

This annex is dealt with in more detail in D47

A. Chemical building products

A.1. Classification

Chemical building products must not be classified according to the following table.

Hazard class	Symbols and risk phrases
Dangerous for the environment	N with R50, R50/53 or R51/53
Carcinogenic	T with R45 and/or R49, or Xn with R40
Mutagenic	T with R46 or Xn with R68
Toxic for reproduction	T with R60 and/or R61, or Xn with R62 and/or R63
Very toxic	T+ with R26, R27, R28 and/or R39
Toxic	T with R23, R24, R25, R39 and/or R48

A.2. CMR (carcinogenic, mutagenic and reprotoxic) substances

Substances in chemical building products must not be classified according to the following table.

Hazard class	Symbols and risk phrases
Carcinogenic	T with R45 and/or R49, or Xn with R40
Mutagenic	T with R46 or Xn with R68
Toxic for reproduction	T with R60 and/or R61, or Xn with R62 and/or R63

Chemical building products refers to liquid or non-cured chemical products that are used during manufacture or on the construction site.

Examples of chemical building products include adhesives, caulk, fillers, indoor paints, oils, varnish, outdoor paints and outdoor varnishes.

Regarding classification in requirements A.1 and A.2 substances shall be classified according to the European substance and preparation directives, 67/548/EEC and 1999/45/EEC (with amendments).

A.2. An exception is made for paints, which may contain preservatives classified as R40 up to a level of 0.1% in indoor paints and 0.2% in outdoor paints.

A.3. Prohibited substances

Chemical building products must not contain the following substances:

- Halogenated paraffins - highly-chlorinated, short-chain (C10-C13) and medium-chain (C14-C17)
- Fluorinated propellants
- Perfluorinated and polyfluorinated alkyl substances (PFAS)
- Alkylphenolethoxylates (APEO) and alkylphenol derivatives (APD)
- Brominated flame retardants
- Phthalates in products excluding caulk
- Phthalates in caulk: DEHP, DBP, BBP, 711P, DIBP, DIDP and DINP are prohibited
- Boron compounds
- Creosote
- Benzo(a)pyrene, benzo(b)pyrene
- Bisphenol A
- Antimony trioxide
- Heavy metals: lead, cadmium, arsenic, chromium, mercury or their compounds
- Monoacrylamide
- Organic tin compounds (with the exceptions below)

A.3. An exception is made for the quantity of DBT and DOT organic tin compounds (TBT and TPT are prohibited) which are permitted to the specified limit values in the following three product types:

- *0.5% in SMP polymers such as MS polymers*
- *0.2% in silicone products and PUR polymers with silanes replacing isocyanates*
- *0.03% in PUR polymers containing isocyanates.*

A.4. Substances with long term effects

Substances that according to the ESIS list (see below) are considered to have long-term negative effects on the environment must not be found in chemical building products.

A.4. Substances falling under PBT and vPvB classification, or that may decompose to such, are listed on the ESIS (European Chemical Substances Information System) website: <http://ecb.jrc.ec.europa.eu/esis/index.php?PGM=pbt>. Substances that are "deferred" or "under evaluation" are not considered to have PBT or vPvB properties

B: Chemical substances in permanent building products

B.1. Adverse chemical substances

The following substances are prohibited:

- Halogenated paraffins - highly-chlorinated, short-chain (C10-C13) and medium-chain (C14-C17)
- Fluorinated propellants
- Perfluorinated and polyfluorinated alkyl substances (PFAS)
- Alkylphenoethoxylates (APEO) and alkylphenol derivatives (APD)
- Brominated flame retardants
- Phthalates
- Boron compounds
- Creosote
- Benzo(a)pyrene, benzo(b)pyrene
- Bisphenol A
- Antimony trioxide
- Heavy metals: lead, cadmium, arsenic, chromium, mercury or their compounds
- Organic tin compounds
- Monoacrylamide

B.1. applies to the following product groups:

- *Permanent sealing products (e.g. tanking membranes, wet room panels, vapour barriers, wind barriers, radon barriers, tar roofing and roofing membranes).*
- *Impregnated timber*
- *Insulation*
- *Plastic products such as ducting (for electrical wiring); high tension cables; waste water pipes; piping for a central vacuuming system (if applicable); and interior floor, ceiling and wall coverings (does not apply to technical areas).*

C: Timber and fibre-based products

C.1. Timber from certified sources

At least 50% of the raw material in solid wood, glulam and veneer products must be derived from areas with certified management following a national forestry standard that is approved

C.1. applies to the following parts of a building:

- *Timber in the roof trusses.*
- *Timber in the framework and joists.*
- *Timber in interior panels and exterior facades (including balconies, terraces and porches).*
- *Other building parts (such as flooring or building boards) in the calculation of certified timber.*

C.2. Pressure impregnated timber

Pressure impregnated timber (Class M, A and AB according to Nordic Wood Preservation Council classification) may not be used in Nordic Ecolabelled buildings

C.2. Exceptions are made for wood parts in contact with the ground or moisture sources and that require impregnation for safety reasons.